

1 UNITED STATES PATENT AND TRADEMARK OFFICE  
2 BEFORE THE PATENT TRIAL AND APPEAL BOARD

3 PGR2024-00028

4 Patent No. 11,857,737  
5

6 \_\_\_\_\_  
7 FRONT LINE MEDICAL TECHNOLOGIES, INC.,  
8 Petitioner,  
9 v.  
10 PRYTIME MEDICAL DEVICES, INC.,  
11 Patent Owner.  
12 \_\_\_\_\_

13  
14 Deposition of  
15 WILLIAM W. CIMINO, Ph.D.  
16 Thursday, March 20, 2025  
17 10:00 a.m. Central  
18  
19  
20  
21  
22

23 Stenographic Reporter:  
24 Myrina A. Kleinschmidt, RMR, CRR, TX CSR  
25

1 APPEARANCES:

2  
3 FOR THE PETITIONER:

4  
5 BRIAN BANNER

6 Attorney at Law

7 SLAYDEN GRUBERT BEARD PLLC

8 401 Congress Ave, Suite 1650

9 Austin, TX 78701

10 bbanner@sgbfirm.com

11  
12 FOR THE PATENT OWNER:

13  
14 STEPHEN MURRAY

15 Attorney at Law

16 PANITCH SCHWARZE BELISARIO & NADEL LLP

17 2001 Market Street, Suite 2800

18 Philadelphia, PA 19103

19 smurray@panitchlaw.com

20  
21  
22 (continued...)

1 APPEARANCES, continued:

2

3 ALSO PRESENT:

4

5 IRA LIVINGSTON

6 Trial Tech

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C O N T E N T S

|                                   |      |
|-----------------------------------|------|
| WITNESS: WILLIAM W. CIMINO, Ph.D. | PAGE |
| EXAMINATION BY MR. BANNER         | 7    |
| EXAMINATION BY MR. MURRAY         | 182  |

E X H I B I T S

STENOGRAPHIC REPORTER'S NOTE: Previously marked  
exhibits and Paper 7 are not included.  
Only Exhibit Nos. 1029 through 1031 are attached.

| EXHIBIT       | DESCRIPTION              | PAGE |
|---------------|--------------------------|------|
| Paper 7       | Paper 7 Decision to      | 149  |
| [referenced,  | Institute PGR - 66 pages |      |
| but this was  |                          |      |
| not marked as |                          |      |
| an exhibit]   |                          |      |
| Exhibit 1001, | U.S. Patent 11,857,737   | 30   |
| previously    | Franklin - 71 pgs.       |      |
| marked        |                          |      |

|    |               |                          |     |
|----|---------------|--------------------------|-----|
| 1  | Exhibit 1004, | U.S. Patent 3,467,101 -  | 98  |
| 2  | previously    | Fogarty Patent - 4 pgs.  |     |
| 3  | marked        |                          |     |
| 4  | Exhibit 1009, | U.S Patent 9,131,874 -   | 81  |
| 5  | previously    | Eliason - 24 pgs.        |     |
| 6  | marked        |                          |     |
| 7  | Exhibit 1029  | U.S. Patent 5,364,352 -  | 41  |
| 8  |               | 15 pgs.                  |     |
| 9  | Exhibit 1030  | Screenshot of marking    | 78  |
| 10 |               | made on a section of the |     |
| 11 |               | declaration on page 19,  |     |
| 12 |               | Figure 42A of the '737   |     |
| 13 |               | patent - 1 pg.           |     |
| 14 | Exhibit 1031  | Excerpt from Declaration | 145 |
| 15 |               | - Distal Catheter        |     |
| 16 |               | Section Definitions -    |     |
| 17 |               | 1 pg.                    |     |
| 18 | Exhibit 2001, | Declaration of William   | 13  |
| 19 | previously    | Cimino - 61 pgs.         |     |
| 20 | marked        |                          |     |
| 21 |               |                          |     |
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1 DEPOSITION, held pursuant to NOTICE OF  
2 TAKING DEPOSITION, and held with the understanding  
3 of counsel that the witness is appearing remotely.  
4 By participating in this deposition, counsel have  
5 agreed to the oath being administered remotely and  
6 the testimony being transcribed remotely by the  
7 court stenographer regardless of the locale of the  
8 deponent.

9 WHEREUPON, the following  
10 proceedings were duly had:

11 (The oath was administered by  
12 the court stenographer.)

13 WITNESS RESPONSE: I do.

14 WILLIAM W. CIMINO, Ph.D.,  
15 a witness in the above-entitled proceedings,  
16 after having been first duly sworn,  
17 testified under oath as follows:

18 EXAMINATION

19 BY MR. BANNER:

20 Q. Good morning, Dr. Cimino.

21 A. Good morning.

22 Q. How are you doing this morning?  
23  
24  
25

1           A.     I'm doing pretty well.

2           Q.     I see you're in Louisville, Colorado.  
3     Is that correct?

4           A.     Yes.

5           Q.     I grew up in Pueblo, Colorado, so not  
6     the same but the same state.

7           A.     150 miles away.

8           Q.     Yeah. Yeah. I think Louisville is a  
9     little more picturesque than Pueblo.

10                  So thanks for getting on the  
11     call today. I guess you didn't have much of  
12     a choice, but we'll try to make this painless  
13     today. Have you been deposed before?

14           A.     I have.

15           Q.     Okay. Would you please state your  
16     name for the record.

17           A.     William Cimino.

18           Q.     And is it okay if I address you as  
19     "Dr. Cimino" or do you prefer something else?

20           A.     "Dr. Cimino" is fine. "William" is  
21     fine.

22           Q.     Okay.

23

24

25

1           A.     Either, any.

2           Q.     Okay. And so you've been deposed  
3 before, that's correct?

4           A.     I have.

5           Q.     And how many times?

6           A.     Deposed, I'd say ten-plus.

7           Q.     Okay. So you understand kind of how  
8 this process works. We have a court reporter on  
9 the call today, and she'll be typing down my  
10 questions and your answers, and so my goal today  
11 is to make that written record as clear as  
12 possible.

13                         So I will try to ask my  
14 questions clearly, and I would ask that  
15 before you start to answer my questions, that  
16 you would wait until I'm done asking the  
17 questions. Is that fair?

18           A.     Fair.

19           Q.     At the same time, before jumping in  
20 and asking questions, I'll make sure that you're  
21 done answering that question, and that way we have  
22 a clean record and we're not talking over each  
23  
24  
25

1 other, which can often get a little bit confusing  
2 when you're starting to read the record when that  
3 happens. Make sense?

4 A. Understood.

5 Q. Is there anything that would prohibit  
6 you from answering my questions truthfully today?

7 A. No.

8 Q. You're not under any medication or  
9 any other reason why you couldn't answer my  
10 questions to the best of your abilities today?

11 A. None.

12 Q. One of the things in making the  
13 record clear is also I would just ask that if I  
14 ask a yes-or-no question, that you would answer  
15 verbally with a yes or a no and try to avoid, you  
16 know, more ambiguous answers like uh-huh or huh-uh  
17 or nodding your head in that manner. Is that  
18 fair?

19 A. Understood.

20 Q. Okay. Is anybody else in the room  
21 with you today during this deposition?

22 A. No.

23

24

25

1           Q.     If anyone else comes into the room at  
2 any time, would you agree that you let me know if  
3 that happens?

4           A.     I will.

5           Q.     Okay. And are you looking at  
6 anything other than the screen upon which the  
7 deposition is being taken?

8           A.     No.

9           Q.     So you don't have a notepad or a cell  
10 phone or other documents or papers that you're  
11 looking at?

12          A.     No.

13          Q.     Okay. Unless I instruct you  
14 otherwise, would you please not look at anything  
15 else while we're on the record, other than what's  
16 presented to you during this deposition?

17          A.     I will.

18          Q.     Okay. And do you have a copy -- do  
19 you have a hard paper copy of your declaration  
20 that you submitted in this proceeding?

21          A.     No.

22          Q.     Okay. So all the exhibits that I  
23  
24  
25

1 will use today, including your declaration that  
2 was submitted in this proceeding as well as some  
3 of the other documents that you may have  
4 considered or that have been filed in this  
5 proceeding, will be provided electronically to  
6 you. And I believe we just, prior to going on the  
7 record, demonstrated how that works. Do you have  
8 a general understanding of how you can access  
9 documents that are provided via the court  
10 reporter?

11 A. I have a general understanding. I've  
12 seen the link, and I saw something open.

13 Q. Okay. And that was --

14 A. I think that the process will work.

15 Q. Okay. Great. If you have any  
16 troubles accessing any of the documents I'm  
17 referring to, would you please let me know so that  
18 we can make sure you have the documents in front  
19 of you?

20 A. I will.

21 Q. Okay. And just a reminder that  
22 during this deposition, I ask that you answer all  
23  
24  
25

1 the questions by yourself. Don't look to your  
2 counsel or anyone else in answering the question.  
3 And if you can't answer the question by yourself,  
4 just let me know. Okay?

5 A. I agree.

6 Q. Okay. Let's actually start with  
7 Exhibit 2001. It is your declaration that you  
8 submitted in this proceeding.

9 MR. BANNER: And can we just put  
10 the front page of Exhibit 2001 on the screen  
11 here today?

12 (Exhibit Number 2001, previously  
13 marked, was introduced at this time.)

14 MR. BANNER: And just for the  
15 record, we have Mr. Livingston, who is  
16 helping with the technology today. And so if  
17 I refer to "Mr. Livingston" or "Ira," that's  
18 the tech who is helping us put some of the  
19 exhibits on the screen today.

20 BY MR. BANNER:

21 Q. So, Dr. Cimino, you see Exhibit 2001  
22 on the screen here?

1 COURT STENOGRAPHER: Oh, excuse  
2 me. This is the reporter. Ira, you can move  
3 that over, I think, if you click that. And  
4 then the other thing is, it would probably be  
5 quicker if some of the exhibits are larger if  
6 you actually downloaded them first and shared  
7 them that way versus via the ShareFile  
8 website. I mean, you can do it for this one,  
9 but for future I mean.

10 MR. BANNER: Yeah. I think it  
11 would probably be preferable to having it in  
12 the Adobe window.

13 COURT STENOGRAPHER: Yes.

14 TRIAL TECHNICIAN: Gotcha. Hang  
15 on.

16 COURT STENOGRAPHER: Okay.  
17 Sorry to interrupt.

18 MR. BANNER: Question: Can I  
19 close the little link here on the right to  
20 give more screen room?

21 TRIAL TECHNICIAN: Yes. You  
22 should be able to.

23  
24  
25

1 (Off record for technical  
2 logistics.)

3 BY MR. BANNER:

4 Q. All right. So, Dr. Cimino, do you  
5 see Exhibit 2001 on the screen right now?

6 A. Yes.

7 Q. We need that to be -- how's the size?  
8 Does it need to be zoomed in at all? Can you read  
9 that or...

10 A. It would be better if it was bigger,  
11 yes.

12 Q. Is that better?

13 A. Yes. Can it go one more or is  
14 that -- there, that's better.

15 MR. BANNER: Okay. All right.  
16 Do you want to scroll down a little bit, Ira.

17 BY MR. BANNER:

18 Q. And this Exhibit 2001 --

19 MR. BANNER: You can stop right  
20 there.

21 BY MR. BANNER:

22 Q. -- do you recognize this, Dr. Cimino,  
23  
24  
25

1 as the declaration you submitted in this  
2 proceeding?

3 A. I do.

4 Q. At a high level, what were you asked  
5 to do in connection with this PGR proceeding?

6 A. Look at the '737 patent and various  
7 other documents and make -- and come to some  
8 conclusions with regard to the claims and  
9 constructions used.

10 Q. And you provided just one expert  
11 declaration with your opinions in this proceeding;  
12 is that correct?

13 A. Yes.

14 Q. Okay. Something just came to me. I  
15 should've told you before we launched into this  
16 exhibit. The deposition, you know, it may -- at  
17 any time in this deposition, if you need a break,  
18 just let me know. We can take a break at any time  
19 for any reason. The only thing I ask is that if  
20 there's a question pending, that you answer the  
21 question before we take a break. Is that fair?

22 A. Fair enough.  
23  
24  
25

1 Q. Okay.

2 A. Probably, depending on the time,  
3 there will be some need for a bathroom break, I'm  
4 sure.

5 Q. Yeah. And, you know, I try to, you  
6 know, be mindful of the time and every, you know,  
7 hour or so, check in, because, you know, typically  
8 that's when folks want to grab some coffee or  
9 grab, you know, another glass of water or  
10 something or take a bathroom break. So I'll try  
11 to be mindful of the time, but again, if it skips  
12 my mind and you need a break, just let me know.  
13 That's no problem.

14 Okay. If we could -- again,  
15 looking at Exhibit 2001 --

16 MR. BANNER: If we could go down  
17 to page 55 of this PDF.

18 BY MR. BANNER:

19 Q. Right there, following paragraph 118,  
20 do you see that, Dr. Cimino?

21 A. Yes.

22 Q. Is that your signature?  
23  
24  
25

1           A.     That is.

2           Q.     Did you sign this declaration,  
3 Exhibit 2001?

4           A.     I did. That is my electronic  
5 signature.

6           Q.     Okay. So your signature was applied  
7 electronically?

8           A.     Yes.

9           Q.     Okay. And did you personally apply  
10 the signature?

11          A.     Yes, I did.

12          Q.     Okay. And you reviewed the  
13 declaration, Exhibit 2001, carefully before you  
14 signed it, correct?

15          A.     Yes.

16          Q.     At the time you signed your  
17 declaration, you believed everything in it was  
18 accurate, right?

19          A.     Yes.

20          Q.     Do you stand by your opinions offered  
21 in your declaration?

22          A.     Yes.

23

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1           Q.     There's nothing in your declaration  
2     that you want to take back today, correct?

3           A.     There's nothing I would like to take  
4     back.

5           Q.     Nothing that you need to change?

6           A.     Nothing to change.

7           Q.     Nothing that's missing or incomplete,  
8     to your knowledge?

9           A.     Nothing incomplete.

10          Q.     As you sit here today, are there any  
11     errors in your declaration that you know of?

12          A.     I know of no errors.

13          Q.     Did you write your Exhibit 2001  
14     declaration yourself?

15          A.     The opinions and the content, those  
16     are my opinions and I created them. The actual  
17     physical writing was a combination working with  
18     legal counsel to get that in final form.

19          Q.     Are there parts of your declaration  
20     that you actually typed in?

21          A.     Yes. Significant -- into draft  
22     format of the content, yes.

23

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25

1           Q.     And which parts of the declaration  
2 did you actually type?

3           A.     Going back up on the ideas and the  
4 constructs around --

5           THE WITNESS: Roll back up to  
6 the discussion of the '737 content.

7           A.     Also looking at Eliza (sic) and  
8 Fogarty.

9 BY MR. BANNER:

10          Q.     How much of your declaration did the  
11 attorneys draft?

12          A.     Portions related to information from  
13 counsel, information from me, what the law  
14 provides at the beginning, information from  
15 counsel.

16          Q.     Okay. But as far as the discussions  
17 of the prior art and the grounds and the petition,  
18 those were portions that you drafted?

19          A.     The conclusions and the content  
20 were -- I drafted the majority of position. I  
21 mean, the language is massaged and rewritten as a  
22 combination, but yes.

23

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25

1 Q. Okay. You're being paid at a fixed  
2 hourly rate of \$450 an hour for your work on this  
3 case; is that correct?

4 A. That's right.

5 Q. And you're being paid by Prytime for  
6 your work on this case, correct?

7 A. I've been retained by IMS for  
8 Prytime.

9 Q. And who is IMS?

10 A. They are, as I understand it, a  
11 search firm for witnesses that are engaged.

12 Q. Okay. So you work with an expert  
13 placement firm; is that accurate?

14 A. Yes. And --

15 Q. You work with -- okay.

16 A. -- you know -- and technically I  
17 think your question was payment, and I think  
18 payment comes through them.

19 Q. Right. And IMS -- do you know what  
20 "IMS" stands for?

21 A. I don't.

22 Q. Okay.

23

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25

1           A.     Something Services.

2           Q.     That's fine. In total, how much time  
3 have you spent on this particular PGR proceeding?

4           A.     At this point, 10 to 12 hours.

5           Q.     How many hours did you spend working  
6 on your Exhibit 2001 declaration?

7           A.     All of that time would've been in  
8 preparation and review and writing on that  
9 declaration outside of -- I'm -- yes. I mean,  
10 discussions with counsel and every -- yes, all of  
11 that.

12          Q.     Okay. So 10 to 12 hours were spent  
13 working on your declaration; is that accurate?

14          A.     Yes.

15          Q.     And then how many hours or -- well,  
16 scratch that. Let me ask it again. Did you spend  
17 any time preparing for today's deposition?

18          A.     Yes.

19          Q.     And how much time did you spend on  
20 preparation for today's deposition?

21          A.     That's outside of that 10 to 12.  
22 Approximately 3 hours.

23

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1           Q.     What did you do in that 3 hours to  
2 prepare for today's deposition?

3           A.     Reread the declaration and had some  
4 discussions with regard to that content with  
5 counsel.

6           Q.     So you reread your declaration,  
7 Exhibit 2001, while preparing for today's  
8 deposition?

9           A.     I did. It has been a while since it  
10 was submitted, and it's a long document with a lot  
11 of parts in it.

12          Q.     Yes. And these things do drag out  
13 for quite a while. I totally understand that.

14                 How much have you been paid to  
15 date for your work on this case?

16          A.     10 to 12 hours times 450.

17          Q.     And have you done work that has not  
18 been billed yet?

19          A.     The preparation for this deposition  
20 has not been billed yet.

21          Q.     So that's in the ballpark of three  
22 hours; is that correct?

23

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25

1           A.     Yes, three -- yeah. Three to five  
2 hours.

3           Q.     Do you have anybody working for  
4 you -- or sorry. Do you have anybody working with  
5 you for this case, like an assistant?

6           A.     I do not.

7           Q.     Have you received any noncash  
8 compensation for your work on this proceeding?

9           A.     No.

10          Q.     Have you worked on any other matter  
11 for Prytime?

12          A.     No.

13          Q.     Have you been given or told you'll be  
14 given anything of value other than the cash  
15 equivalent of what you charged Prytime for your  
16 fees and expenses incurred while working on this  
17 proceeding?

18          A.     No.

19          Q.     Do you have any financial interest or  
20 future financial interest in Prytime or any  
21 affiliate of Prytime?

22          A.     No.

23

24

25

1           Q.     In the last five years, how many  
2     patent litigation or IPR or PGR matters have you  
3     worked on?

4           A.     Zero. I believe zero is correct.  
5     Five years, zero.

6           Q.     All right. Let's go back to  
7     Exhibit 2001. It's currently on the screen.

8                   MR. BANNER: Let's go to page 1.  
9     And if you could scroll down just a little  
10    bit more. That should do it.

11    BY MR. BANNER:

12           Q.     Okay. So on the first page of  
13    Exhibit 2001, there's one patent listed that's at  
14    issue in this proceeding, correct?

15           A.     '737, correct.

16           Q.     Okay. And that's U.S. Patent -- so  
17    11,857,737, correct?

18           A.     Correct.

19           Q.     And sounds like -- if I refer to the  
20    '737 for short, you'll know that I'm talking about  
21    U.S. Patent 11,857,737, correct?

22           A.     Correct.

23

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1 MR. BANNER: If we could go to  
2 page 4 of Exhibit 2001.

3 BY MR. BANNER:

4 Q. Do you see paragraph 9 on page 4,  
5 Dr. Cimino?

6 A. Yes.

7 Q. Did paragraph 9 include a complete  
8 list of materials you reviewed in forming your  
9 opinions contained in your declaration?

10 A. Yes.

11 Q. Did you review any materials not  
12 listed in paragraph 9 of your declaration?

13 A. No.

14 Q. At any point in the preparation of  
15 your declaration, did you ask anyone at Prytime or  
16 Prytime's counsel for any documents that were not  
17 available to you?

18 A. No. They were not -- no.

19 Q. Who first contacted you related to  
20 this proceeding?

21 A. IMS.

22 Q. Had you ever spoken with anyone at  
23  
24  
25

1 Prytime prior to being approached to work on this  
2 proceeding?

3 A. No.

4 Q. So prior to being approached to work  
5 on this proceeding, how would you describe your  
6 relationship with Prytime?

7 A. Nonexistent. No contact. No  
8 knowledge.

9 Q. Prior to being approached to work on  
10 this proceeding, how would you describe your  
11 relationship with Prytime's counsel in this  
12 proceeding?

13 A. Nonexistent.

14 Q. So you never worked with Prytime's  
15 counsel previously?

16 A. No.

17 Q. Have you ever spoken with anyone at  
18 Prytime, not including their attorneys, in  
19 conjunction with your work on this proceeding?

20 A. I met with some members of Prytime in  
21 a technology review one time, one day.

22 Q. Do you know who that was, who those  
23  
24  
25

1 members were that you met with?

2 A. First name--I want to make sure--was  
3 Curtis, I think. I'm pretty sure that's right.  
4 It was -- he was an engineer at Prytime and  
5 presented some experiments and catheters and  
6 things that they had built for review.

7 Q. Do you know Curtis' last name, by any  
8 chance?

9 A. I do not.

10 Q. Besides Curtis, were there any other  
11 members of Prytime who you met with?

12 A. I, in passing in the hall, met one  
13 other person. I do not know what that person's  
14 name was. No discussions other than passed in the  
15 hall.

16 Q. So Curtis was the only person that  
17 you had any meaningful discussions with at  
18 Prytime?

19 A. Yes.

20 Q. And was your discussion with Curtis  
21 related to this proceeding?

22 MR. MURRAY: I would just  
23  
24  
25

1 caution the witness, to the extent you can  
2 answer that question without revealing any  
3 attorney-client information or work product,  
4 you can do so.

5 A. Question again, please.

6 BY MR. BANNER:

7 Q. Was your discussion with Curtis  
8 related to this PGR proceeding?

9 MR. MURRAY: Same objection.

10 A. All information from Curtis was  
11 demonstration and overview of the technologies  
12 that they have, their catheter systems.

13 BY MR. BANNER:

14 Q. And by "they," you're referring to  
15 Prytime; is that correct?

16 A. Yes.

17 Q. So this discussion was not a  
18 discussion about catheters made by Front Line; is  
19 that correct?

20 A. No. This was -- my -- what I saw was  
21 their catheters, their system, their experiments,  
22 their technology. The Front Line technology is  
23  
24  
25

1 presented in a document. I can't -- da, da, da,  
2 da, da, da. Declaration or one of the other legal  
3 correspondences, petitions or somewhere else.  
4 That's my only knowledge of Front Line.

5 Q. Have you ever spoken with any of the  
6 inventors listed on the '737 patent?

7 A. If Curtis is an inventor, certainly  
8 spoken to Curtis. I do not recall whether he is  
9 listed as an inventor.

10 MR. BANNER: Ira, if we could  
11 pull up Exhibit 1001.

12 (Exhibit Number 1001, previously  
13 marked, was introduced at this time.)

14 A. (Reviewing.) Curtis Franklin.  
15 There's Curtis' last name.

16 BY MR. BANNER:

17 Q. So is Curtis Franklin the individual  
18 at Prytime who you had discussions with?

19 A. Yes.

20 Q. And is it correct that you did not  
21 speak with either David Spencer or Todd  
22 Krummenacher, the other inventors?

23  
24  
25

1           A.     If one of them was my passing  
2     introduction, that could be, but I have no recall  
3     of speaking to either of them.

4           MR. BANNER:   Okay.   Ira, if we  
5     could go back to Exhibit 2001.   Let's go down  
6     to page 57.

7     BY MR. BANNER:

8           Q.     Dr. Cimino, at page 57 -- actually, I  
9     think it starts up at page 56, perhaps.   This is a  
10    copy of your CV; is that correct?

11          A.     Yes.

12          MR. BANNER:   Let's look at  
13    page 2 on page 57 -- page 2 of the CV,  
14    page 57 of the PDF.   And scroll down, if you  
15    will.   That's good right there.

16    BY MR. BANNER:

17          Q.     Dr. Cimino, kind of towards the  
18    middle of the page there, it indicates from 1982  
19    to 1992, you did some work on steerable catheter  
20    systems while at the University of Utah; is that  
21    correct?

22          A.     Yes.

23

24

25

1                   Q.     Prior to 1989, did you have any  
2     experience with catheter systems?

3                   A.     No.

4                   Q.     Can you describe the work you did at  
5     the University of Utah?

6                   A.     This was a -- the catheter system was  
7     designed and developed, and it was multiple -- it  
8     was a research program to build a steerable  
9     cardiac catheter system with the focus on the  
10    steering aspects to enhance the ability to get  
11    catheters and wires into difficult cardiac  
12    anatomy.

13                  Q.     Did you develop an actual product  
14    while at the University of Utah?

15                  A.     Built -- yes. Built a four-way  
16    steerable system. Not for commercial sale, but  
17    built a system and tested it in animals.

18                  Q.     Was your work at the University of  
19    Utah independent or were you working with a team  
20    there?

21                  A.     Independent.

22                  Q.     How did you test the design you came  
23  
24  
25

1 up with at the University of Utah?

2 A. A combination of probably two levels,  
3 performance testing, a series of tests, the  
4 design -- or to test the design, the steerability,  
5 the stiffness properties, the amount of control.  
6 These are what I would call performance tests.

7 And then ultimately that  
8 catheter system was tested in an animal model  
9 at the medical center at the University of  
10 Utah. So we catheterized some rabbits.

11 Thinking back -- I mean, this is  
12 what? 35, 40 years ago. But there's -- I  
13 think there are actual photographs of the  
14 catheter in the cardiac system or deployed in  
15 a rabbit heart.

16 Q. So how did you come up with the  
17 requirements by which to test the catheter design?

18 A. The target coronary issues or cardiac  
19 issues of steerability and small vessels  
20 discussions with cardiac physicians,  
21 interventional cardiologists, other sort of  
22 requirements, written documentation of difficulty

23

24

25

1 or needs.

2 I mean, catheter -- angioplasty  
3 catheters and other cardiac catheters were a  
4 big development area at that time and, you  
5 know, knowledge of the needs and requirements  
6 to get smaller or more flexible were, I would  
7 say, you know, in discussions with MDs or  
8 written documentation.

9 Also, patents that -- you know,  
10 patents were a large source of information.  
11 And the need to test or the target -- you  
12 know, our target goals were developed from a  
13 combination of all of those things.

14 Q. When you started at the University of  
15 Utah in 1989, did you already have in mind the  
16 idea to work on a steerable catheter system?

17 A. No. When I started in 1989, I  
18 applied to and was accepted in bioengineering.  
19 And, of course, you know, research and  
20 dissertations are part of that process. We're  
21 going to be in the health care area, and, you  
22 know -- my, the cardiac direction was established

23  
24  
25

1 soon after I got there.

2 Q. Was the cardiac direction something  
3 that was suggested by faculty you were working  
4 with or was it just something you researched on  
5 your own?

6 A. I couldn't tell you exactly where it  
7 came from, but certainly a combination of those  
8 things.

9 Q. If I understand the work you did  
10 while at the University of Utah, you worked on  
11 making catheter systems more steerable for cardiac  
12 applications; is that correct?

13 A. Right.

14 MR. MURRAY: Objection to form.

15 BY MR. BANNER:

16 Q. After Utah--I'm looking at the next  
17 section in time on your CV--from 1992 to 1993, it  
18 looks like you worked at Heart Rhythm  
19 Technologies, division of Ely Lilly, working on  
20 ablation catheters; is that correct?

21 A. Yes.

22 Q. Can you describe the work did you  
23  
24  
25

1 while at Hearth Rhythm?

2 A. Design, develop, move towards  
3 production of an endocardial ablation system,  
4 catheter-based, including all aspects of, you  
5 know, proximal control of the catheter, meaning  
6 handles and how you handle it; catheter shafts  
7 construction; the RF ablation technology, which is  
8 wires and parts and pieces that run in the  
9 catheter; tip design for ablation; interaction of  
10 the materials and the RF interactions in the heart  
11 and the blood. All associated with the ablation  
12 system.

13 Q. At a high level, can you explain what  
14 the RF ablation system actually does?

15 A. Imagine an RF electro- -- the  
16 simplest way, electrosurgical generator outside of  
17 the body. We transmit that high frequency in  
18 various voltage and currents down the catheter to  
19 electrodes on the tip of the catheter.

20 And that energy is transmitted,  
21 after the catheter is placed, from the  
22 catheter into the tissue of the heart for  
23  
24  
25

1 purposes of ablating what's called an  
2 aberrant pathway or various conduction  
3 pathways in the heart that are incorrect.

4 So we're trying to correct  
5 abnormalities or improper electrical  
6 conduction pathways in the heart, and there's  
7 various cardiac conditions that require this.  
8 And so it's a way to go in and try to correct  
9 those without -- using a catheter without  
10 opening up the heart or, you know, some other  
11 methodology, generally a class of what we  
12 call arrhythmias.

13 Q. Did you develop an ablation catheter  
14 product while at Heart Rhythm?

15 A. Yes.

16 Q. Did that product have a specific name  
17 or...

18 A. No. I mean --

19 Q. Sorry. Was your work at Heart Rhythm  
20 independent or were you working with a team? I  
21 believe you said you were the project lead.

22 A. A team, an entire team, at the  
23  
24  
25

1 company.

2 Q. And what did that team look like?  
3 Who were the members on the team?

4 A. By name?

5 Q. No. Just, you know, makeup of the  
6 team. What does a team developing an ablation  
7 catheter product encompass? What kind of  
8 disciplines are involved?

9 A. Multiple engineers, both material  
10 engineers, production engineers, design engineers,  
11 specialists in electrophysiology, project  
12 management, director of engineering.

13 Q. What is a specialist in  
14 electrophysiology?

15 A. Somebody who really knows and  
16 understands the electrophysiologic aspects of  
17 arrhythmia and, you know, work in the heart,  
18 mapping -- generally associated with mapping and  
19 monitoring and measuring the electrophysiologic  
20 aspects of the heart.

21 Q. What kind of background, educational  
22 background, does a specialist in electrophysiology  
23  
24  
25

1 have?

2 A. I'm going to -- education and  
3 background experience in electrophysiology and  
4 understanding the heart.

5 Q. That --

6 A. Certainly -- I'm sorry.

7 Q. I'm sorry. So the electro- -- the  
8 specialist in electrophysiology who you worked  
9 with at Heart Rhythm Technologies, was that an  
10 engineer or some other discipline?

11 A. I don't know what their -- I couldn't  
12 speak to their background.

13 Q. Did you have any doctors or did you  
14 consult with any doctors while working on the  
15 catheter at Heart Rhythm?

16 A. Certainly was doctors. Part of that  
17 process is including, you know, people that --  
18 yes. So the answer is yes. I don't recall their  
19 names or where they worked, but there were  
20 certainly MDs as part of this process.

21 Q. What roles did the MDs that were part  
22 of the process play?

23

24

25

1           A.     Primipally, at the time that I was  
2     there, we advanced the technology to a point -- it  
3     was not commercially available. It was under  
4     development, and the MDs were heavily involved in  
5     testing and evaluation.

6           And at that point, it was animal  
7     models, so we were working with MDs on  
8     testing and working with how the prototypes  
9     and structure would work in an animal model.

10          Q.     You've mentioned the term "animal  
11     model" a couple of times. Can you explain what  
12     that means?

13          A.     In the simplest sense, testing  
14     whatever instrument or drug or whatever in an  
15     animal model as opposed to a human model.

16          Q.     So this is an actual, like you  
17     mentioned before, rabbit or some other animal.  
18     When you say, "animal model," you're actually  
19     referring to an actual animal; is that correct?

20          A.     Yes. Yes. In the case of Heart  
21     Rhythm, it was dogs.

22          Q.     Okay. So how did you test that  
23  
24  
25

1 design that you came up with at Heart Rhythm?

2 A. It was tested in an animal model,  
3 dogs, and they were -- I mean, they were  
4 catheterized, and the ablation system and the  
5 entire aspects of the system at the prototype  
6 level were evaluated.

7 Q. You obtained a patent for the work  
8 you did while at Heart Rhythm; is that correct?

9 A. I don't know. There very well could  
10 be.

11 Q. I know it was a long time ago.

12 A. There's a few patents on the list,  
13 and if there's one from Heart Rhythm, then it  
14 would be assigned to Heart Rhythm.

15 MR. BANNER: Okay. Ira, if we  
16 could, there's an exhibit that is U.S.  
17 5,364,352. Can we pull that up and mark that  
18 as Exhibit 1029, please.

19 TRIAL TECHNICIAN: One moment.

20 (Exhibit Number 1029 was  
21 introduced at this time.)

22 A. Oh, yeah.  
23  
24  
25

1 BY MR. BANNER:

2 Q. Dr. Cimino, we have here up on the  
3 screen Exhibit 1029, U.S. Patent 5,364,352. Do  
4 you recognize this patent?

5 A. I do.

6 Q. Is that your name as the first  
7 inventor on this patent?

8 A. It is.

9 Q. And is this patent something that you  
10 received for your work at Heart Rhythm  
11 Technologies?

12 A. Yes.

13 Q. And that's the ablation catheter you  
14 developed while at Heart Rhythm that we've been  
15 discussing just now?

16 A. In the picture there? Yeah.

17 MR. BANNER: Can you scroll  
18 down, please.

19 A. Yes. Certainly the content of the  
20 patent. Is it the whole catheter? I'm not sure.  
21 Could I look at the --

22 THE WITNESS: Roll back up and  
23  
24  
25

1 roll to the abstract there.

2 A. Yeah.

3 MR. BANNER: So, Ira, if we  
4 scroll back down to the figure that's on the  
5 cover page of this patent, Exhibit 1029.

6 BY MR. BANNER:

7 Q. Do you see the figure there,  
8 Dr. Cimino?

9 A. Yes.

10 Q. Is that the ablation catheter that  
11 you developed while at Heart Rhythm?

12 A. Yes.

13 Q. And at a high level, what was the  
14 innovation in that catheter?

15 A. It certainly had to do with the --  
16 let's look at Claim 1. It certainly has aspects  
17 of the handle for control of the tip. I don't  
18 know that it's the whole catheter. I do not  
19 recall what's in Claim 1.

20 MR. BANNER: Ira, if we could go  
21 down to Claim 1, which I think it might be on  
22 page 14.

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TRIAL TECHNICIAN: On 14?

MR. BANNER: Or thereabouts. Go  
up to page 13. Maybe one more, page 12.  
There you go, Claim 1. Scroll down slightly  
so we can see all of Claim 1. There we go.

BY MR. BANNER:

Q. Dr. Cimino, if you want to look at  
that.

A. Yeah. Yeah. Just a sec here.  
(Reviewing.) Okay. So the high-level  
description. It's certainly an  
electrophysiologic -- or electrophysiological  
catheter for performing said procedures. But the  
majority of the technology in the invention is  
really the handle and the controls and the  
attachment of those controls to the system to  
provide the control and stiffening aspects of a  
catheter needed to control the device with the  
handle.

MR. BANNER: Ira, if we can go  
back to Exhibit 2001, Dr. Cimino's CV.

BY MR. BANNER:

1 Q. So the third bullet on Heart Rhythm  
2 Technologies indicates that while at Heart Rhythm,  
3 you developed "animal study protocols and  
4 conducted experiments to verify function/safety of  
5 product design and (bio)material interactions"; is  
6 that correct?

7 A. Yes.

8 Q. Can you explain how you came up with  
9 these animal study protocols while at Heart  
10 Rhythm?

11 A. We certainly had -- well, I  
12 certainly -- myself and others on the team had  
13 significant experience with protocols for animals,  
14 referenced the previous Ph.D. work. But we also  
15 had team members that had other experiences and  
16 background designing the protocols. And I speak  
17 broadly of the team. I mean, there were many  
18 other people involved.

19 Q. What do you mean by -- what other  
20 people were involved?

21 A. The people we spoke to previously on  
22 the team.

23  
24  
25

1 Q. Okay.

2 A. So there were certainly materials  
3 engineers, other engineers, the electrophysiologic  
4 or electrophysiology experts.

5 Q. I believe you've mentioned having  
6 discussions with doctors about the tests. Is that  
7 correct?

8 A. They certainly would've been  
9 involved, yes.

10 Q. And then the CV goes on to say that  
11 while at Heart Rhythm, you "Conducted experiments  
12 on the influence of electrode size/shape and RF  
13 generator output impedance on lesion formation in  
14 tissue," correct?

15 A. Yes.

16 Q. Can you explain what type of  
17 experiments those were?

18 A. Those would've -- both conducting on  
19 raw tissue experiments, meaning -- and I --  
20 appropriate pieces of -- so not live animal  
21 tissues where we would ablate, contact the  
22 electrodes with the tissues, fire the generator

23

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1 and look at the shape and size and depth of  
2 lesions. So these would be considered ex vivo  
3 experiments, not in live animals. And they  
4 certainly were part of the animal experiments,  
5 which would've been live as well.

6 So if the catheter system was  
7 successful in creating a lesion of some shape  
8 or size in the live animal model, we would  
9 look at that. We also looked at it in terms  
10 of tissue in the lab.

11 MR. BANNER: Ira, if we could  
12 scroll up to the next, Valleylab. There we  
13 go.

14 BY MR. BANNER:

15 Q. Dr. Cimino, your CV indicates that  
16 from 1993 to 1998, you worked at Valleylab, Inc.,  
17 a division of Pfizer; is that correct?

18 A. That's correct.

19 Q. You were a staff engineer at  
20 Valleylab from 1993 to 1997, correct?

21 A. Correct.

22 Q. And as a staff engineer, you were  
23  
24  
25

1 "Responsible for the direction of research teams  
2 and product development teams involving new  
3 ultrasonic and argon electrosurgery products"; is  
4 that correct?

5 A. Yes. Yes.

6 Q. Can you give me a high-level  
7 description of what these new ultrasonic and argon  
8 electrosurgery products are or were?

9 A. They're separate and different. The  
10 ultrasonic platform is a neurosurgery platform, is  
11 for fragmentation and resection of, in the  
12 simplest sense, a brain tumor. It's used to  
13 selectively fragment and extract brain tumor  
14 tissue.

15 And the argon electrosurgical  
16 product is an RF ablation system that  
17 combines the function and performance of a  
18 fundamental electrosurgical generator and  
19 instruments in a shroud of inert argon gas,  
20 which provides decreased charring, increased  
21 control over the spot, meaning the ablation  
22 spot. So it's an ablation technology with an  
23  
24  
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1 enhancement due to the inert argon gas.

2 Q. Your CV says you "Directed 12-plus  
3 person product development team which released 4  
4 argon electrosurgical products to market"; is that  
5 correct?

6 A. It is.

7 Q. What were your responsibilities  
8 related to this 12-plus person team?

9 A. I was the project lead and had all of  
10 the development and transition to production  
11 responsibilities for the entire product.

12 Q. And what disciplines did the team  
13 members that you directed have?

14 A. Boy, there's certainly multiple  
15 engineers of various disciplines involved,  
16 including production engineers, regulatory team  
17 members for what we call tracking and controlling  
18 the regulatory process, which is required for a  
19 commercial product; supply and -- you know, small  
20 number of people on supply and receiving;  
21 inspection management for ultimately transition to  
22 production. There you go.

23

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25

1           Q.     Were the products you worked on  
2     similar to products already in the market or did  
3     you consider these products to be innovative  
4     products?

5           A.     The electrosurgical generator and --  
6     the base electrosurgical generator was  
7     already a -- we use that as a -- that's already a  
8     marketable, approved product. The addition of  
9     argon was a new -- a new concept. And the  
10    instruments and parts and pieces to deliver the  
11    argon had to be developed and coordinated with the  
12    generator for release.

13          Q.     So the argon aspect of the products  
14    you developed while at Valleylab, that was  
15    something that hadn't been done before?

16          A.     I believe preliminary or maybe first  
17    argon systems may have existed. This was an  
18    advanced -- an advancement on that argon. I'm not  
19    sure where the first argon-assisted  
20    electrosurgical -- I don't know whether this one  
21    was first or soon -- one of the early entries.

22          Q.     Who came up with the product  
23  
24  
25

1 requirements for these argon products?

2 A. I'm not sure. I just can't recall.

3 Q. Your CV goes on to say, that last  
4 bullet, you "Directed a 6-person clinical study  
5 team which designed, built, and organized a  
6 clinical trial (human use, IDE) to investigate  
7 ultrasonic tissue dissection and coagulation." Do  
8 you see that?

9 A. Yes.

10 Q. And that's while you were at  
11 Valleylab; is that correct?

12 A. Yes.

13 Q. And what were your responsibilities  
14 related to the clinical trial work you did at  
15 Valleylab?

16 A. This was a proposed product, a new  
17 concept that we developed, and I led the team in  
18 that development. The IDE investigation under IDE  
19 clinical study was also as part of the team. We  
20 had team members that led that regulatory process  
21 and submission to ultimately the FDA to gain an  
22 IDE to study this under an IDE.

23

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1                   So this is all preliminary  
2                   prototype level investigation. This is not  
3                   an approved product yet at that phase.  
4                   Investigational is what I'll say.

5                   Q.       So who was on the six-person clinical  
6                   study team that you were directing?

7                   A.       Boy, the team members assigned to the  
8                   design and, you know, production process, which  
9                   would have been engineers, the regulatory team  
10                  members, you know, parts and materials similar to  
11                  other design development teams.

12                  Q.       Any doctors involved?

13                  A.       Yes. On the IDE regulatory for human  
14                  use, there was a -- what do I call it? Certainly  
15                  he's an MD that guided the company with regard to  
16                  human use activities under IDEs.

17                  Q.       Now, this Valleylab work, were those  
18                  products catheters or is that a different category  
19                  of product?

20                  A.       The Valleylab work is not catheters.

21                  MR. BANNER: Ira, let's go up  
22                  one page to the first -- to 56 in the PDF of  
23  
24  
25

1 Exhibit 2001.

2 BY MR. BANNER:

3 Q. Moved on closer in time here,  
4 Dr. Cimino, from 1998 to 2008, it says you  
5 cofounded and were the CEO or president at Sound  
6 Surgical Technologies; is that correct?

7 A. Yes.

8 Q. What was the business of Sound  
9 Surgical Technologies?

10 A. At a high level, it was design,  
11 development, and market release of an ultrasonic  
12 system for adipose tissue fragmenting and removal.  
13 So for body-sculpting procedures.

14 Q. And so this included design and  
15 development of medical devices?

16 A. Yes. This is a medical device.

17 Q. It says that Sound Surgical  
18 Technologies started with one employee and grew to  
19 over fifty employees; is that correct?

20 A. Yes.

21 Q. Were those over 50 employees all  
22 engineers?

23

24

25

1           A.     They were all aspects of an operating  
2     medical device company. So there were a number of  
3     engineers. There were a number of production  
4     people, actually, production, service personnel,  
5     finance, marketing.

6           Q.     Any doctors on staff?

7           A.     Say again.

8           Q.     Any doctors on staff?

9           A.     No doctors on staff.

10          Q.     Did you or anyone at Sound Surgical  
11     Technologies consult with doctors during the  
12     design and development of Sound Surgical's  
13     products?

14          A.     Yes.

15          Q.     Was that you personally or other  
16     folks?

17          A.     Both me personally and other folks.

18          Q.     What was the purpose of consulting  
19     with doctors during your work at Sound Surgical  
20     Technologies?

21          A.     The procedure, which is body  
22     sculpting, the interaction was both from a testing  
23  
24  
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1 standpoint, an evaluation standpoint the needs of  
2 that community to help direct the design, meaning  
3 the body sculpting; what physicians really valued  
4 in terms of the system performance; and ultimately  
5 early testing and release; and then working with  
6 the MDs postmarket to evaluate and further test,  
7 you know, the system. So MDs are involved in the  
8 process in multiple time points and multiple  
9 areas.

10 Q. So one of those areas that MDs are  
11 involved in the process at Sound Surgical  
12 Technologies is in testing the medical devices  
13 that are being developed; is that correct?

14 A. Yes.

15 Q. And another area that MDs are  
16 involved in the process at Sound Surgical  
17 Technologies was in defining the needs of the  
18 medical device that was being developed?

19 A. Yes.

20 Q. And the testing that the MDs helped  
21 with was both pre- -- sorry. Let me scratch that.

22 The testing that the MDs were  
23  
24  
25

1 involved in happened before the product was  
2 released to the market and then after the  
3 product was released to the market; is that  
4 correct?

5 A. Both.

6 Q. And these types of interactions with  
7 MDs that you described while at Sound Surgical  
8 Technologies, was that out of the ordinary for the  
9 medical device that was being developed at Sound  
10 Surgical Technologies or was that consistent with  
11 your experience at other companies?

12 A. Consistent. MDs often involved in  
13 the entire process.

14 Q. And you've given speeches -- or at  
15 least one speech, I believe, based on your CV,  
16 related to medical device design, development, and  
17 commercialization; is that correct?

18 A. I'm not clear.

19 MR. BANNER: Let's go to PDF 61,  
20 the very last page of Exhibit 2001, Ira.

21 BY MR. BANNER:

22 Q. And at the top of page 61 of  
23  
24  
25

1 Exhibit 2001, do you see that first entry -- oh,  
2 sorry. Not that one. Oh, yes, that is. The  
3 first entry there, Dr. Cimino?

4 A. Right at the top of the page?

5 Q. Yes. It lists a keynote lecture in  
6 2010. Do you see that?

7 A. Yes.

8 Q. And the title of that lecture was  
9 "Medical Device Design, Development, and  
10 Commercialization in the USA"; is that correct?

11 A. Yes.

12 Q. At a high level, what was that  
13 keynote lecture about?

14 A. The issues of design and development  
15 and transition through the commercialization  
16 pathway with specific focus on the regulatory and  
17 quality requirements in order to get successfully  
18 commercialized.

19 Q. When you gave your keynote speech  
20 in -- well, hold on. Let me back up real quick.

21 So we've just discussed some of  
22 the medical device products you worked on in  
23  
24  
25

1 your career. Are you still involved today in  
2 medical device design, development, and  
3 commercialization?

4 A. Yes.

5 Q. When you gave your keynote speech in  
6 2010, was it common for a team who was designing  
7 and developing a medical device to consult with  
8 doctors?

9 A. Please clarify. To consult with  
10 doctors for any purpose? For what purpose?

11 Q. For purposes of the design and  
12 development of a medical device.

13 A. MDs are often and frequently and even  
14 recommended to be part of a design, development,  
15 and commercialization process. And depending on  
16 the product or the direction or, you know, the  
17 intent and the regulatory pathway, MDs are often  
18 frequently involved in various aspects as it moves  
19 through the process, especially with regard to the  
20 use and function in patients.

21 Q. So would that have been the case in  
22 2010 when you gave this keynote lecture?

1                   A.       Yes.

2                   Q.       And has that changed between 2010 and  
3 today?

4                   A.       No. I should be clear that the  
5 answers to those questions are entirely company or  
6 development effort or experientially dependent.  
7 I'm answering that question from a broad medical  
8 device product and commercialization perspective  
9 and my experience in that process.

10                  Q.       In your experience of developing  
11 catheter products that we've discussed today, was  
12 it the case that MDs were part of that design and  
13 development process?

14                   MR. MURRAY: Objection to form.

15                   A.       I believe we've talked at Heart  
16 Rhythm about MDs being part of that process, and  
17 that is correct and remains the same, which I  
18 think was the point of your question.

19 BY MR. BANNER:

20                   Q.       Yes. How about during your work at  
21 the University of Utah?

22                   A.       I had MD advisors on my project, yes,  
23  
24  
25

1       absolutely.

2                   MR. BANNER: We have been going  
3 for a little over an hour. I'm happy to keep  
4 moving on. If you want to take a break, I  
5 can also do that. I'll leave it up to you,  
6 but I'm kind of going to switch gears a  
7 little bit on the questioning.

8                   THE WITNESS: I'm fine for the  
9 moment.

10                  MR. BANNER: Okay. Just let me  
11 know if you need a break.

12                  THE WITNESS: Okay.

13                  MR. BANNER: I'd like to turn to  
14 your declaration, Exhibit 2001, paragraph 37.

15                  TRIAL TECHNICIAN: One moment.  
16 Do you know what page that was on?

17                  MR. BANNER: That would be  
18 page 17 of the PDF.

19                  TRIAL TECHNICIAN: Got it.

20 BY MR. BANNER:

21                  Q. Do you see paragraph 37 of your  
22 declaration here, Dr. Cimino?

23

24

25

1 A. Yes.

2 Q. And paragraph 37 is talking about a  
3 construction for the claim term "proximal hub"; is  
4 that correct?

5 A. Yes.

6 Q. And there's actually a construction  
7 of a proximal hub that shows up at the end of  
8 paragraph 37. And that's going to be on page 18,  
9 correct? And you can scroll through.

10 A. (Reviewing.) Sorry. Repeat again.  
11 What are we looking at?

12 Q. You provide a construction for the  
13 claim term "proximal hub" at the end of  
14 paragraph 37 on page 18; is that correct?

15 A. At the end of page 18. I don't --

16 THE WITNESS: Roll down to the  
17 end of --

18 BY MR. BANNER:

19 Q. At the end of paragraph 37 on  
20 page 18. It's that last bit of paragraph 37.

21 A. Oh, okay. "Proximal hub is an  
22 element used to physically connect an inflation  
23  
24  
25

1 device to the inflation lumen," yes. "Adopt  
2 Dr. Resnick's definition."

3 Q. So you say that a proximal hub is an  
4 element or elements used to physically connect an  
5 inflation device to the inflation lumen of the  
6 catheter, correct?

7 A. I'm adopting the definition provided  
8 by Dr. Resnick.

9 Q. Is it your opinion that this  
10 definition is consistent with the understanding of  
11 a person of ordinary skill in the art and the  
12 details of the '737 patent specification?

13 A. Yes.

14 Q. At the bottom of page 17 --

15 MR. BANNER: If we could scroll  
16 up a little bit. That's good.

17 BY MR. BANNER:

18 Q. Let me start that question again. At  
19 the bottom of page 17 and continuing to page 18 of  
20 your declaration, you indicate that your  
21 construction of proximal hub is for the purposes  
22 of this PGR proceeding only. Do you see that?

1           A.     Is this in what I'm looking at? I do  
2 not see that. Oh, yes. At the very bottom, yes.

3           Q.     Do you intend to offer a different  
4 construction of the term "proximal hub" in another  
5 proceeding?

6           A.     No. Not that I'm aware of.

7           Q.     That wouldn't be proper, would it?

8           A.     No.

9           Q.     And you understand that the claim  
10 construction in this proceeding is governed by the  
11 same legal standard as claim construction in  
12 district court; is that correct?

13                   MR. MURRAY: Objection to form.

14           A.     I am not legal counsel. If that's  
15 the way it is, I acknowledge.

16                   MR. BANNER: If we can scroll  
17 down again to paragraph 38.

18 BY MR. BANNER:

19           Q.     And you may want to scroll through  
20 paragraphs 38 through 40, Dr. Cimino, but let me  
21 just ask the question first so you know what I'm  
22 going to ask.

23

24

25

1 In paragraphs 38 to 40 of your  
2 declaration, you take issue with the PTAB's  
3 analysis of the term "proximal hub" that was  
4 provided in the PTAB's institution decision,  
5 correct.

6 A. Yes.

7 MR. BANNER: And if we can go to  
8 the page 19 of the PDF, Exhibit 2001. Scroll  
9 down a little bit more. That's good.

10 BY MR. BANNER:

11 Q. And at page 19 of your declaration,  
12 you include Figure 42A from the '737 patent; is  
13 that correct?

14 A. Yes.

15 Q. And referring to Figure 42A toward  
16 the end of paragraph 40 that's showing here on  
17 page 19 of your declaration, you say, "The hub  
18 members 1604, 1606 cannot physically connect any  
19 external component, such as an external inflation  
20 device, to an inflation lumen of the catheter"; is  
21 that correct?

22 A. Are you reading directly from --  
23  
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Q. Yes.

A. Yes. Yes, I see that.

Q. So your discussion there about hub members 1604 and 1606 is referring to Figure 42A above; is that correct?

A. Yes.

Q. And Figure 42A of the '737 patent depicts an occlusion catheter without an inflation device; is that correct?

A. Say that again. I didn't -- we switched.

Q. Figure 42A --

A. Yes.

Q. -- looking at it on the screen, you see that, correct?

A. Yes.

MR. BANNER: And, maybe, Ira, if you could just scroll down slightly -- or up. Sorry. A little bit more so we can see the whole figure. Okay.

BY MR. BANNER:

Q. Would you agree with me that

1 Figure 42A of the '737 patent depicts an occlusion  
2 catheter without an inflation device?

3 A. Are you -- is your question is there  
4 an inflation device shown in Figure 42A?

5 Q. That's correct.

6 A. I see no inflation device as  
7 defined -- no, I see no inflation device shown in  
8 Figure 42A.

9 Q. And hub members 1604 and 1606 do not  
10 connect an external inflation device to an  
11 inflation lumen of that catheter, correct?

12 A. They do not.

13 Q. So how would a PHOSITA -- and let me  
14 back up. If I use the term "PHOSITA,"  
15 P-H-O-S-I-T-A, do you understand who I'm talking  
16 about?

17 A. Yes.

18 Q. I'm talking about a person of  
19 ordinary skill in the art for purposes of the '737  
20 patent, right?

21 A. Yes.

22 Q. Is it okay if I use that term,  
23  
24  
25

1 PHOSITA, today?

2 A. Yes. Understood.

3 Q. I jump into using acronyms, and I  
4 know that drives some people nuts, and so I just  
5 want to make sure we're on the same page there.  
6 It's often less of a mouthful to say, "PHOSITA."

7 So let me ask the question  
8 again. So if we're looking at Figure 42A of  
9 the '737 patent, how would a PHOSITA  
10 understand that catheter to operate?

11 A. The entire operation of the catheter?  
12 I or the hub members?

13 Q. In general, the entire operation.  
14 Let's start there.

15 A. Can we roll -- probably just above  
16 this is a paragraph or two that describe the 1600.

17 Q. Sure. That's probably 38 to 40,  
18 somewhere in there.

19 A. And a description of what the system  
20 1600 is.

21 THE WITNESS: Okay. Roll down  
22 or -- yeah.

23

24

25

1           A.     So the 1600 at a high level there,  
2     the middle sentence of 39 is an -- the sleeve  
3     portion is that an infection and contamination --  
4     I'm reading from the declaration here. A system  
5     for controlling infection and contamination as a  
6     sleeve that is passed over -- the catheter is  
7     passed through to control infection and  
8     contamination, really a sterility barrier. So  
9     that's the overall function of the 1600  
10    embodiment.

11                   MR. BANNER: Okay. Let's go  
12    back to page 19 of your declaration and  
13    Figure 42A of the '737 patent.

14    BY MR. BANNER:

15           Q.     So you would agree with me that  
16    depicted in Figure 42A is an occlusion catheter,  
17    correct?

18           A.     Yes.

19           Q.     And an occlusion catheter has a  
20    balloon as part of the catheter; is that correct?

21           A.     It certainly can, yes.

22           Q.     And the one pictured at Figure 42  
23  
24  
25

1 does have a balloon; is that correct?

2 A. Is it -- I would look, but I would  
3 suspect strongly that 1608 indicates a balloon. I  
4 would want to know that that is true.

5 MR. BANNER: So that we know  
6 that's true, let's go to Exhibit 1001.

7 And if we could go to paragraph  
8 59, which, I believe, will be on page 68. Go  
9 one more. Yeah. There we go.

10 BY MR. BANNER:

11 Q. And if we go down to -- so we're on  
12 Exhibit 1001, column 59 of the patent. If you  
13 look down starting around line 45, can you see  
14 that discussion there in the '737 patent,  
15 Dr. Cimino?

16 A. Yes. At 45, yes.

17 Q. And the discussion at 45 is referring  
18 to Figures 42A and 42B. Do you see that?

19 A. Yes. In the sleeve system 1600 and  
20 the occlusion balloon at 1608.

21 Q. Correct. So if we go back Figure 42A  
22 in your declaration, Exhibit 2001, that occlusion  
23  
24  
25

1 catheter depicted in 42A has a balloon; is that  
2 correct?

3 A. Yes.

4 Q. Now, how would an inflation device  
5 physically connect to the inflation lumen of the  
6 catheter in Figure 42A of the '737 patent?

7 A. Say that again.

8 Q. How would an inflation device  
9 physically connect to an inflation lumen of the  
10 catheter in Figure 42A of the '737 patent?

11 A. Need to go find another picture with  
12 an inflation device connection port somewhere on  
13 that catheter. I would strongly suspect that the  
14 inflation lumen is shown -- or, I would think, in  
15 the -- two pieces to the right of Figure 42A. I  
16 don't know exactly what those are, but their  
17 description -- I would suspect that the inflation  
18 lumen and a connection to an inflation is in one  
19 of those two components.

20 Q. Would it help to go back to that  
21 discussion of Figure 42A in the patent?

22 A. There's no numbers here. So if there  
23  
24  
25

1 is a discussion that describes that, that would be  
2 helpful.

3 Q. Okay. So you're referring to the  
4 right side of Figure 42A, correct?

5 A. Yes. Those two components on the end  
6 of tubes?

7 Q. Right. And are those components  
8 familiar to you based on your work in catheters?

9 A. I can't -- I can't tell exactly what  
10 those are. Is there a description elsewhere in  
11 the patent that describes those for 42A? Those  
12 look to me like connections for the end of a  
13 catheter in a very high-level sense.

14 Q. And what would be connected at the  
15 end of the catheter there?

16 A. Depending on what you want to insert.  
17 You could -- if this catheter utilizes and has a  
18 channel for a guidewire, you could pass a  
19 guidewire through there. If it has an inflation  
20 lumen and an attachment, you could attach an  
21 inflation device to one or both or either. The  
22 construction and their purpose is not totally  
23  
24  
25

1       describable from 42A.

2               Q.       So if it has an inflation lumen, you  
3       could attach an inflation device to one or both of  
4       those; is that correct?

5               A.       If it has an inflation lumen and an  
6       attachment, you could attach an inflation device.

7               Q.       Okay. Can you tell looking at  
8       Figure 42A if it has an inflation lumen?

9               A.       It has a balloon. If the balloon is  
10      to be inflated, I would strongly suspect that  
11      there's an inflation lumen. But from the --  
12      unless an inflation lumen is specifically called  
13      out, I cannot see it. Maybe 1610A. I don't know  
14      what that is. Is that part of the sleeve or is  
15      that a lumen inside?

16              Q.       Okay.

17              A.       Take a look.

18              Q.       It might help if we go back to  
19      Exhibit 1001. And we are again at page 67 of  
20      Exhibit 1001, which is column 59, starting at  
21      line 45. And, Dr. Cimino, if you just kind of  
22      read into that paragraph there starting at line 45

23

24

25

1 until you've gone far enough to decide if there's  
2 an inflation lumen in Figure 42A.

3 A. (Reviewing.) We have the inflation  
4 catheter at 1602 inside the sleeve. It says it  
5 has 1602, which is the catheter, "preferably has  
6 an inflation lumen similar to the inflation  
7 lumens." There is "a port opening into an inner  
8 area of the occlusion balloon 1608 to" -- yes, it  
9 definitely has an inflation lumen.

10 Q. Okay. And the inflation lumen in  
11 Figure 42A is within occlusion catheter 1602; is  
12 that correct?

13 A. Yes.

14 MR. BANNER: So let's go back to  
15 Exhibit 2001 where we have 42A.

16 BY MR. BANNER:

17 Q. So now that we know Exhibit 40 -- let  
18 me scratch that. Now that we know Figure 42A of  
19 the '737 patent has an inflation lumen, my  
20 question to you is, how would an inflation device  
21 physically connect to that inflation lumen?

22 A. In this figure?  
23  
24  
25

1 Q. Yes.

2 A. This is a hypothetical. The  
3 inflation lumen is in catheter 1602a, and it must  
4 run all the way to the end of one of those tubes,  
5 one on the right. And there would need to be a  
6 connection on one of those two devices to that  
7 inflation lumen.

8 Q. All right.

9 A. It would be -- well, let me just say,  
10 the given inflation lumen is required to run all  
11 the way to the end of one of those or both of  
12 those items at the right side.

13 Q. Okay. This might help to -- I'm just  
14 trying to make sure the record is clear here,  
15 because, as you can imagine, when you are  
16 describing a picture verbally, it can often get a  
17 little ambiguous. So if I could share my screen,  
18 I'm going to be looking at the same figure from  
19 your -- let me see. Let me do this. Can you see  
20 my screen here, Dr. Cimino?

21 A. Yes.

22 Q. And you can see we're looking at  
23  
24  
25

1 Figure 42A in your Exhibit 2001 declaration at  
2 page 19; is that correct?

3 A. Yes.

4 Q. Okay. So when you were discussing  
5 where an inflation device might connect to the  
6 inflation lumen of this catheter in 42A, is it  
7 correct -- I'm going to try to put an arrow where  
8 what I think you were referring to and you can  
9 tell me if that's not correct. Okay? Does that  
10 make sense?

11 A. Okay.

12 Q. Okay. So let's see. So you were  
13 pointing to these two ends; is that correct? Do  
14 you see that?

15 A. Yeah. Could be either of those two  
16 ends or the little side things could also be  
17 access ports.

18 Q. And so are you referring --

19 A. Little side things -- yes. That one,  
20 that one. Those could be handles. Those could be  
21 access ports.

22 Q. What else might those be?  
23  
24  
25

1           A.     Handles, access ports, other  
2     connections for multiple devices. The most common  
3     technology for these types of ends in ports are  
4     what's called Luer lock fittings, valves, a whole  
5     bunch of directional control devices that have  
6     Luer locks that attach to a syringe.

7           I'm assuming those are some form  
8     of one of those, and so they have multiple  
9     inputs, multiple angles, handles. Now, are  
10    those things or not, you know. I can't say  
11    for sure, but that's what they look like.

12          Q.     So I have put arrows in the  
13    various -- pointing to the various portions of  
14    Figure 42A where an inflation device might  
15    physically connect an inflation lumen of that  
16    catheter. Is that correct?

17          A.     Yes.

18          Q.     And these are red arrows that you see  
19    on my screen right now?

20          A.     Yes.

21          MR. BANNER: Okay. I'm going to  
22    make a screen shot of this, and I'm going to

23  
24  
25

1 mark this as an exhibit just so we have a  
2 clear record.

3 BY MR. BANNER:

4 Q. So just bear with me, and I'll verify  
5 that once we have the actual exhibit, it hasn't  
6 changed from what you're seeing right now. Okay?

7 A. That's fine.

8 MR. MURRAY: I was about to  
9 suggest that.

10 MR. BANNER: Yeah. It's a  
11 little --

12 MR. MURRAY: If you could  
13 describe the one thing as a backwards "L,"  
14 but I can't really --

15 MR. BANNER: Yeah. It's one of  
16 the challenges in not being in the room with  
17 you, Dr. Cimino. In the old days, we could  
18 just have you, you know, take a red pen and  
19 mark the arrow yourself.

20 But bear with me here for just a  
21 second. I'm going to get this uploaded.  
22 You're no longer seeing my screen, correct?

23  
24  
25

1           A.       Correct. I see you.

2                   (Exhibit Number 1030 was  
3 introduced at this time.)

4           MR. BANNER: I think I have  
5 successfully uploaded it.

6           TRIAL TECHNICIAN: 1030 is now  
7 on the screen.

8 BY MR. BANNER:

9           Q.       All right. Dr. Cimino, do you see  
10 what's been marked as Exhibit 1030?

11          A.       Yes.

12          Q.       And we were previously marking up a  
13 section of your declaration on page 19, and that's  
14 where Figure 42A of the '737 patent was. Do you  
15 recall that discussion?

16          A.       Yes.

17          Q.       And do the red arrows on Exhibit 1030  
18 reflect the discussion we had about where an  
19 inflation device might physically connect to an  
20 inflation lumen in the catheter depicted in  
21 Figure 42A?

22          A.       Yes.

23

24

25

1 Q. Thank you.

2 MR. BANNER: We can close  
3 Exhibit 1030. Let's go to paragraph 56 of  
4 your declaration, Exhibit 2001. And that  
5 will be on page 29, I believe.

6 BY MR. BANNER:

7 Q. And here at this part of your  
8 declaration you're referring to Eliason. Do you  
9 see that, Dr. Cimino?

10 A. Yes.

11 Q. And Eliason is one of the prior art  
12 references that you reviewed in conjunction with  
13 your declaration, correct?

14 A. Yes.

15 MR. BANNER: We can scroll down  
16 to paragraph 59 in the Eliason discussion. I  
17 believe that's the next page.

18 BY MR. BANNER:

19 Q. The first sentence here of  
20 paragraph 59 of your report, Dr. Cimino, do you  
21 see it here?

22 A. Yes.

23

24

25

1           Q.     You say that Eliason's "occlusion  
2     balloon 14 may be deployed over the endovascular  
3     wire 12 outside of the body, and subsequently  
4     inserted into the body together as a single unit."  
5     Do you see that?

6           A.     Yes.

7           Q.     And would you agree with me that this  
8     is a description of one embodiment in Eliason?

9           A.     Yes.

10          Q.     And I believe Dr. Resnick referred to  
11     this embodiment as the presecurement embodiment.  
12     Do you have that recollection?

13          A.     I do not recall.

14          Q.     Okay. Would it be okay if I refer to  
15     this as Eliason's presecurement embodiment? Will  
16     you know what I'm talking about?

17          A.     Yes. Fine. "Presecurement" means  
18     that they're combined first and then inserted into  
19     the body.

20          Q.     Right. So if I refer to  
21     "presecurement embodiment," you'll understand I'm  
22     referring to the embodiment in Eliason where the  
23  
24  
25

1 balloon shaft and the endovascular wire are  
2 secured together and inserted into the body as a  
3 single unit, correct?

4 A. Correct.

5 MR. BANNER: So could we open up  
6 Exhibit 1009, please. And that's Eliason.

7 (Exhibit Number 1009, previously  
8 marked, was introduced at this time.)

9 BY MR. BANNER:

10 Q. So we see on the screen here the  
11 first page of Exhibit 1009. And this is U.S.  
12 Patent Number 9,131,874 to Eliason. Do you see  
13 that, Dr. Cimino?

14 A. Yes.

15 Q. This is a reference that you reviewed  
16 for purposes of your declaration; is that correct?

17 A. Yes.

18 MR. BANNER: Let's go to  
19 Figure 6 of 1009. And that should be on  
20 page 6. Actually, you can zoom out to get it  
21 all on the page. There we go.

22 BY MR. BANNER:  
23  
24  
25

1 Q. Do you see Figure 6 here of Eliason,  
2 Dr. Cimino?

3 A. Yes.

4 Q. And do you agree that Figure 6 in  
5 Eliason depicts the balloon shaft and the  
6 endovascular wire, including the securement beads,  
7 the struts, and the J tip?

8 A. I'm sorry. Repeat the question so  
9 that I can follow all of the components.

10 Q. Okay. And it might be helpful if we  
11 go back to your declaration, Exhibit 2001.

12 MR. BANNER: And we can scroll  
13 down -- actually, sorry, scroll. Hold on a  
14 second, Ira. I may be mixed up here where we  
15 are. Okay. Go to page 29. Sorry.

16 TRIAL TECHNICIAN: Yep.

17 MR. BANNER: Scroll up.

18 BY MR. BANNER:

19 Q. Okay. And paragraph 57 of your  
20 declaration, Dr. Cimino, do you see that there?

21 A. Yes.

22 Q. The paragraph next to paragraph 57 is  
23  
24  
25

1 Figure 6 of Eliason; is that correct?

2 A. Correct.

3 Q. And Figure 6 -- would you agree that  
4 Figure 6 depicts the balloon shaft and the  
5 endovascular wire, including securement beads 24  
6 and 26, struts 22, and the J tip 20?

7 A. Yes.

8 Q. And these are the structures of  
9 Eliason that are inserted into the body together  
10 as a single unit in Eliason's presecurement  
11 embodiment; is that correct?

12 A. In the presecurement, they are  
13 combined and inserted, yes, as a system. And to  
14 be clear, the endovascular wire is inserted into  
15 the catheter in the presecurement configuration  
16 and then inserted.

17 Q. And so all of the structures that are  
18 pictured in Figure 6 in the presecurement  
19 embodiment are inserted into the body as a single  
20 unit; is that correct?

21 A. Yes.

22 MR. BANNER: If we could go to  
23  
24  
25

1 paragraph 61 of Exhibit 2001. I believe  
2 that's page 31.

3 BY MR. BANNER:

4 Q. Do you see paragraph 61 on the screen  
5 here, Dr. Cimino?

6 A. Yes.

7 Q. In paragraph 61, you begin your  
8 discussion about ground 1 of the petition; is that  
9 correct?

10 A. Yes.

11 Q. And at paragraph 61 -- sorry. Let me  
12 start that over. The discussion of ground 1  
13 continues through paragraph 87, ending at  
14 paragraph 3 of your declaration; is that correct?

15 MR. MURRAY: Objection to form.

16 A. Please roll down, and let's find out.  
17 61 through 87?

18 BY MR. BANNER:

19 Q. Before we do this, would it be  
20 possible -- would it be more, I guess -- the  
21 scrolling action is a little slow. Would it be  
22 more efficient if we could get you to download  
23  
24  
25

1 Exhibit 2001, and you could kind of scroll through  
2 it on your own, just to flip through these pages  
3 real quickly?

4 A. I don't know. I don't know that we  
5 could do that. I mean, maybe. Let's just go with  
6 this and scroll through. I agree, and it makes me  
7 go nuts way down, but --

8 MR. BANNER: So, Ira, is there  
9 the ability, on the view menu of Acrobat, to  
10 choose continuous like paging so it  
11 doesn't -- do you know what I'm talking  
12 about?

13 TRIAL TECHNICIAN: Yeah. Just a  
14 sec here.

15 MR. BANNER: I think it's in the  
16 tool -- in the -- sorry, the command bar at  
17 the top. Or is there like at the --  
18 actually -- well, I don't know. I don't have  
19 this. This is an old version of Acrobat.  
20 I'm not sure where it is. Maybe while we  
21 figure this out would be a good time for a  
22 break?

23  
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1 THE WITNESS: Sure.

2 (A recess was taken from  
3 11:53 a.m. until 11:58 a.m.)

4 BY MR. BANNER:

5 Q. All right. Dr. Cimino, after a short  
6 break, we were looking at paragraph 61 of your  
7 declaration.

8 MR. BANNER: That's  
9 Exhibit 2001, if we can bring that back up.

10 TRIAL TECHNICIAN: One moment.  
11 That was page --

12 MR. BANNER: 71. Page 31.

13 TRIAL TECHNICIAN: Sorry about  
14 that.

15 MR. BANNER: Can you get rid of  
16 the "Ask AI Assistant" box as well. That  
17 goes away.

18 TRIAL TECHNICIAN: Yep. I'm  
19 trying to get that out of here.

20 BY MR. BANNER:

21 Q. Okay. Do you see paragraph 61 of  
22 your declaration here on the page, Dr. Cimino?

23

24

25

1           A.     Yes.

2           Q.     And the discussion of ground 1  
3 continues through paragraph 87 of your  
4 declaration; is that correct?

5           A.     Yes. I don't see it, but if that's  
6 where it continues to, that's good.

7           Q.     And you make two separate arguments  
8 with respect to ground 1; is that correct?

9           A.     Clarify, please.

10          Q.     So the first argument you make for  
11 ground 1 starting at paragraph 61 relates to a  
12 construction of the flow valve and the proximal  
13 hub; is that correct?

14          A.     Yes.

15          Q.     And then starting in paragraph 77 on  
16 page 38 -- do you see paragraph 77 there?

17          A.     Yes.

18          Q.     You make a second argument under  
19 subheading B that relates to "the "proximal-most  
20 end" of Fogarty's stylet." Do you see that?

21          A.     Yes.

22          Q.     And those two arguments are related  
23  
24  
25

1 to ground 1 in the petition; is that correct?

2 A. Yes.

3 MR. BANNER: And I think if we  
4 scroll down to -- just keep going to  
5 paragraph 87.

6 BY MR. BANNER:

7 Q. We see that those are the only two  
8 arguments with respect to ground 1, correct?

9 A. At 87 is -- what? Is 87 the end?

10 Q. I believe so.

11 A. Yes. Yes.

12 Q. Because I don't see any more  
13 subheadings, and then we start in on ground 2.

14 A. Correct.

15 Q. I know. This is not the ideal way to  
16 page through things.

17 MR. BANNER: Okay. In any  
18 case -- so, Ira, there's a little bit more of  
19 paragraph 87 on the next page. And is it  
20 actually scrolling -- continue to scroll or  
21 are we still jumping?

22 TRIAL TECHNICIAN: It's still  
23  
24  
25

1 jumping, for some reason.

2 MR. BANNER: Okay. Can you see the  
3 icon above the Zoom in the bottom right?

4 TRIAL TECHNICIAN: Right here.

5 MR. BANNER: Can you just click  
6 that real quick and see what that tells you.  
7 "Enable Scrolling."

8 TRIAL TECHNICIAN: There we go.

9 MR. BANNER: Now, can you scroll  
10 up and down and see where we need to be?  
11 Yeah. Okay. Much better. Thank you. Okay.  
12 Sorry for the technical difficulties.

13 Let's go back to paragraph 61 on  
14 page 31.

15 BY MR. BANNER:

16 Q. Now, this argument starting at  
17 paragraph 61 is based on a claim construction  
18 argument; is that correct?

19 A. Yes.

20 Q. And the claim construction argument  
21 is based on your opinion that a PHOSITA would  
22 understand the claim language to require that the  
23  
24  
25

1 flow valve and the proximal hub are separate  
2 elements and that the flow valve and proximal hub  
3 cannot be in an element and subelement  
4 relationship; is that correct?

5 A. Yes.

6 Q. Now, you've read the PTAB's  
7 institution decision in this proceeding, correct?

8 A. I did.

9 Q. And you're aware that the PTAB's  
10 institution decision construed the terms "proximal  
11 hub" and "flow valve" to encompass situations  
12 where the flow valve is a subelement portion of  
13 the proximal hub, correct?

14 A. Yes.

15 Q. Do you disagree with the PTAB's claim  
16 construction in its institution decision?

17 A. I do.

18 Q. No, as a hypothetical, I want you to  
19 assume that the PTAB's institution decision is  
20 correct. Okay?

21 A. Okay.

22 Q. And so assume that the terms  
23  
24  
25

1 "proximal hub" and "flow valve" are construed to  
2 encompass situations where the flow valve is a  
3 subelement portion of the proximal hub. Okay?

4 A. Okay.

5 Q. Do you understand this hypothetical?

6 A. I'm not entirely sure.

7 Q. What are you unsure about?

8 A. The hypothetical describe -- assumed  
9 that the PTAB's definition is correct.

10 Q. Yes.

11 A. Then what was the question or  
12 concern?

13 Q. Okay. I just want to make sure. You  
14 understand that my next question is assuming the  
15 PTAB's institution decision is correct on this  
16 construction. Okay?

17 A. Okay.

18 Q. So under this hypothetical, would you  
19 agree that your first argument for ground 1  
20 starting at page 61 is no longer valid?

21 MR. MURRAY: Objection to form.

22 A. I couldn't comment on whether that  
23  
24  
25

1 would be valid or invalid. I'm not sure what that  
2 entails. Under that hypothetical, I'm not -- I've  
3 not considered that.

4 BY MR. BANNER:

5 Q. Okay. Have you considered whether if  
6 a flow valve -- whether Fogarty, which is the  
7 prior art in ground 1, discloses a flow valve and  
8 a proximal hub under the PTAB's construction of  
9 those terms in its institution decision?

10 A. Under the PTAB's construction. I'm  
11 not sure I can answer that question. I'm not  
12 clear about the bounds of what that means.

13 Q. You understand that the PTAB  
14 construed flow valve and proximal hub such that  
15 the flow valve may be a subelement portion of the  
16 proximal hub, correct?

17 A. Yes. The PTAB's conclusion.

18 Q. So with that conclusion in mind --

19 A. Hypothetical.

20 Q. -- would you agree -- hypothetically,  
21 correct.

22 With that hypothetical  
23  
24  
25

1 conclusion in mind, would you agree that  
2 Fogarty shows the flow valve and the proximal  
3 hub as claimed in the '737 patent Claim 1?

4 A. I think -- I'm trying to wrestle with  
5 the bounds of your question. The flow -- for that  
6 to be true, there must -- this is hypothetical.  
7 It does not address the flow conditions from the  
8 injection or inflation device through the flow  
9 valve to a proximal hub. And so there's an  
10 inconsistency in my mind.

11 This is where the hypothetical  
12 cannot be resolved. You do not have the  
13 possibility of those -- of the flow -- the  
14 fluid flow communication if that were so. So  
15 it becomes -- the hypothetical is very hard  
16 to evaluate.

17 So taking the flow valve and the  
18 language out of paragraph 61 is configured to  
19 selectively fluidly communicate the proximal  
20 hub with the inflation device, which my  
21 reading is we need to go from the inflation  
22 device into the flow valve and then into the  
23  
24  
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1 proximal hub, in that order.

2 Q. Okay.

3 A. And to, I think, address your  
4 question is, if you rearrange those so they're not  
5 in that order, is that a possibility. I don't --  
6 you know, this is the language that I see.

7 MR. BANNER: Let's look at  
8 paragraph -- let's go to page 33 of  
9 Exhibit 2001.

10 TRIAL TECHNICIAN: Which  
11 paragraph?

12 MR. BANNER: Just go to page 33.  
13 There we go.

14 BY MR. BANNER:

15 Q. Dr. Cimino, do you see at the top of  
16 page 33, just before paragraph 64 in your report,  
17 is Figure 1 from Fogarty, correct?

18 A. Yes.

19 Q. And Fogarty is an occlusion catheter,  
20 correct?

21 A. It's a venous embolectomy catheter.

22 Q. And that's not an occlusion catheter?

23

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1           A.     Not for -- well, let me -- it has a  
2     balloon.

3           Q.     Is what we're looking at in Figure 1  
4     an occlusion catheter or is it not an occlusion  
5     catheter?

6           A.     Let's go up to the description of  
7     Fogarty. It very well could be -- have an  
8     occlusion -- its primary purpose, as I recall, was  
9     venous embolectomy. The top of Fogarty?

10          Q.     Keep going.

11          A.     And it -- yes. So it is -- they call  
12     it, yes, an occlusion catheter system. That is  
13     out of Fogarty's description right there in 62,  
14     yes.

15          Q.     I think 62 -- actually you're citing  
16     to the '737 patent. Paragraph 62 is not from  
17     Fogarty, is it?

18          A.     You're asking me? I can't tell  
19     looking at this. Is this in the Fogarty  
20     description?

21          Q.     Let me just help you out here. In  
22     paragraph 62, you're talking about Figure 22 of  
23  
24  
25

1 the '737 patent, correct?

2 A. Yes. Yes. That's true. I was  
3 reading -- yes. I believe it was a mistake. "The  
4 rest of the occlusion catheter system 710."  
5 Not -- not correct with regard to Fogarty.

6 Q. So the question that's still pending  
7 is whether Fogarty Figure 1 is an occlusion  
8 catheter. And so I think you were looking for --

9 A. Right at the top of where Fogarty's  
10 basic introduction and description -- the  
11 introduction to Fogarty, this is my recall in the  
12 declaration, wherever that is in the par- -- you  
13 know, I would say it'd probably be five or six  
14 paragraphs up here.

15 Q. Okay. So if we go to -- let's see.  
16 Help you find that.

17 MR. MURRAY: I think it starts  
18 at page 25.

19 BY MR. BANNER:

20 Q. Yeah, page 25.

21 A. Probably just the face of Fogarty  
22 or -- so Fogarty is a reusable catheter system.

23  
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1           Q.     So let's talk about, yeah,  
2     paragraph 51, and maybe look at that.

3           A.     Yeah. It has the embodiment shown in  
4     Fogarty, which I think is probably -- that figure  
5     is for venous embolectomy, and it involves a  
6     balloon to remove a thrombus.

7                     And then there might be another  
8     embodiment down here. "Fogarty states" --  
9     "shortened tube, may be" -- "balloon is" --  
10    "to expand or open a vessel" -- "also states  
11    that the most important features could be  
12    used in an arterial embolectomy, to remove a  
13    clot."

14                    None of these procedures require  
15    occluding the aorta. Keep going. Is there  
16    more description?

17           Q.     I think that may have been -- I mean,  
18    I think Fogarty's description ends at  
19    paragraph 57.

20           A.     Yeah. Right here, an embolectomy  
21    catheter with a suture loop for attachment. It  
22    certainly has a balloon. If there's further  
23  
24  
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1 content here in the description, I'm not recalling  
2 it. Or on the face of -- if we could look at the  
3 face of Fogarty.

4 MR. BANNER: Okay. Let's pull up  
5 Exhibit 1004, Ira.

6 (Exhibit Number 1004, previously  
7 marked, was introduced at this time.)

8 THE WITNESS: Just go to the  
9 first page.

10 MR. BANNER: That's the first  
11 page. Let's go to the second page, Ira.

12 THE WITNESS: Or go to the  
13 abstract.

14 MR. BANNER: Maybe zoom in a  
15 couple. Yeah.

16 A. So just constrained on the abstract,  
17 it is not described as an occlusion catheter. I  
18 mean, just reading the abstract, there may be  
19 embodiments somewhere in this text. I'm just not  
20 going to represent -- this is described for venous  
21 thrombectomy and arterial embolectomy, neither of  
22 which are technically for the purposes of

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1 occlusion. They may occlude the vessel as a  
2 balloon.

3 BY MR. BANNER:

4 Q. So the question about whether  
5 Figure 1 of the Fogarty patent depicts an  
6 occlusion catheter, what is your answer?

7 A. My answer is, Figure 1 is -- let's  
8 go to -- right here, description of Figure 1, the  
9 "parts broken away" -- "the balloon catheter  
10 embodying the features of the invention."

11 So Figure 1, which the one we're  
12 talking about is a balloon catheter. And  
13 that balloon catheter, out of the abstract,  
14 its primary purpose is venous thrombectomy or  
15 arterial embolectomy.

16 And I am sure there are other  
17 embodiment terms, but from the face and from  
18 the language, I would not consider it an  
19 occlusion catheter. It would certainly be  
20 capable having a balloon of occlusion of a  
21 vessel, but to describe it as an occlusion  
22 catheter I think would be incorrect.

1 MR. BANNER: Okay. If we  
2 could look at --

3 A. Now, is there language in this patent  
4 somewhere? There very well could be. I do not  
5 represent that I know every word of this patent.

6 MR. BANNER: Ira, if we could go  
7 page 1 of Exhibit 1004 and look at the  
8 figures.

9 TRIAL TECHNICIAN: Do you want  
10 me to zoom out?

11 MR. BANNER: Page 1 of figures.  
12 We're on page 2 right now.

13 THE WITNESS: No. I see page 1.

14 TRIAL TECHNICIAN: This is  
15 page 1.

16 MR. BANNER: Sorry. I'm looking  
17 at a different copy. My fault. Okay. No.  
18 I think this is okay.

19 BY MR. BANNER:

20 Q. So in Figure 1 --

21 MR. BANNER: Well, maybe let's  
22 zoom in to Figure 1 a little bit -- or

23  
24  
25

1 actually let's zoom in to Figure -- I guess  
2 it doesn't matter. Figure 1's fine.

3 BY MR. BANNER:

4 Q. So Figure 1 depicts a balloon  
5 catheter, correct, Dr. Cimino?

6 A. A thrombus embolectomy catheter with  
7 a balloon, yes.

8 Q. Okay. And does Figure 1 include an  
9 inflation lumen?

10 A. Yes.

11 Q. And where is the inflation lumen in  
12 Figure 1?

13 A. You know, we can cite it back up, but  
14 I would think that it is the exit out of number 2  
15 on the figure that -- or -- I don't see what other  
16 figure number might identify the inflation lumen.  
17 I would think it would be the exit figure  
18 number 2. Well, we could look at the figure  
19 description and identify the inflation lumen.

20 Q. Let's look at the text. And in  
21 particular, let's look at column 2. That's...

22 A. Just by way of note, in column 2 at  
23  
24  
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1 33, it says, "The drawing illustrates a venous  
2 thrombectomy catheter but the same construction is  
3 used for other fields of pathology."

4 Q. And what's the importance of that?

5 A. Just kind of back to our previous  
6 reference to Figure 1 where it's showing a balloon  
7 catheter embodying features of the invention.

8 Q. Okay. So maybe if you -- so my  
9 question is, where is the inflation lumen in the  
10 depiction in Figure 1?

11 A. In my opinion, just looking at that,  
12 it would be the exit arrow number 2. You see that  
13 in the letter left? But that doesn't identify the  
14 inflation lumen. Number 2 is probably showing  
15 flow backwards or something. And I don't see any  
16 other figure numbers identifying the figure -- the  
17 inflation lumen in the figure.

18 Q. Okay.

19 A. So that would be the closest I could  
20 specify. Down in Figure 2, you know, it may be  
21 present there identified. But you need to connect  
22 to the back, you know, of the catheter for  
23  
24  
25

1 inflation.

2 Q. Okay. Is there an inflation device  
3 shown in Figure 1?

4 A. There is not.

5 MR. BANNER: Let's scroll down  
6 to Figure 4, Ira, of Exhibit 1004.

7 BY MR. BANNER:

8 Q. Is there an inflation device depicted  
9 in Figure 4?

10 A. Yes. The syringe, either 35 or 36,  
11 whichever identifies the syringe.

12 Q. And then does Figure 4 give you an  
13 idea of where the inflation lumen might be?

14 A. It's exactly as we described above.  
15 The connection of the inflation device to the  
16 catheter right at that connection. What's shown  
17 up in Figure 1 is the number 2 exit arrow.

18 MR. BANNER: Let's turn back to  
19 Exhibit 2001 and go to paragraph 25. That  
20 will be on page 10.

21 BY MR. BANNER:

22 Q. Do you see paragraph 25 of your  
23  
24  
25

1 declaration on the screen, Dr. Cimino?

2 A. I do.

3 Q. Paragraph 25 is where your discussion  
4 of the level of ordinary skill in the art begins;  
5 is that correct?

6 A. Yes.

7 Q. And your declaration includes your  
8 opinion as to who qualifies as a person of  
9 ordinary skill related to the '737 patent,  
10 correct?

11 A. Yes.

12 MR. BANNER: If we could flip to  
13 page 6, paragraph 12. Page 6, please.

14 TRIAL TECHNICIAN: Oops. Sorry.

15 BY MR. BANNER:

16 Q. Paragraph 12 of your declaration, do  
17 you see that there, Dr. Cimino?

18 A. Yes.

19 Q. This paragraph includes some legal  
20 requirements for the person having ordinary skill  
21 in the art or for the analysis. Is that your  
22 understanding?

23

24

25

1           A.     Yes.

2           Q.     And what information did you rely on  
3     in forming your opinion as to who qualifies as the  
4     person of ordinary skill in the art related to the  
5     '737 patent?

6           A.     My opinions of necessary or  
7     reasonable education and experience.

8           Q.     At paragraph 12 of your declaration,  
9     you indicate a number of factors that can be used  
10    to determine the level of skill in the art; is  
11    that correct?

12          A.     Yes.

13          Q.     And which of the factors listed in  
14    paragraph 12 of your declaration did you consider  
15    when formulating your opinion as to who qualifies  
16    as a person of ordinary skill in the art?

17          A.     Certainly the technology area, the  
18    education, experience, the technology, which is  
19    types of problems, prior art solutions, having  
20    worked on these areas. So all of those. The  
21    rapidity at which innovations in the field are  
22    made. I'm not sure I considered that, but that

23  
24  
25

1 was certainly part of the process.

2 Q. Did you consider the sophistication  
3 of the technology in the '737 patent?

4 A. Certainly in consideration of the  
5 technologies, the catheters, the fields, the  
6 materials, everything involved, yes.

7 Q. Did you consider any other factors  
8 not listed in paragraph 12 of your declaration  
9 when formulating your opinion as to who qualifies  
10 as a person of ordinary skill in the art?

11 A. Other factors. No.

12 Q. And you discussed the level of  
13 ordinary skill in the art in your declaration  
14 starting at paragraph 25, correct? We were just  
15 looking at that.

16 A. Yes. If that's the paragraph at the  
17 start, yes.

18 MR. BANNER: Let's go back to  
19 page 10, Ira.

20 A. Yes.

21 BY MR. BANNER:

22 Q. So if we look at -- take a moment to  
23  
24  
25

1 look at paragraph 25 and -- paragraphs 25 and 26,  
2 Dr. Cimino, and let me know when you're done.

3 A. (Reviewing.) Okay. I can see 25.

4 THE WITNESS: Please roll down.

5 A. (Reviewing.)

6 THE WITNESS: And 26.

7 BY MR. BANNER:

8 Q. Well, let's just start with 25.

9 A. Okay.

10 Q. Now, when discussing a person of  
11 ordinary skill in the art, you understand this is  
12 a hypothetical person in the March 2015 time  
13 frame, correct?

14 A. Correct.

15 Q. And in paragraph 25, you define a  
16 person having ordinary skill in the art for  
17 purposes of the '737 patent based on three  
18 different backgrounds; is that correct?

19 A. Yes.

20 Q. Then in your opinion, a person need  
21 only have one of those three backgrounds to  
22 qualify as a person of ordinary skill in the art,  
23  
24  
25

1 correct?

2 A. Yes. Or a combination.

3 Q. But one will suffice, correct?

4 A. Yes.

5 Q. So is it your person -- so is it your  
6 opinion -- and I'm reading here. The first  
7 criteria --

8 MR. BANNER: If you want to  
9 scroll up to -- so we can see -- yeah. Kind  
10 of want to see the last three lines of  
11 paragraph 25 and the first line -- there we  
12 go. Right there. Perfect.

13 BY MR. BANNER:

14 Q. So looking at paragraph 25,  
15 Dr. Cimino, is it your opinion that a person with  
16 an undergraduate degree in engineering or physics  
17 or material science and at least five years'  
18 experience in catheter design and development or  
19 laparoscopic/endoscopic medical device  
20 instrumentation design and development qualifies  
21 as a person --

22 A. Yes.

23

24

25

1 Q. -- of ordinary skill in the art?

2 A. I'm sorry. Yes. You were not  
3 finished.

4 Q. So someone with an undergraduate  
5 engineering degree and at least five years of that  
6 relevant experience stated there qualifies as a  
7 person of ordinary skill in the art, correct?

8 A. Correct.

9 Q. So could this be any type of  
10 engineering degree?

11 A. A general engineering degree, yes. I  
12 think that there are engineering degrees that lend  
13 themselves more towards this direction, any  
14 mechanical engineering, sometimes called design  
15 engineering, bioengineering. There are multiple  
16 types that all cover the basics of engineering,  
17 material science process that could be used, not  
18 all engineering degrees but, you know, a good  
19 engineering degree out of a number would, in my  
20 opinion, qualify as base undergraduate  
21 engineering.

22 Q. Okay. What are some engineering  
23  
24  
25

1 degrees that would not qualify?

2 A. Maybe computer science engineering.

3 Q. Any others?

4 A. You know, at the undergraduate level,  
5 that would probably be the only one. They're  
6 still required to take the basic material science  
7 and design mechanics. And so I'll leave it at  
8 that.

9 Q. How about petroleum engineers?

10 A. They do a lot of materials and  
11 design. Yeah. This is -- remember, we're talking  
12 about undergraduate curriculum here --

13 Q. Right.

14 A. -- which is pretty common across all  
15 engineering fields.

16 Q. Okay. So would someone with a civil  
17 engineering background qualify under your  
18 definition?

19 A. Yes. They have significant materials  
20 science, structures, design strengths, kinematics.

21 Q. Okay. Now, you said that maybe  
22 computer science engineering might be different.

23

24

25

1 How about a person -- and I think you've mentioned  
2 this before. How about a person with an  
3 undergraduate degree in biomedical engineering.  
4 That would qualify under your definition of a  
5 PHOSITA, right?

6 A. Yes.

7 Q. And would that biomedical engineering  
8 degree individual need the same minimum of five  
9 years of the relevant experience to be a person of  
10 ordinary skill in the art?

11 A. Yes.

12 Q. So would a person with an  
13 undergraduate degree in biomedical engineering  
14 without five years of relevant experience qualify  
15 as a person of ordinary skill in the art?

16 A. No.

17 Q. So if we look at the second option in  
18 paragraph 25, starting on page 11 of your  
19 declaration, another category of individuals who  
20 would qualify as a person of ordinary skill in the  
21 art is someone with a graduate degree in  
22 engineering or physics or materials science and at  
23  
24  
25

1 least three years' experience in catheter design  
2 and development or laparoscopic/endoscopic medical  
3 device instrumentation design and development,  
4 correct?

5 A. Correct.

6 Q. Again, the same question here. Could  
7 this be any type of graduate degree in  
8 engineering?

9 A. Same response as the undergraduate,  
10 the same -- the same fields.

11 Q. Okay. Looking at the third option in  
12 paragraph 25, it's your opinion that a person with  
13 at least six years' experience in catheter design  
14 and development would qualify as a person of  
15 ordinary skill in the art for the '737 patent,  
16 correct?

17 A. Yes.

18 Q. And so, in your opinion, a person  
19 without any high school or college education would  
20 qualify as a person of ordinary skill in the art  
21 as long as they have a minimum of six years of  
22 experience in catheter design and development?  
23  
24  
25

1           A.     Six years of hands-on involvement in  
2 catheter design and development is, in my  
3 opinion -- I have worked with many people that  
4 don't have an undergraduate degree that  
5 participate in the design process and are working  
6 in engineering fields, like design and  
7 development, and a six-year person is often part  
8 of a team participating in design and development.

9           Q.     Okay. Now, for purposes of the '737  
10 patent and the person having ordinary skill in the  
11 art for this patent, would it matter what type of  
12 catheter design and development experience that  
13 person has?

14          A.     Please clarify. What do you mean by  
15 "what type"?

16          Q.     So you're aware of different types of  
17 catheters other than occlusion catheters for the  
18 aorta, correct?

19          A.     Correct.

20          Q.     And we just discussed some of those  
21 when we were talking about the Fogarty prior art;  
22 is that correct?  
23  
24  
25

1                   A.     Yes.

2                   Q.     And there are other types of  
3 catheters beyond sort of intravenous catheters,  
4 correct?

5                   A.     There's multiple types and uses of  
6 catheters.

7                   Q.     Yeah. Can you list some of the types  
8 that you're aware of?

9                   A.     The largest field of -- well, that's  
10 not entirely true. Catheters for neurologic  
11 procedures, catheters for cardiac procedures,  
12 catheters for other venous procedures. Cardiac  
13 procedures are arterial, generally.

14                         There are venous approaches for  
15 physio- -- electrophysiology catheters, which  
16 come up through the vena cava and across.  
17 There are other catheters that are used in  
18 urinary -- you know, urinary, small hole, of  
19 course, tract conditions.

20                         And, really, catheters for --  
21 catheters or -- they have names of scopes, if  
22 they have scopes, arthroscopic, laparoscopic,  
23  
24  
25

1 endoscopic procedures that are used in the GI  
2 tract, down the esophagus, into the lungs.

3 All of these are various -- what  
4 I'm going to call catheter development --  
5 catheter type devices, and each has its own  
6 needs and requirements based on diameter,  
7 structure, materials, active components on  
8 the ends, but they're all in the -- as you've  
9 described, multiple catheter uses and  
10 functions.

11 Q. Okay. So let me just focus on kind  
12 of one of those examples you gave, and this is in  
13 the context of your opinion about a person of  
14 ordinary skill in the art can be someone with at  
15 least six years' experience in catheter design and  
16 development.

17 Would you agree or disagree that  
18 a person with a least six years' experience  
19 in urinary catheter design and development  
20 would qualify as a person of ordinary skill  
21 in the art for the '737 patent?

22 A. Repeat that again, please.  
23  
24  
25

1           Q.     So would you agree or disagree that a  
2     person with at least six years' experience in  
3     urinary catheter design and development would  
4     qualify as a person of ordinary skill in the art  
5     for the '737 patent?

6           A.     The content -- I would say, yes, that  
7     they could qualify as a PHOSITA. And the content  
8     of the '737, which is materials, designs,  
9     attachments, lengths, presence of beads, balloons,  
10    those types of structures and design elements and  
11    components, may be mostly or all part of the  
12    urinary catheter, depending, and so experience  
13    with all those components and their methods of  
14    attachment would qualify them.

15          Q.     So, in your opinion, a person of  
16    ordinary skill in the art need not have any  
17    previous experience with occlusion of the aorta in  
18    catheters for that purpose as long as they have  
19    six years of experience in some other catheter  
20    design and development; is that correct?

21                  MR. MURRAY: Objection to form.

22          A.     I think experience with occlusion of  
23  
24  
25

1 the aorta would be helpful and good to have. And,  
2 really, it's the understanding of the issues  
3 involved for that catheter that would be  
4 appropriate and helpful.

5 So one could certainly make  
6 decisions based on their qualifications and  
7 experience, how relevant that is, but the  
8 fundamental concept of understanding the  
9 components and the design and the parts and  
10 the pieces and how they interact and how they  
11 are used in the body, if that's sufficient  
12 with this person with six years of  
13 experience, there you go.

14 BY MR. BANNER:

15 Q. So just to clarify, it's your opinion  
16 that someone with six years of experience in  
17 urinary catheter design and development would have  
18 the knowledge sufficient to qualify as a PHOSITA  
19 for the purposes of '737; is that correct?

20 MR. MURRAY: Objection to form.

21 A. I'm -- that is -- I think you need to  
22 look at the experience of that person, whoever  
23  
24  
25

1       that is. I can't qualify or quantify urinary  
2       catheters, six-year experience. This is a  
3       hypothetical of different people all over the  
4       place. What I would say is six years of solid,  
5       relevant catheter experience on the issues at hand  
6       would qualify that person.

7       BY MR. BANNER:

8               Q.       Okay. So maybe if we -- let me see  
9       if I can ask this a different way. If we go back  
10      to paragraph 12 of your report. And that's on  
11      page 6. You see paragraph 12 there, Dr. Cimino?

12             A.       Yes.

13             Q.       So the person of ordinary skill in  
14      the art, you understand that this person is a  
15      hypothetical person, presumed to have known the  
16      relevant prior art within the relevant time frame,  
17      correct?

18             A.       Correct.

19             Q.       So going back to your definition in  
20      paragraph 25 where you -- and this is, again, on  
21      page 11.

22                     MR. BANNER: I'm sorry. Scroll  
23  
24  
25

1 down to 11.

2 BY MR. BANNER:

3 Q. In the third category of  
4 individuals -- and those are individuals with at  
5 least six years' experience in catheter design and  
6 development. I guess I'm just trying to figure  
7 out if someone who's only worked in a field such  
8 as urinary catheter design and development would  
9 qualify, would be a person presumed to have known  
10 the relevant prior art within the relevant time  
11 for the '737 patent.

12 A. I don't know. They may. They may  
13 not. I mean, the relevant -- what you're talking  
14 about is the relevant technology, which is the  
15 catheter parts, pieces, components, construction,  
16 design, and they very well may be -- that is the  
17 relevant art.

18 Q. So is there anything unique about  
19 occlusion catheters or the catheter in the '737  
20 patent that distinguishes it from a urinary  
21 catheter or are you saying that sort of all the --

22 A. Clearly. Every catheter field is  
23  
24  
25

1 different. They have different requirements for  
2 diameters, lengths, the operative function at the  
3 tips, how you interface on the back end, stiffness  
4 and flexibility requirements.

5 But in the end, those things  
6 that I just discussed or just laid out are  
7 all sort of common components of catheters.  
8 They're long and they're thin. In general,  
9 they have inflation movements. They have  
10 balloons.

11 And it would be improper to say  
12 something like an angioplasty catheter, which  
13 has a balloon, is the same as or used for or  
14 has the same components as a venous  
15 thrombectomy catheter, which also has a  
16 balloon, a different type, a different  
17 structure.

18 So there's different components,  
19 and trying to, you know, assign uniqueness,  
20 they are different. They are -- they have  
21 different functions. They have different  
22 parameters. They have different performance  
23  
24  
25

1 requirements.

2 Q. Let's look back at paragraph 12  
3 again. And that's on page 6 of your declaration.  
4 So again, I kind of want to go back -- and maybe  
5 I'm just not coming across clearly. So you  
6 understand, Dr. Cimino, that the person of  
7 ordinary skill in the art is a hypothetical person  
8 presumed to have known the relevant prior art  
9 within the relevant time frame, correct?

10 A. Yes.

11 Q. And so let me ask you this: When you  
12 came up with your opinion on the three categories  
13 of who would qualify as a person of ordinary skill  
14 in the art, were you attempting to identify the  
15 people who would be presumed to have known the  
16 relevant prior art within the relevant time frame?

17 MR. MURRAY: Objection to form.

18 A. Say that last part of the question  
19 again. Was I presuming?

20 BY MR. BANNER:

21 Q. I didn't ask if you were presuming.  
22 I asked if you were attempting to identify the  
23  
24  
25

1 people who would be presumed to have known the  
2 relevant prior art within the relevant time frame.

3 MR. MURRAY: Objection to form.

4 Excuse me. Objection to form.

5 A. So for purposes of clarification,  
6 what is the relevant prior art from your question?  
7 Is it catheter technologies or is it something  
8 else? Because clearly I've considered the  
9 relevant prior art of catheters, catheter  
10 technology, catheter construction, the content of,  
11 you know, the things that are outlined and  
12 described in the '737. So the -- so it's  
13 difficult to answer beyond that.

14 BY MR. BANNER:

15 Q. Okay. You provided an opinion about  
16 who qualifies as a person of ordinary skill in the  
17 art for the '737.

18 A. I did.

19 Q. In forming that opinion, what  
20 qualities were you attempting to identify in the  
21 individuals that qualify as a person of ordinary  
22 skill in the art? What was your -- what were the  
23  
24  
25

1 parameters that you used to figure out who the  
2 person of ordinary skill in the art is?

3 A. Very simple. An educational  
4 background founded in design, construction,  
5 engineering concepts, materials science that allow  
6 somebody to have a fundamental basis and a more  
7 advanced basis in a graduate degree related to  
8 design, construction, materials, interaction  
9 for -- and the design sort of process that gives  
10 you the fundamentals to proceed in an engineering  
11 capacity. That was part of it.

12 The second part is and, clearly  
13 from an education standpoint, more -- a  
14 graduate degree provides more of that  
15 function and capability. Really, the primary  
16 intent of engineering and design and,  
17 specifically for medical products, on top of  
18 that, an experiential actually working in  
19 that field of catheter design, construction,  
20 and the components, the process, the  
21 development, the materials so that the actual  
22 application of the fundamental science is

1 directly applied to catheter systems or  
2 catheter-like systems, long, thin  
3 laparoscopic, endoscopic, the issues that are  
4 utilized or the design systems or the -- let  
5 me just say the design requirements for that  
6 catheter.

7 Included in that process is also  
8 familiarity with the anatomic or physiologic  
9 processes. All of those are which are  
10 captured, you know, heavily in  
11 bioengineering, but certainly other  
12 engineering aspects for the design,  
13 development, creation of catheters.

14 Q. Then when it comes to the experience  
15 portion of the level of skill in the art, it's  
16 your opinion that it doesn't matter what type of  
17 catheter design experience they have. It could be  
18 any type of catheter design experience to qualify  
19 as a person of ordinary skill in the art; is that  
20 correct?

21 A. I disagree with your fundamental  
22 question as to the issue -- when you design or  
23  
24  
25

1 manufacture or produce or utilize or test, every  
2 catheter is -- every design area is somewhat  
3 unique. There's requirements for shaft size,  
4 anatomic, biomaterial interactions, and each one  
5 of these is different.

6 So to be able to say one type or  
7 one use, you have to have designed -- that's  
8 just not the way it unfolds. In every  
9 catheter system where I have been involved,  
10 it's been for a unique or different process.  
11 Some were cardiac, some were otherwise, and  
12 some were small, some were delivery of this,  
13 some were delivery of that.

14 So it's impossible to get to  
15 a -- I would fundamentally say that the  
16 expertise to act as a PHOSITA is based on the  
17 fundamental experience with the concepts, the  
18 materials, the intent for anatomic use and  
19 experience. With each of those, it is the  
20 qualifying requirement for -- in my opinion,  
21 for a PHOSITA.

22 Q. So when we look at the third category  
23  
24  
25

1 of PHOSITAs that you have defined as an individual  
2 with at least six years' experience in catheter  
3 design and development, that experience could be  
4 in any type of catheter design and development,  
5 correct?

6 A. Catheter design and development,  
7 correct.

8 Q. It doesn't matter what kind of  
9 catheter design and development. It could be a  
10 urinary catheter. It could be GI tract catheters,  
11 esophageal catheters, any type of catheter design.  
12 As long as there was six years of experience in  
13 that catheter design and development, they would  
14 qualify as a PHOSITA, according to your opinion,  
15 correct?

16 MR. MURRAY: Objection to form.

17 A. I think that it -- I mean, it almost  
18 borders on -- this is sort of getting to comedy.  
19 Whoever looks at that person that they're  
20 qualifying for a PHOSITA can make judgments on  
21 their relevance.

22 So, you know, six years of  
23  
24  
25

1 relevant, strong catheter experience, go for  
2 it. There are a lot of smart people out  
3 there with six years' experience working on  
4 that catheter or maybe a slightly different  
5 catheter that really understand the aspects  
6 of building these catheters and working on  
7 them. There are people like that.

8 BY MR. BANNER:

9 Q. Okay. You said, "six years of  
10 relevant, strong catheter experience." What did  
11 you mean by that?

12 A. Let's just do a simple analogy.  
13 You're looking for a PHOSITA, and there's a person  
14 that has -- and you're looking for -- pick a --  
15 angioplasty catheter or cardiac application, and  
16 there is a person over there for six years has  
17 designed, developed, manufactured, tested -- more  
18 than six years -- let's say they have eight.  
19 Doesn't really matter. More than six.

20 And they've been building and  
21 designing angioplasty catheters for any of  
22 these, Boston Scientific or Advanced  
23  
24  
25

1 Cardiovascular Systems or whoever, and they  
2 have built, designed, and tested multiples of  
3 these in the angioplasty field. And that's  
4 what you're looking for. They'd be a good  
5 person, qualified.

6 Q. Okay. So you gave an example of  
7 looking for an angioplasty catheter PHOSITA and  
8 looking at a person that had at least six years in  
9 angioplasty catheter design, development, correct?

10 A. I gave an example of a person who had  
11 more than six years of experience in angioplasty  
12 as being a -- and had, you know, relevant,  
13 hands-on, build, test, whatever, experience in  
14 angioplasty that would be a qualified person, if  
15 that's what you were looking for.

16 Q. And what are we looking for with  
17 respect to this '737 patent?

18 A. The '737 patent describes design  
19 features, construction, elements for a catheter  
20 having balloons, having lumens, having shafts,  
21 having components of a catheter. In this case, it  
22 was a venous thrombect- -- or I'm sorry. The '737  
23  
24  
25

1 is the occlusion catheter, and those are the  
2 elements, components, and the design. And the use  
3 is occlusion.

4 Q. Does a person of ordinary skill in  
5 the art for purposes of the '737 patent need to be  
6 someone with at least six years of experience in  
7 occlusion catheter design and development?

8 A. I don't even know if there is such a  
9 thing as occlusion catheter design -- I mean, only  
10 occlusion catheter design and development. If  
11 they did, that'd be great.

12 Q. What do you mean by you don't know if  
13 there's such a thing as occlusion design?

14 A. I mean, in my mind, that was  
15 imparting that that's the only thing that they've  
16 ever done, which, I guess, you know, could be  
17 true. I'm sorry. So repeat the direction.

18 Q. I'm just wondering, does a person of  
19 ordinary skill in the art for purposes of the '737  
20 patent need to be someone with at least six years  
21 of experience in occlusion catheter design and  
22 development?

23  
24  
25

1           A.     As opposed to the other two  
2     qualifying scenarios, just the six-year one?

3           Q.     Yeah.

4           A.     It's my opinion that a person with  
5     six years or more of solid hands-on catheter  
6     development, all the processes, parts, and pieces  
7     that would be involved in this -- in a real  
8     catheter development program, system, would  
9     qualify as a PHOSITA.

10          Q.     And it doesn't matter what type of  
11     catheter that person was involved with; is that  
12     correct?

13          A.     Define "type." I mean, is that if  
14     they have -- what --

15          Q.     Let me just -- earlier, you know, we  
16     had a discussion about whether Fogarty disclosed  
17     an occlusion catheter versus a venous embolectomy  
18     catheter. And so you made a distinction that  
19     there are different types of catheters. And so,  
20     you know, in this discussion just now, you know,  
21     we also discussed angioplasty catheters.

22                     So I'm trying to get a handle  
23  
24  
25

1 on, you know, when you say a person with six  
2 years or more of solid hands-on catheter  
3 development would qualify as a PHOSITA for  
4 the '737 patent, is that six years of design  
5 and development experience on any kind of  
6 catheter? Could it be, you know, the urinary  
7 catheter? Could it be some other catheter  
8 and they would still qualify --

9 A. I think I can make that kind of  
10 simple. For any catheter with a shaft, any kind  
11 of catheter with a shaft and a lumen and a  
12 balloon. So that could be literally -- I'm  
13 thinking that those exist in the urinary field.  
14 They certainly exist in the cardiac field. They  
15 certainly exist in many other applications.

16 Q. What about in the neurological field?

17 A. They certainly exist for occlusion of  
18 the carotids, but for deep neurologic use, I don't  
19 know whether they have balloons, but they  
20 certainly have shafts and lumens and the other  
21 major components.

22 Where the balloon fits into  
23  
24  
25

1 every field, I'm not going to represent.  
2 It's certainly a -- it's absolutely a common  
3 and almost ubiquitous aspect of catheters for  
4 various fields and different levels --  
5 different levels of occlusion: partial,  
6 total, high pressure, low pressure. Balloons  
7 have a wide function across the catheter  
8 space.

9 Q. But there are some catheters that  
10 don't have balloons; is that correct?

11 A. Yes. A good example is an  
12 electrophysiology catheter, generally doesn't have  
13 a balloon -- not always, but generally doesn't  
14 have a balloon. Usually it's electrodes.

15 Q. So would somebody who had worked  
16 on -- six years' experience in electrophysiology  
17 catheters and never worked on a balloon catheter,  
18 would they qualify as a PHOSITA under your  
19 definition?

20 A. I think that's really saying they  
21 have six years of experience on -- not on  
22 catheters, is your question.  
23  
24  
25

1 Q. No, that's not my question.

2 A. When you parse out -- when you parse  
3 out a single element like they have all the  
4 experience with catheters, but they haven't  
5 touched a balloon -- well, I mean, balloons are --

6 Q. I get the issue here. I think you  
7 said previously -- you know, you were trying to  
8 answer my question, and you said you could make it  
9 simple. And you said, "for any catheter with a  
10 shaft, any kind of catheter with a shaft and a  
11 lumen and a balloon."

12 A. Yeah. I picked those three common  
13 components because that kind of puts a field  
14 around -- you know. But there are catheters that  
15 are absolutely common that don't have balloons.  
16 In the neuro field, in the electrophysiology  
17 field, the balloon aspect truly is very common,  
18 well-known both from a design standpoint,  
19 manufacturing and everything else standpoint. And  
20 it may or may not be part of the system, so -- and  
21 that's just plain experience. I don't know how  
22 else to describe it.

23

24

25

1           Q.     Okay.  Yeah.  And, you know, again,  
2     I'm just trying to understand sort of the bounds  
3     of your definition here in paragraph 25 of your  
4     declaration and in particular the third category  
5     of individuals who have at least six years'  
6     experience in catheter design and development, and  
7     I feel like I've gotten, you know -- I feel like  
8     I'm beating a dead horse a little bit, but I've  
9     gotten various answers when I've asked you what I  
10    thought was the same question.  You know, I'm just  
11    trying to understand.

12               Does that experience -- is there  
13    experience in certain catheter design that is  
14    relevant--and I think that was your word,  
15    "relevant"--to the '737 patent and is there  
16    experience in catheter design that is not  
17    relevant to the '737 patent, such that  
18    someone who was in the latter category would  
19    not be a person of ordinary skill in the art?  
20    Does that make sense?

21               MR. MURRAY:  Objection to form.

22           A.     I think it's sort of beyond -- I  
23  
24  
25

1 mean, fair question, but I think it's beyond  
2 splitting hairs, and it's completely in the  
3 hypothetical and -- you know. I think you'd have  
4 to look situation by situation at that person's  
5 experience.

6 And I don't think it's correct  
7 to say catheter design is this narrow one  
8 thing has to have or, you know, to split it  
9 out into certain specific requirements. I  
10 mean, they could be asked for. I have no  
11 issue with that.

12 BY MR. BANNER:

13 Q. Okay.

14 A. I don't know that I can answer  
15 further. I mean, this is catheter design, and  
16 everything associated with it from start to finish  
17 to application is always a new process. I mean,  
18 there's always new challenges. There's always  
19 things that aren't identical to something that has  
20 gone before.

21 That's why the basis in the  
22 PHOSITA was fundamental education and  
23  
24  
25

1 fundamental experience that deals with the  
2 issues of design, production, manufacture,  
3 fabrication, use of catheters.

4 Q. Okay. If we look back at your  
5 definition of one of ordinary skill in the art,  
6 and, you know, the first two categories where you  
7 list the various degrees that this person could  
8 have -- and we talked about engineering. There's  
9 also physics, material science degrees; is that  
10 correct?

11 A. Yes.

12 Q. Your definition of a person of  
13 ordinary skill in the art does not expressly  
14 mention individuals with a biology degree; is that  
15 correct?

16 A. It does not.

17 Q. And so an individual with a biology  
18 degree would not qualify as a person of ordinary  
19 skill in the art under your first two criteria?

20 A. Having just a degree?

21 Q. Correct.

22 A. An undergraduate degree in biology  
23  
24  
25

1 and no experience or -- you're right. Yes, they  
2 would not qualify.

3 Q. What about an undergraduate degree in  
4 biology?

5 A. Say that again. I didn't hear it.

6 Q. What about an undergraduate degree in  
7 biology and at least five years' experience in  
8 catheter design and development. Would that  
9 person qualify as a PHOSITA?

10 A. By definition I have here, no, given  
11 that they don't -- I mean, the list I have here  
12 is, you know, engineering, physics, materials  
13 science. But, you know, you specifically said  
14 five years. If somebody with six years'  
15 experience and a biology degree would.

16 Q. Okay.

17 A. Direct experience on catheter design  
18 and development.

19 Q. And someone with a graduate degree in  
20 biology and less than three years' experience in  
21 catheter design and development or the other --  
22 design, instrumentation, development --

23

24

25

1           A.     Yeah. Technically, by the reading of  
2     this, by -- a graduate degree in biology and less  
3     than three years of catheter development and  
4     design, yes, would not.

5                     And just to be clear, the  
6     issue -- you know, the issue of a biology  
7     degree, we're not trying to disparage  
8     biologists or biology degrees, but they  
9     don't, in general, have the design, the  
10    materials, the construction, the interaction,  
11    the kinematics, and dynamics, and everything  
12    associated with an engineering degree, which  
13    are the foundational components of design  
14    fabrication, not exclusive but just as a  
15    generality.

16           Q.     Same question for individuals with  
17    chemistry degrees. They would not qualify under  
18    your definition?

19           A.     It would be the same with chemistry.  
20    And I'm going to just say I'm not going to be in a  
21    further position to parse undergraduate degrees,  
22    you know. They are what they are. They're  
23  
24  
25

1 different from every institution. They have  
2 different amounts of, you know, involvement and  
3 exposure to one discipline or another.

4 And, you know, for purposes  
5 here, parsing the -- you know, the divisions  
6 between these degrees, what may be covered,  
7 what may not be covered, you know, that's  
8 beyond scope for me. I tried to be broad and  
9 get the general scope in my statements.

10 Q. So your definition of a person of  
11 ordinary skill in the art at paragraph 25 of your  
12 declaration does not expressly mention individuals  
13 with a medical degree, does it?

14 A. It does not.

15 Q. And at the bottom of page 11 -- this  
16 is paragraph 26 of your report.

17 MR. BANNER: Go down a little  
18 bit further.

19 BY MR. BANNER:

20 Q. See the last three lines there,  
21 Dr. Cimino?

22 A. Yes.

1           Q.     So you state that your definition of  
2     a person of ordinary skill in the art "does not  
3     preclude an individual with a medical degree and  
4     sufficient experience with interventional  
5     procedures from qualifying as a PHOSITA," correct?

6           A.     I did, yes.

7           Q.     You agree that an individual with a  
8     medical degree and sufficient experience with  
9     interventional procedures can be a person of  
10    ordinary skill in the art for the '737 patent,  
11    correct?

12          A.     Do not exclude them.

13          Q.     So you would agree that an individual  
14    with a medical degree and sufficient experience  
15    with interventional procedures can be a person of  
16    ordinary skill in the art?

17          A.     If their medical degree, you know,  
18    with sufficient education background or -- if the  
19    relevant experience is designing, building,  
20    fabricating, working with catheters, then my  
21    answer would be yes.

22                   And you specifically asked, you  
23  
24  
25

1 know, with their amount of experience in that  
2 area, meaning whether you call it design,  
3 fabrication, manufacturing, testing, if their  
4 experience is -- you know, they have that,  
5 absolutely.

6 My comment here is that a  
7 medical degree is really -- is not required  
8 to be a PHOSITA. It excludes people who  
9 could function as a PHOSITA.

10 Q. You would agree that under your third  
11 criteria that's not limited to certain  
12 undergraduate or graduate degrees, that a person  
13 with a medical degree who had at least six years  
14 of experience in catheter design and development  
15 would qualify as a PHOSITA, correct?

16 A. Yes.

17 MR. BANNER: I think we've been going  
18 for another hour. I think I'm getting a little  
19 ready for lunch. I don't know about you folks,  
20 but I'd like to take a quick break and -- break  
21 for lunch, if that's all right.

22 MR. MURRAY: Works for me.  
23  
24  
25

1 (A luncheon recess was taken  
2 from 1:23 p.m. until 2:00 p.m.)

3 BY MR. BANNER:

4 Q. All right. Back from lunch.  
5 Dr. Cimino. You understand you're still under  
6 oath after a short lunch break?

7 A. Yes.

8 Q. Did you discuss any of my questions  
9 or any of your answers with counsel during any of  
10 the previous breaks today?

11 A. No.

12 MR. BANNER: I want to take a  
13 look -- if we could pull up Exhibit 2001,  
14 Dr. Cimino's declaration. And go to page 22,  
15 please.

16 TRIAL TECHNICIAN: Which  
17 paragraph?

18 MR. BANNER: Paragraph 45.

19 BY MR. BANNER:

20 Q. Do you see paragraph 45 of your  
21 declaration on the screen, Dr. Cimino?

22 A. Yes.

23

24

25

1 Q. And in this paragraph 45, you provide  
2 a definition of the claim term "a distal catheter  
3 section"; is that correct?

4 A. Yes.

5 Q. And it says here, "The ordinary and  
6 customary meaning of this claim term, as  
7 understood by a PHOSITA, is simply a distal  
8 portion of a catheter," correct?

9 A. Correct.

10 Q. Is that the claim construction that  
11 you used in forming your opinions related to a  
12 distal catheter section of Claim 1 of the '737  
13 patent?

14 A. Yes.

15 MR. BANNER: We can scroll down  
16 to paragraph 47, which spans pages 22 and 23.  
17 BY MR. BANNER:

18 Q. Do you see paragraph 47 there,  
19 Dr. Cimino?

20 A. Yes.

21 Q. And at the...

22 A. Okay. 47.  
23  
24  
25

1           Q.     At the second-to-last -- starting  
2     with the second-to-last line there at the end of  
3     page 22, you state, "A PHOSITA would understand,  
4     therefore, that a distal catheter section is a  
5     distal portion of the shaft of the device, and not  
6     other distally-located components of an overall  
7     system, for example, a guidewire." Do you see  
8     that?

9           A.     Yes.

10          Q.     Is that a different definition of a  
11     distal catheter section than what you previously  
12     provided in paragraph 45?

13          A.     No.

14          Q.     It uses different words, correct?

15          A.     I don't know if it uses different --  
16     go back and get the other one.

17          Q.     Okay. I'll make this easy.

18                 MR. BANNER: Ira, can you go  
19     grab and mark as the next exhibit -- I  
20     think -- are we at 1031?

21                 TRIAL TECHNICIAN: Correct.

22                 MR. BANNER: There is a document  
23  
24  
25

1       called -- what's it called? "Distal Catheter  
2       Section."

3                       TRIAL TECHNICIAN:   Yep.  
4                       (Exhibit Number 1031 was  
5       introduced at this time.)

6       BY MR. BANNER:

7               Q.       Okay. And I'll represent to you,  
8       Dr. Cimino, that I've just excerpted from your  
9       report or your declaration, Exhibit 2001 --

10              A.       Yes.

11             Q.       -- and provided the -- the  
12       highlighting and underlining on here are  
13       annotations that I've put on your declaration so  
14       just to point out the sentences that I'm  
15       discussing here. Do you understand that?

16             A.       Okay.

17             Q.       Okay. So now in paragraph 45, you  
18       provided a definition of distal catheter section  
19       which "is simply a distal portion of a catheter,"  
20       correct?

21             A.       Yes.

22             Q.       And then --

23

24

25

1           A.     To further clarify, yes -- of a  
2 catheter, yes. Okay?

3           Q.     So in paragraph 47, then you say, "A  
4 PHOSITA would understand, therefore, that a distal  
5 catheter section is a distal portion of the shaft  
6 of the device, and not other distally-located  
7 components of an overall system, e.g., a  
8 guidewire," right?

9           A.     Right.

10          Q.     So is that a second definition of the  
11 term?

12          A.     No. I think this is clarifying  
13 "distal portion of a catheter," meaning the  
14 catheter, not other components of a system. So  
15 the shaft -- it is clarifying that the distal  
16 portion of the catheter is the catheter shaft, the  
17 distal portion of the catheter shaft, not other  
18 components of a catheter; in this case, a  
19 guidewire, something that is separable from the  
20 catheter.

21                 MR. BANNER: Okay. So let's now  
22 look at -- if you can scroll down a little

23  
24  
25

1 bit further, Ira, on Exhibit 1031.

2 BY MR. BANNER:

3 Q. This is later on in your declaration.  
4 You say, "As explained above at paragraph 45, the  
5 ordinary and customary meaning of the claim term  
6 'distal catheter section,' as understood by a  
7 PHOSITA, is simply a distal portion of a catheter  
8 shaft." Now, do you see that?

9 A. Yes. That's referencing --

10 Q. And that's different --

11 A. -- back to 45 above.

12 Q. Right. And that's different language  
13 than you see in 45, correct?

14 A. It is explanatory of the very  
15 language in 45.

16 Q. So is it your opinion that in 45 when  
17 you define a distal catheter section as a distal  
18 portion of a catheter, that that means a distal  
19 portion of a catheter shaft?

20 A. The catheter has a shaft, and it is  
21 the distal -- the catheter system versus the  
22 catheter -- let me make this very clear. Yes --

23

24

25

1 no. 45 is explained step-wise down through 47  
2 and -- and I think you have another paragraph here  
3 at the bottom. It's the distal portion of the  
4 catheter shaft and are the words -- those are  
5 explanatory steps, 1, 2, 3, of -- I'm thinking  
6 that there's three here -- of explaining which  
7 portion of the catheter represents the distal  
8 portion of the catheter.

9 Q. Okay. So you understand that the  
10 board, the PTAB, is going to likely construe the  
11 term "a distal catheter section," correct?

12 A. They are likely? I don't know.  
13 That's something you're saying is going to occur?

14 Q. Have you -- hang on a second.

15 A. I can't -- I don't represent what a  
16 PTAB may or may not do.

17 Q. Fair enough.

18 A. Yeah.

19 Q. Give me a second.

20 You reviewed the PTAB's  
21 institution decision, correct?

22 A. Yes.

1 Q. And do you have a recollection as to  
2 whether the PTAB actually construed the term "a  
3 distal catheter section" in its institution  
4 decision?

5 A. I do not recall what's in the PTAB  
6 decision.

7 MR. BANNER: Let's look at the  
8 Paper 7, Ira.

9 TRIAL TECHNICIAN: One moment.  
10 You want this marked as 1032?

11 MR. BANNER: Nope. This is just  
12 Paper 7.

13 TRIAL TECHNICIAN: Okay.

14 MR. BANNER: Let's go to  
15 page 17, please.

16 (Paper 7 was introduced  
17 at this time.)

18 A. And this is the PTAB?

19 BY MR. BANNER:

20 Q. Correct. This is the institution  
21 Paper 7. And you reviewed this in conjunction  
22 with your declaration, correct?

23

24

25

1           A.     Yes.   A long time ago.

2           Q.     And you see here, if we scroll --  
3 subsection "D. 'a distal catheter section.'" Do  
4 you see that discussion?

5           A.     Yes.

6                     MR. BANNER:   And can we get that  
7 full discussion there on page 17 on the  
8 screen, Ira?   That's good.   That -- nope.  
9 Scroll up.   All we need to see is starting  
10 from D. down.   Thank you.

11                    TRIAL TECHNICIAN:   Gotcha.

12 BY MR. BANNER:

13           Q.     Do you see the discussion there,  
14 Dr. Cimino?

15           A.     Yes.

16           Q.     Do you want to read it and refresh  
17 your recollection what the PTAB did?

18           A.     Just part D.?

19           Q.     Yes, sir.

20                    THE WITNESS:   Let's see.   Scroll  
21 down a little bit more.   I'm down at the  
22 bottom there.

23

24

25

1 MR. BANNER: Oh, can you please  
2 turn the paging to continuous again?

3 A. I'm not sure where I was here.

4 MR. BANNER: Okay. Scroll up so  
5 he can see it as --

6 THE WITNESS: Okay. Keep  
7 rolling down a little bit.

8 TRIAL TECHNICIAN: Okay.

9 A. (Reviewing.) That's good.  
10 Okay. I'm through E.

11 BY MR. BANNER:

12 Q. Okay. So now you've refreshed your  
13 recollection. Do you have an understanding as to  
14 whether the PTAB has construed the term "distal  
15 catheter section" in the '737 patent, Claim 1?

16 MR. MURRAY: Objection.

17 A. Yes.

18 BY MR. BANNER:

19 Q. And the PTAB did, in fact, construe  
20 that term in its preliminary institution decision,  
21 correct?

22 A. I'm looking right at it.  
23  
24  
25

1           Q.     Okay. And you did not consider --  
2     well, strike that.

3                     Did you apply the PTAB claim  
4     construction in your analysis of the prior  
5     art in forming your opinions in your  
6     declaration?

7                     MR. MURRAY: Objection to form.

8           A.     I don't know where it is in my  
9     declaration, you know. There's a lot of  
10    paragraphs. But I explained this very clearly,  
11    you know, my interpretation and my opinion of what  
12    the components actually were, and it's laid out in  
13    the declaration, I think, very clearly. The  
14    fundamental interpretation is identifying the  
15    elements of the endovascular wire relative to the  
16    catheter, the distal section.

17                    MR. BANNER: Okay. Let's go  
18    back to Exhibit 1031, please, Ira, and scroll  
19    up to the top.

20    BY MR. BANNER:

21           Q.     Is it correct that in paragraph 45 of  
22    your declaration, you are offering a claim  
23  
24  
25

1 construction for the term "a distal catheter  
2 section"?

3 A. Is that what is previous in 44 and  
4 45 -- you know, 44 and 43? Is this just -- what  
5 is the introduction to 45?

6 MR. BANNER: Let's look at  
7 Exhibit 2001, please, Ira, and go to page 16.  
8 Can you scroll down starting at paragraph 35.

9 A. There we go.

10 BY MR. BANNER:

11 Q. And would it help if we just scrolled  
12 down to paragraph 45 to ensure that we're still in  
13 the claim construction section?

14 A. Yeah. Yeah. It would help,  
15 actually, a lot. So here we have the definition  
16 of "distal" and "proximal." Fine. This is  
17 proximal hub.

18 Q. And so you -- let's stop right there  
19 we're looking at paragraph 37, correct,  
20 Dr. Cimino?

21 A. Yes.

22 Q. And you're introducing a new term,  
23  
24  
25

1 claim term, by putting in quotations followed by a  
2 colon; is that accurate?

3 A. A new claim term?

4 Q. Prior to paragraph 37, you were not  
5 discussing proximal hub, correct?

6 MR. BANNER: Can we scroll back  
7 up?

8 A. Yes. This is the introduction of  
9 "proximal hub."

10 BY MR. BANNER:

11 Q. Okay.

12 A. There's "proximal" and "distal"  
13 before that. Here's "proximal hub."

14 Q. And proximal hub is introduced by  
15 putting the term in quotations with a colon after  
16 it, correct, in paragraph 37?

17 A. Fair enough.

18 Q. You can let Ira know if he can keep  
19 scrolling.

20 A. Okay.

21 Q. We want to get to paragraph 45  
22 eventually.

23

24

25

1           A.     Yeah. I think we're rolling down  
2 towards 45. So this proximal hub information.

3           THE WITNESS: Hold on.

4           A.     (Reviewing.) This is System 1600.

5           THE WITNESS: Okay. Keep  
6 rolling.

7           A.     39. 39. Now the sleeve. Okay. 40.  
8 41, flow valve.

9 BY MR. BANNER:

10          Q.     And let's stop there. 41, is that a  
11 new -- we're now into a new discussion of a claim  
12 term that's in quotes, "flow valve configured to  
13 selectively fluidly communicate the proximal hub  
14 with an inflation device," end quote?

15          A.     Yes.

16          THE WITNESS: Slow down there.

17          A.     Here's PTAB again. Pop-off valve.  
18 Okay.

19          THE WITNESS: Keep rolling.

20          A.     42.

21          THE WITNESS: Okay. Roll past  
22 42 to 44.

23

24

25

1           A.     Okay. Now we're at 45. Now we have  
2 a new one, yes.

3 BY MR. BANNER:

4           Q.     Okay. So let me repeat my question.  
5 In paragraph 45 --

6           A.     One second. Let me just get 45, 46  
7 in my head here.

8           Q.     Okay.

9           A.     (Reviewing.)

10           THE WITNESS: Okay. And roll it  
11 to 47.

12           A.     (Reviewing.)

13           THE WITNESS: A little further.

14           A.     (Reviewing.)

15           THE WITNESS: Okay. Back up to  
16 45.

17           A.     (Reviewing.) Okay.

18 BY MR. BANNER:

19           Q.     Okay. My question is, in paragraph  
20 45 of your declaration, you are offering a claim  
21 construction for the term "a distal catheter  
22 section," correct?

23

24

25

1           A.     Yes. To be further clarified, as we  
2 roll down, of a catheter, yes.

3           Q.     And you understand that your  
4 definition of "a distal catheter section" is not  
5 the same as the PTAB's definition that it gave in  
6 the institution decision, correct?

7           A.     Yes.

8           Q.     And do you have an understanding that  
9 as part of this process, the PTAB is going to  
10 decide what the meaning of "a distal catheter  
11 section" is for purposes of Claim 1?

12          A.     If you say so.

13          Q.     My question is, what definition, in  
14 your opinion, should apply to "a distal catheter  
15 section"?

16          A.     I think 46. Let's see. Is 46?  
17 Clearly states that. It is a distal catheter  
18 section. And that was the intent of my opinion.  
19 A PHOSITA -- that a distal catheter section is a  
20 portion of the catheter shaft itself, not a  
21 portion of other components, such as a wire, a  
22 guidewire, a system wire, which is a separate  
23  
24  
25

1 component from the catheter shaft.

2 I think a very simple way to see  
3 this is, if you -- the way they normally come  
4 and operate, if you have a guidewire, a wire  
5 system of any kind, it sits on a side -- it  
6 sits on the table as a separate element.

7 And then we have a catheter.  
8 And the catheter with the balloon and the  
9 distal portion sit there. The distal  
10 section -- or the distal -- let me get the  
11 right words. Distal catheter section is the  
12 distal catheter section of that catheter with  
13 the balloon on it.

14 We can then insert the separate  
15 item, which is the wire, the guidewire, which  
16 can have any components on it. It can have  
17 beads on it. It can have a floppy tip. It  
18 can have whatever.

19 In one case, it's a basket  
20 structure, and that gets inserted into the  
21 catheter and extends beyond the distal  
22 catheter section. It can move past or -- let  
23  
24  
25

1 me just be -- as shown in one of the figures  
2 in the past. I can't remember what figure it  
3 is.

4 But that's the way catheters  
5 work, and that's the way they're interpreted.  
6 It would not be correct to call an element of  
7 a guidewire a tip, a J tip, a part of the  
8 wire, part of the catheter itself. It may  
9 extend distally from the end of the catheter,  
10 but that does not make it a distal section of  
11 the catheter.

12 Q. For purposes of this proceeding, the  
13 PTAB is going to construe the term "a distal  
14 catheter section." And I believe you just said  
15 that it's your opinion that a PHOSITA would  
16 understand that the term "a distal catheter  
17 section" is a portion of the catheter shaft itself  
18 and not a portion of other components of the  
19 system. Is that accurate?

20 A. That is accurate. For example, a  
21 guidewire that may be inserted into the catheter  
22 and extended distally from the distal section of  
23  
24  
25

1 the catheter.

2 Q. When the PTAB construes for the term  
3 "a distal catheter section," should that  
4 definition include some mention of a guidewire?

5 MR. MURRAY: Objection to form.

6 A. I can't speak for the PTAB, really,  
7 but the distal section of the catheter should be  
8 the distal section of the catheter. Call that --  
9 one does not want to be insulting or presume too  
10 much for anybody anywhere, but you can't call  
11 elements of a guidewire or any other support wire  
12 part of the catheter.

13 BY MR. BANNER:

14 Q. So, in your opinion, a PHOSITA, when  
15 looking at the claim term "a distal catheter  
16 section," would understand that term does not  
17 include a guidewire or any other support wire part  
18 of the catheter; is that correct?

19 MR. MURRAY: Objection to form.

20 A. It does not include guidewire  
21 elements that have been -- guidewire. Components  
22 that are -- it does not include -- it does not  
23  
24  
25

1 include that are not part of the catheter/catheter  
2 shaft structure.

3 BY MR. BANNER:

4 Q. You keep making a distinction between  
5 a catheter and a catheter shaft. What is the  
6 difference?

7 A. I'm using the word "catheter" to  
8 include the elements of what is most common a  
9 plastic tube with a lumen, with a balloon on it;  
10 in this case, the catheter element that has those  
11 attributes and could be put on a table or in a  
12 package and you could pick it up.

13 And that's the catheter. That  
14 is distinct from a guidewire that may be put  
15 into the catheter, used separately, but it is  
16 not part of that catheter/catheter shaft  
17 combination. It never has been.

18 MR. BANNER: So let's go back to  
19 Exhibit 1031.

20 BY MR. BANNER:

21 Q. You know, and I'm not trying to be  
22 dense here, but what definition of "a distal  
23  
24  
25

1 catheter section" is appropriate here and what  
2 would a PHOSITA understand that to mean? Is it  
3 what you put in 45, which is simply a distal  
4 portion of a catheter? Is that enough?

5 MR. MURRAY: Objection. Form.

6 A. I think "enough" is defined down in  
7 47, a distal portion of the shaft of the device,  
8 of the shaft of the device, a distal portion.

9 MR. BANNER: Can you scroll  
10 down, please, Ira.

11 A. There. Actually, you know, most  
12 clear in 106, a distal catheter is understood,  
13 yes, is simply a distal portion of a catheter  
14 shaft.

15 BY MR. BANNER:

16 Q. So that's the construction that you  
17 think should apply to "a distal catheter section";  
18 is that correct?

19 A. Yes. And I'm looking at the text as  
20 explained in 45. Yes.

21 Q. Okay.

22 A. The distinction, just to be clear,  
23  
24  
25

1 is, the catheter shaft is not a wire. It's not a  
2 guidewire. It's actually the catheter shaft.

3 MR. BANNER: Let's go to  
4 Exhibit 1001, please, Ira.

5 BY MR. BANNER:

6 Q. Do you see Exhibit 1001 on the screen  
7 here, Dr. Cimino?

8 A. Yes.

9 Q. And this is the '737 patent; is that  
10 correct?

11 A. Yes.

12 MR. BANNER: Can we go to  
13 page 66, please, Ira. And if you can scroll  
14 down -- sorry. My fault. Page 70.

15 TRIAL TECHNICIAN: One moment.

16 MR. BANNER: Scroll down so we  
17 can see Claim 1 on the screen, on the right.  
18 And we can maybe zoom in a little bit.

19 BY MR. BANNER:

20 Q. Okay. Dr. Cimino, do you see Claim 1  
21 of the '737 patent on the screen?

22 A. Yes.

23

24

25

1           Q.     The first limitation of Claim 1 is a  
2 proximal hub. Do you see that?

3           A.     Yes.

4           Q.     Do you agree that a person of  
5 ordinary skill in the art had knowledge of a  
6 catheter having a proximal hub prior to March  
7 2015?

8                   MR. MURRAY: Objection to form.

9           A.     Repeat the question, please.

10 BY MR. BANNER:

11           Q.     Do you agree that a PHOSITA had  
12 knowledge of a catheter having a proximal hub  
13 prior to March 2015?

14                   MR. MURRAY: Same objection.

15           A.     A PHOSITA? "Proximal hub" is defined  
16 in this patent specification, so a PHOSITA could  
17 certainly read and understand this specification  
18 for the definition of a proximal hub.

19 BY MR. BANNER:

20           Q.     So this specification was filed in  
21 March 2015. I'm talking about prior to March  
22 2015. Are you telling me this is the first time  
23  
24  
25

1 "a proximal hub" has ever appeared in literature?

2 A. The concept of a hub or a proximal  
3 hub?

4 Q. Correct.

5 A. I would expect that it is present in  
6 a multitude of patents or publications as part of  
7 catheters, yes. I would expect that to be the  
8 case. I haven't verified.

9 Q. Did you work on any catheters prior  
10 to 2015 that had a proximal hub?

11 A. Proximal hub here is for connection  
12 to an inflation. So angioplasty -- angioplasty  
13 catheters in general I have. Prior? Let's see.  
14 Yes.

15 Q. And you qualified as a person of  
16 ordinary skill in the art in 2015, correct?

17 A. Yes. Well, by whose definition?

18 Q. By your definition.

19 A. Yes.

20 Q. Let me look at the second limitation  
21 in Claim 1, which states, "a flow valve configured  
22 to selectively fluidly communicate the proximal  
23  
24  
25

1        hub with an inflation device." Do you see that?

2            A.        Yes.

3            Q.        A flow valve configured to  
4        selectively fluidly communicate the proximal hub  
5        with an inflation device was known by a PHOSITA  
6        prior to March 2015, correct?

7            A.        I mean, I would assume so. I'm  
8        speculating. You're asking about a specific date  
9        for a PHOSITA, any PHOSITA. The concept of flow  
10       valve is known, and proximal hubs are known.

11          Q.        And did you personally know about  
12       flow valves before March of 2015?

13          A.        Yes. They're commonly available,  
14       frequently utilized little devices of various  
15       forms. And yes.

16          Q.        Flow valves that you knew about prior  
17       to 2015 were configured to selectively fluidly  
18       communicate a proximal hub with an inflation  
19       device?

20          A.        Flow valves that I knew about prior  
21       to 2015 were configured to selectively fluidly  
22       communicate one thing to another, in which case  
23  
24  
25

1 they could've been a proximal hub. They're  
2 generally designed, as you know, with Luer  
3 connections and multiple fittings and ways to  
4 communicate.

5 Q. Let's look at the third limitation  
6 here in Claim 1, and it's "a proximal catheter  
7 section in fluid communication with the proximal  
8 hub." Do you see that limitation?

9 A. Yes.

10 Q. Do you agree that a person of  
11 ordinary skill in the art had knowledge of a  
12 proximal catheter section in fluid communication  
13 with a proximal hub before March of 2015?

14 A. Yes. Especially as -- yes.

15 Q. The next limitation, "a distal  
16 catheter section distally terminating with an  
17 atraumatic tip," do you see that limitation?

18 A. Yes.

19 Q. Do you agree that a person of  
20 ordinary skill in the art had knowledge of a  
21 distal catheter section distally terminating with  
22 an atraumatic tip before March of 2015?

1           A.     Likely, may, may not. Moving the  
2 atraumatic tip to a -- the catheter is a design  
3 direction certainly incorporated here, is most  
4 often on the guidewire or the wire. But I would  
5 think so.

6           Q.     Let me ask you about your ablation  
7 catheter. Did that have an atraumatic tip?

8           A.     Ablation catheter. The  
9 electrophysiology devices?

10          Q.     The ones you worked on that we spoke  
11 about earlier today.

12          A.     No. Those would not have had an  
13 atraumatic tip of the J type. They were blunt and  
14 soft but not of the J type, because they were not  
15 part of the catheter. No.

16          Q.     Would you consider a blunt and soft  
17 tip to be an atraumatic tip?

18          A.     It can be. It definitely can be.  
19 That is the most common form of atraumatic tips  
20 for catheters.

21          Q.     So would you agree with me --

22          A.     Catheters and wires, I should say.

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1           Q.     Would you agree, then, that a person  
2 of ordinary skill in the art had knowledge of a  
3 proximal -- sorry. Start that over.

4                     Would you agree with me that a  
5 person of ordinary skill in the art would  
6 have knowledge of a distal catheter section  
7 distally terminating with an atraumatic tip  
8 which would include a soft, blunt tip prior  
9 to March 2015?

10           A.     Hypothetical, given the constraints,  
11 and I would think so, may or may not occur, given  
12 a PHOSITA. Somebody's experience may be  
13 sufficient, know it. Somebody may not.

14           Q.     Now, you were a PHOSITA at the time  
15 of March 2015, correct?

16           A.     Correct.

17           Q.     And you just testified that your  
18 ablation catheter had a blunt, soft atraumatic  
19 tip, correct?

20           A.     It did.

21           Q.     And that work you did on that  
22 ablation catheter happened before 2015, correct?

23  
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1           A.     Yes -- well, wait.  Yes.  Yes.

2           Q.     So --

3           A.     So that's me.

4           Q.     You had knowledge of a distal  
5 catheter section distally terminating with an  
6 atraumatic tip prior to March 2015, correct?

7           A.     Yes.  I think just to be entirely  
8 clear, guidewires and catheters with a -- are --  
9 atraumatic tips are a requirement of literally all  
10 catheter and wire designs, and those can be blunt,  
11 soft or, in some cases, they're J or prebent.  And  
12 I, as a PHOSITA, had familiarity with those prior  
13 to 2015, which would so literally apply to other  
14 elements of catheters construction and design as  
15 well.

16          Q.     So you would agree that a PHOSITA,  
17 which includes you, had knowledge of a distal  
18 catheter section distally terminating with an  
19 atraumatic tip before March 2015, correct?

20          A.     Yes.

21          Q.     Now, the next limitation of Claim 1  
22 is "an intervening occlusion balloon connecting  
23  
24  
25

1 the proximal catheter section with the distal  
2 catheter section, the occlusion balloon being  
3 compliant." Do you see that?

4 A. Yes.

5 Q. Would you agree that a PHOSITA would  
6 have knowledge of an intervening occlusion balloon  
7 connecting the proximal catheter section with a  
8 distal catheter section, the occlusion balloon  
9 being compliant prior to March 2015?

10 A. Yes.

11 Q. The next limitation is --

12 A. Just by way of note, because this is  
13 just as we're looking at that, the catheter  
14 section, the intervening -- the balloon is mounted  
15 on the shaft, clearly, of the catheter, which is  
16 intervening with the distal section, the balloons,  
17 thereby connecting the proximal and distal  
18 sections of the catheter, not a wire.

19 Q. Okay. The next limitation is "at  
20 least one length marking on an exterior of the  
21 proximal catheter section to indicate an insertion  
22 depth of the occlusion catheter system." Do you  
23  
24  
25

1 see that?

2 A. Yes.

3 Q. Would you agree that a PHOSITA would  
4 have had knowledge of at least one length marking  
5 on an exterior of the proximal catheter section to  
6 indicate an insertion depth of the occlusion  
7 catheter system prior to March 2015?

8 A. Yes. Markers are well-known.

9 Q. The next limitation is "a lumen  
10 extending from the proximal hub through the  
11 proximal catheter section and into fluid  
12 communication with the occlusion balloon." Do you  
13 see that limitation?

14 A. Yes.

15 Q. Would you agree that a PHOSITA would  
16 have knowledge of a lumen extending from the  
17 proximal hub through the proximal catheter section  
18 and into fluid communication with the occlusion  
19 balloon prior to March 2015?

20 A. Yes. For example, angioplasty  
21 balloons on angioplasty catheters is well-known.

22 Q. Would you -- sorry. Scratch that.

23

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25

1                   The next limitation is "a solid  
2 wire, secured at a proximal-most end thereof  
3 within the proximal hub, and extending within  
4 the proximal catheter section, the occlusion  
5 balloon and into the distal catheter  
6 section." Do you see that limitation?

7                   A.     Yes.

8                   Q.     Would you agree with me that a solid  
9 wire, secured at a proximal-most end thereof  
10 within the proximal hub, and extending within the  
11 proximal catheter section, the occlusion balloon  
12 and into the distal catheter section was known by  
13 a PHOSITA prior to March 2015?

14                  A.     I don't know. That seems to be, you  
15 know, a key element of this invention, the '737.  
16 If that is disclosed or known in that structure  
17 prior to that in prior catheters, prior patents  
18 then known, that is a design element and invention  
19 in this patent. So I don't know that I can  
20 conclude or answer yes one way or another to your  
21 question.

22                  Q.     Okay. As part of the materials you  
23  
24  
25

1 considered in coming up with your declaration, did  
2 you review all of the exhibits to the petition?

3 A. All of the exhibits in the petition.  
4 I don't know what those are.

5 Q. So let me actually --

6 MR. BANNER: If we can go back  
7 to Exhibit 2001, please, Ira, and to  
8 page 5 -- or actually 4.

9 BY MR. BANNER:

10 Q. And you recall our discussion about  
11 page 4 and paragraph 9 of your declaration?

12 A. Yes.

13 Q. This is where you list the materials  
14 you considered in forming your opinions, correct?

15 A. Yes.

16 Q. On page 5 --

17 MR. BANNER: If we can scroll  
18 down to page 5.

19 BY MR. BANNER:

20 Q. -- about halfway through the page, in  
21 that table you list U.S. Patent Number 5,087,246  
22 to Smith, correct?

23

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1           A.     Yes.

2           Q.     And that's Exhibit 1025 that was  
3     filed along with the petition.

4           A.     Okay.

5           Q.     And that's something that you review,  
6     correct?

7           A.     Yes.

8                     MR. BANNER: Can we pull that  
9     up, Ira, Exhibit 1025.

10                    TRIAL TECHNICIAN: Yep. One  
11     moment.

12     BY MR. BANNER:

13           Q.     I'm guessing it's been a while since  
14     you've looked at this exhibit, Dr. Cimino, so --

15           A.     It has been a while, and I don't at  
16     this point recall anything about it. Fluted  
17     balloon. Okay.

18           Q.     Okay. So we have on the screen  
19     Exhibit 1025, Dr. Cimino, and I represent to you  
20     that this is the Smith patent that we just  
21     discussed.

22           A.     Yes.

23

24

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1 Q. Does this look familiar at all?

2 A. The fluted concept looks familiar.

3 MR. BANNER: If we could go down

4 to page 3, Figure 3. That's going to be --

5 A. Just for starters, what is the time  
6 frame for this patent?

7 BY MR. BANNER:

8 Q. You can see the date there, issued  
9 February 11, 1992. It's up at the top of the  
10 page. Do you see that?

11 A. Okay.

12 Q. That was about the time you started  
13 working on catheter design; is that correct?

14 A. Yeah. I certainly had been working  
15 on catheters for three, four years at that point.  
16 Maybe five. Three.

17 Q. So Figure 3 -- and we may have to  
18 rotate and go to the text here. In particular, do  
19 you see wire -- well, you see element 34 there?

20 A. Yes.

21 MR. BANNER: If we can go to the  
22 text of this. And we're going to have to

23

24

25

1 rotate that back --

2 TRIAL TECHNICIAN: Yep.

3 MR. BANNER: -- Ira.

4 TRIAL TECHNICIAN: Yep.

5 BY MR. BANNER:

6 Q. I'm assuming you don't know off the  
7 top of your head what element 34 is, Dr. Cimino?

8 A. I don't. But it looks like a wire.

9 MR. BANNER: Let's go down to --  
10 pull this up on my end so I can tell you  
11 where to go. Let's look at page 7, please,  
12 and column 4, starting around line 17.

13 A. Which column?

14 BY MR. BANNER:

15 Q. Sorry. It's the right-hand column,  
16 starting about line 7 -- it's the paragraph that  
17 starts at line 17.

18 A. Yes.

19 Q. Did you see where it says, "In the  
20 esophageal catheter illustrated, an elongate wire  
21 34"?

22 A. Yep.

23

24

25

1                   Q.       "Through the lumen 22 of the  
2 catheter"?

3                   A.       Yes.

4                   Q.       And it goes on to say, "The proximal  
5 end of the wire 34 is encapsulated within the  
6 proximal fitting 24 as indicated somewhat  
7 diagrammatically at 36"?

8                   A.       Yep.

9                   MR. BANNER: If we can go back  
10 to 3 and rotate that.

11                  MR. MURRAY: If you want to make  
12 things simple, I think Figure 3 is the cover  
13 page.

14                  MR. BANNER: Oh. That's --

15                  MR. MURRAY: That way you don't  
16 have to keep rotating back and forth.

17                  MR. BANNER: All right. If we  
18 have to do it again, we'll go back to the  
19 front page.

20 BY MR. BANNER:

21                  Q.       So now do you have an understanding,  
22 Dr. Cimino, after looking at the text of the Smith  
23  
24  
25

1 patent, what element 34 is?

2 A. Yes. Its function and purpose not  
3 entirely clear, but it is a wire captured towards  
4 the proximal end of the catheter there.

5 Q. And that wire extends within the  
6 proximal catheter section, the occlusion balloon,  
7 and into the distal catheter section, correct?

8 A. And I'm assuming 38 is part of the  
9 catheter and shaft?

10 Q. 38?

11 A. I mean, it's --

12 Q. We can look at the text to see what  
13 38 is.

14 A. I'm just going to assume that that's  
15 part of the catheter. It's part of the tip of the  
16 catheter.

17 Q. Yeah.

18 A. Yes.

19 Q. And we can look --

20 A. And that it's distal -- and your  
21 question, that it's distal to the balloon, which  
22 we're going to call the distal section, and it's  
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1 part of the catheter, yes.

2 Q. So 34 shows a solid wire. 34, that's  
3 secured at the proximal-most end within the  
4 proximal hub and extending within the proximal  
5 catheter section, the occlusion balloon, and into  
6 the distal catheter section, correct?

7 A. Yes.

8 Q. So that is --

9 A. Applying those definitions from '737  
10 and claim construction to this.

11 Q. Correct.

12 A. Okay.

13 Q. That would've been known to someone  
14 of ordinary skill in the art as a result of the  
15 disclosure of this patent, correct?

16 A. They certainly would have access to  
17 it, yeah.

18 MR. BANNER: If we can go back  
19 to Exhibit 1001, please.

20 BY MR. BANNER:

21 Q. And then I think there's one more  
22 limitation here at the bottom of Claim 1 where it  
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1 says, "the proximal catheter section, the  
2 occlusion balloon and the distal catheter section  
3 having a greatest outer diameter of less than  
4 6 French in an uninflated configuration." Do you  
5 see that claim?

6 A. Yes.

7 Q. Would you agree that a person of  
8 ordinary skill in the art had knowledge of a  
9 catheter having the proximal catheter section, the  
10 occlusion balloon and the distal catheter section  
11 having the greatest outer diameter of less than  
12 6 French in an uninflated configuration prior to  
13 March 2015?

14 A. To be clear, the question is  
15 catheters having these components of less than  
16 6 French.

17 Q. Correct.

18 A. The distinction you're asking is less  
19 than 6 French, and that is certainly the case, as  
20 many angioplasty catheters and other cardiac  
21 catheters were less than 6 French at that time.

22 MR. BANNER: Thank you. I  
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1 believe that -- can I take a quick break  
2 here, Steve? And I may be ready to wrap up.

3 MR. MURRAY: Sure.

4 (A recess was taken from  
5 2:55 p.m. until 3:00 p.m.)

6 MR. BANNER: I have no further  
7 questions. I pass the witness.

8 MR. MURRAY: Ira, can we just  
9 pull up real quickly Exhibit 1004?

10 TRIAL TECHNICIAN: Sure thing.

11 MR. MURRAY: Could you scroll  
12 down to the second page.

13 TRIAL TECHNICIAN: Yep. Zoom  
14 in?

15 MR. MURRAY: Zoom in on the kind  
16 of middle portion.

17 TRIAL TECHNICIAN: Okay.

18 MR. MURRAY: Scroll a little  
19 more. Little more. Little more. That's  
20 good. Thank you.

21 EXAMINATION

22 BY MR. MURRAY:

23

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25

1           Q.     All right. Dr. Cimino, do you recall  
2 earlier today you were asked a series of questions  
3 about the experience of a person of ordinary skill  
4 in the art working on different types of  
5 catheters?

6           A.     Yes.

7           Q.     And specifically do you recall an  
8 example question whether someone who worked purely  
9 on urinary catheters for six years would qualify  
10 as skilled in the art?

11          A.     Yes.

12          Q.     This, if you see on the screen, is  
13 Exhibit 1004, Fogarty. Do you recognize it from  
14 earlier?

15          A.     Yeah. This is Fogarty, yes.

16          Q.     All right. If you look at the second  
17 column, starting around line 33, could you just  
18 read what that sentence says.

19          A.     33. "The drawing" -- "The drawing  
20 illustrates a venous thrombectomy catheter but the  
21 same construction is used for other fields of  
22 pathology, such as the genito-urinary tract and  
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1 the biliary system. For the" -- keep going? "For  
2 the latter uses" --

3 Q. No. That's good. Yep. Yeah, that's  
4 good.

5 Reading that sentence, does that  
6 have any impact on the opinion you gave  
7 earlier today about whether someone working  
8 purely on urinary tract catheters for six  
9 years could qualify as a person of ordinary  
10 skill in the art?

11 A. For six years. What was the question  
12 previous about six years? I'm not clear on --

13 Q. So do you recall being asked earlier  
14 today, as an example --

15 A. Yes.

16 Q. -- your third possibility for  
17 qualifying as a person of ordinary skill in the  
18 art of the '737 patent was someone who had  
19 six years or more of experience in catheter design  
20 and development?

21 A. Yes.

22 Q. And the question was, if someone  
23  
24  
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1 spent more than six years in catheter design and  
2 development, but it was purely urinary tract  
3 catheters, would they qualify as a person of  
4 ordinary skill in the art?

5 A. And my answer was, I was unable to  
6 distinguish between relevant, different types --  
7 to answer the question, different -- whether it be  
8 urinary that may be applicable, great. Could be  
9 cardiac, could be neuro. Relevant catheter design  
10 and fabrication experience is applicable. This  
11 citation here is genito-urinary.

12 Q. Does that include the urinary tract?

13 A. Does it exclude urinary?

14 Q. Include.

15 A. Oh, yes.

16 Q. So this catheter disclosed in Fogarty  
17 Exhibit 1004 could be used for thrombectomy or the  
18 same construction can also be used in the urinary  
19 tract; isn't that correct?

20 A. That's what they say, yes. Other --  
21 it can be used in other systems, other locations,  
22 other anatomical and physiologic needs.

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MR. MURRAY: I have no further questions.

MR. BANNER: I'm done as well. Thank you, Dr. Cimino. I appreciate your being here today and answering all these questions.

(Time noted: 3:05 p.m.,  
March 20, 2025.)

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CERTIFICATE OF DEPOSITION  
BEFORE ME, the undersigned authority,  
states as follows:

That the witness, WILLIAM CIMINO, was duly sworn  
by me before commencement of testimony.

That the transcript attached hereto is a true  
and correct record of the testimony given by the  
said witness to the best of my ability.

That the testimony was recorded and transcribed  
by myself.

That counsel for the following parties were  
present during the deposition: Petitioner and  
Patent Owner and counsel for the Opposing party  
was present.

That the deposition was held via Zoom beginning  
at 10:00 a.m. Central on March 20, 2025, and  
concluding at 3:05 p.m. Central on March 20, 2025.

The witness was physically located in  
Louisville, Colorado.

That I am a disinterested party and have no  
personal or financial interest in this proceeding.

That the right to read and sign the deposition  
by the witness was presumed to be not waived.

That the beginning page number is 1 and ending  
page is the errata sheet, which is page number  
188.

IN WITNESS WHEREOF, I have hereunto  
set my hand and affixed my official seal this 28th



Myrina A. Kleinschmidt, RMR, CRR, TX CSR

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ERRATA SHEET

I, WILLIAM CIMINO, have read the entire transcript of my deposition taken in this pending matter. I request that the following changes be entered into the record for the reasons indicated. I have dated and signed my name to this Errata Sheet.

| Page/Line | Correction or Change | Reason |
|-----------|----------------------|--------|
| _____     | _____                | _____  |
| _____     | _____                | _____  |
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|-------|----------------------|
| _____ | _____                |
| Date  | Signature of Witness |

\_\_\_\_\_

Printed Name

\_\_\_\_\_

(Notary if applicable)

1 Dr. William Cimino

2 March 28, 2025

3 Front Line Medical Technologies v. Prytime Medical Devices  
4 DEPOSITION OF: William W. Cimino , PhD (# 7263281)

5 The above-referenced witness transcript is  
6 available for read and sign.

7 Within the applicable timeframe, the witness  
8 should read the testimony to verify its accuracy. If  
9 there are any changes, the witness should note those  
10 on the attached Errata Sheet.

11 The witness should sign and notarize the  
12 attached Errata pages and return to Veritext at  
13 errata-tx@veritext.com.

14 According to applicable rules or agreements, if  
15 the witness fails to do so within the time allotted,  
16 a certified copy of the transcript may be used as if  
17 signed.

18 Yours,

19 Veritext Legal Solutions  
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**[& - 2001]**

|                        |                        |                        |                       |
|------------------------|------------------------|------------------------|-----------------------|
| <b>&amp;</b>           | 182:9 183:13           | <b>13</b> 5:18 44:3    | <b>19103</b> 2:18     |
| <b>&amp;</b> 2:16      | 185:17                 | <b>14</b> 43:22 44:1   | <b>1982</b> 31:18     |
| <b>1</b>               | <b>1009</b> 5:4 81:6,7 | 80:2                   | <b>1989</b> 32:1      |
| <b>1</b> 5:13,17 25:8  | 81:11,19               | <b>145</b> 5:14        | 34:15,17              |
| 43:16,19,21            | <b>1025</b> 175:2,9,19 | <b>149</b> 4:15        | <b>1992</b> 31:19     |
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[cava - colon]

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**[colorado - connection]**

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**[connections - correct]**

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**[correct - definition]**

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**[definition - develop]**

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**[developed - disparage]**

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**[dissection - electrodes]**

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**[evaluation - extends]**

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[extent - fluid]

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**[fluidly - gives]**

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**[glass - heart]**

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**[heart - incorrect]**

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**[massaged - multitude]**

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[standard - system]

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[system - tests]

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**[text - tool]**

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

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VERITEXT LEGAL SOLUTIONS

COMPANY CERTIFICATE AND DISCLOSURE STATEMENT

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