CONTAINS CONFIDENTIAL INFORMATION

Transcript of Troy Thornton

Date: September 30, 2024
Case: Inari Medical, Inc. -v- Imperative Care, Inc.

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Imperative Care v. Inari Medical
IPR2025-01025
Imperative Care Ex. 1074

1

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN JOSE DIVISION

INARI MEDICAL, INC.,) Case No.) 4:24-cv-03117-EKL
Plaintiff,)
vs.)
IMPERATIVE CARE, INC.,)
Defendant.)

DEPOSITION OF

TROY THORNTON

Volume I

Monday, September 30, 2024

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CONTAINS CONFIDENTIAL INFORMATION

Reported by: Michael C. Rowell, California CSR #13494
NCRA Registered Diplomate Reporter
NCRA Certified Realtime Captioner

2

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3

INDEX OF EXAMINATION

WITNESS: TROY THORNTON

EXAMINATION BY	PAGE
Mr. Keese	6

EXHIBITS FOR REFERENCE

EXHIBIT NO.	DESCRIPTION	PAGE
EXHIBIT 14	Declaration of Troy Thornton in Support of Opposition to Plaintiff's Motion for Preliminary Injunction	21
EXHIBIT 15	Resume (labeled Exhibit 1035)	41
EXHIBIT 16	US Patent No. 11,844,291 B2 (labeled Exhibit 2)	116
EXHIBIT 17	US Patent Application Publication No. US 2003/0225379 A1 (labeled Exhibit 32)	151
EXHIBIT 18	Document 36-20 Title: Composite Stasis Valve Inventor's Name: David Schaffer Serial No.: 10/371,190 (labeled Exhibit 1025)	153
EXHIBIT 19	Document 24-38 US Patent Publication No. US/2003/0116731 (labeled Exhibit 31)	160
EXHIBIT 20	Document 36-16 US Patent Publication No. US 2017/0043066 A1 (labeled Exhibit 1021)	201

4

PREVIOUSLY MARKED EXHIBITS

EXHIBIT NO.	DESCRIPTION	PAGE
EXHIBIT 3	Symphony Thrombectomy System (labeled Exhibit 7)	209
EXHIBIT 7	US Patent Application Publication US 2015/0173782 A1 (labeled Exhibit 29)	134
EXHIBIT 12	US Patent No. 11,974,910 B2 (labeled Exhibit 1)	100

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PORTION DESIGNATED CONFIDENTIAL: PAGES 75-76

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5

1 BE IT REMEMBERED, that set on Monday, the 30th
2 day of September, 2024, commencing at the hour of
3 10:08 a.m. (PDT) thereof, at 3150 Porter Drive, Palo
4 Alto, California, before me, Michael C. Rowell, a
5 Certified Shorthand Reporter of the State of California,
6 there personally appeared
7 TROY THORNTON,
8 having been called as a witness by the
9 Plaintiff, who, having been sworn by me to tell the
10 truth, the whole truth, and nothing but the truth, was
11 thereupon examined and testified as hereinafter set
12 forth:
13 --oOo--
14 THE VIDEOGRAPHER: Here begins Media Number 1
15 in the videotaped deposition of Troy Thornton in the
16 matter of Inari Medical, Inc. versus Imperative Care,
17 Inc., in the United States District Court, Northern
18 District of California, San Jose Division, Case Number
19 4:24-cv-03117-EKL.
20 Today's date is September 30th, 2024. The
21 time on the video monitor is 9:09. The videographer
22 today is Ken Lauguico, representing Planet Depos.
23 This video deposition is taking place at 3150
24 Porter Drive in Palo Alto, California.
25 Would counsel please voice identify themselves

6

1 and state whom they represent.
2 MR. KEESE: This is Dan Keese of Perkins Coie,
3 LLP. I'm joined by my partner Amanda Tessar, and we
4 represent plaintiff, Inari Medical.
5 MR. BELAIR: This is Nick Belair with Knobbe
6 Martens Olson & Bear representing the witness today and
7 Imperative Care.
8 THE VIDEOGRAPHER: Thank you. The court
9 reporter today is Mike Rowell, representing Planet
10 Depos. The witness will now be sworn.
11 THE REPORTER: All right, sir, if you could
12 please raise your hand.
13 Do you swear or affirm, under penalty of
14 perjury, that the testimony you give in today's
15 proceedings will be the truth, the whole truth, and
16 nothing but the truth?
17 THE WITNESS: I do.
18 THE REPORTER: Thank you.
19 EXAMINATION
20 BY MR. KEESE:
21 Q. Good morning. Could you please state your
22 full name for the record?
23 **A. Troy Lane Thornton.**
24 Q. Did you bring any documents with you today?
25 **A. No.**

7

1 Q. And I'm sure your counsel probably went over
2 some of the ground rules for your deposition, but I just
3 want to make sure that we have a clear understanding.
4 In order for the court reporter to be able to
5 take your answers down, it's important that you give
6 verbal answers to the extent possible because they
7 cannot record nonverbal answers.
8 Does that make sense?
9 **A. Yes.**
10 Q. That works for you?
11 If you do not understand a question, please
12 let me know. I will try to re-ask the question.
13 Does that work as well?
14 **A. Yes.**
15 Q. And if you do not ask for a clarification, I
16 will assume that you understand the question.
17 Is that also fair?
18 **A. Yes.**
19 Q. Your attorney is likely to interpose
20 objections during the questioning, but you still need to
21 answer the question unless your attorney specifically
22 instructs you not to answer.
23 Do you understand that?
24 **A. Yes.**
25 Q. And if you need to come back to a question,

8

1 please let me know. We can do that.
2 Does that work as well?
3 **A. Yes.**
4 Q. And in terms of breaks, we can take a break,
5 but the rule is that we just don't take a break while a
6 question or a line of questions is pending.
7 Does that work for you as well?
8 **A. Sure.**
9 Q. Is there any reason that you cannot testify
10 fully and truthfully today?
11 **A. No.**
12 Q. No medical conditions?
13 **A. No.**
14 Q. No medications, drugs, alcohol, anything like
15 that?
16 **A. No.**
17 Q. Okay, great.
18 Have you ever been deposed before,
19 Mr. Thornton?
20 **A. Yes.**
21 Q. How many times?
22 **A. Once.**
23 Q. Okay. And when was that?
24 **A. Five-plus years ago.**
25 Q. What type of a case was that?

9

1 **A. It was a patent infringement case, and I was a**
2 **fact witness.**
3 Q. Okay. And who were you a fact witness on
4 behalf of?
5 **A. Abbott.**
6 Q. Okay. Was -- were you working at Abbott at
7 the time?
8 **A. I was not.**
9 Q. Okay. And so you were a third-party fact
10 witness on behalf of Abbott; is that correct?
11 **A. I'm not sure what "third party" means. I**
12 **wasn't an employee of Abbott. I was listed on the**
13 **patent.**
14 Q. Ah, okay.
15 **A. I was a former employee of Abbott.**
16 Q. Okay. So, you weren't an employee of Abbott
17 at the time; you had previously been an employee of
18 Abbott and were testifying in that capacity?
19 **A. That's correct.**
20 Q. What was the subject matter of that patent?
21 **A. It was related to the MitraClip device, a**
22 **percutaneous device to treat mitral valve regurgitation.**
23 THE REPORTER: "To treat mitral valve"...?
24 THE WITNESS: Mitral valve regurgitation.
25 ///

10

1 BY MR. KEESE:
2 Q. And what -- how many patents in total do you
3 have approximately?
4 **A. Over 30, maybe 35 at this point.**
5 Q. Do any of them relate to thrombectomy?
6 **A. No, I don't believe so.**
7 Q. Okay. And the -- the MitraClip device that
8 you were -- helped design that treated mitral valves,
9 how did that work?
10 **A. It was a catheter-based -- it is a**
11 **catheter-based system, where the device inserted -- a**
12 **catheter is inserted in the femoral vein and deploys an**
13 **implantable device on the mitral leaflets to correct**
14 **regurgitation.**
15 Q. So, you -- correct me if I'm wrong here, so
16 you would insert a catheter in the femoral vein, and
17 then through that catheter, you would introduce an
18 implantable device to help to repair the mitral valve?
19 **A. Yes. There were three catheters involved in**
20 **doing the procedure, but that is the basis of the**
21 **procedure.**
22 Q. And what were the three catheters that were
23 involved?
24 **A. The outer most catheter was called the**
25 **steerable guide.**

11

1 THE REPORTER: "Was called"...?
2 THE WITNESS: Steerable guide catheter.
3 The next catheter inside was called the
4 steerable sleeve catheter. The innermost catheter was
5 the delivery catheter or clip delivery catheter, to
6 which was attached to the MitraClip device itself.
7 BY MR. KEESE:
8 Q. So, the first catheter was the guide catheter
9 to guide the system to where you needed it; is that
10 correct?
11 **A. Not quite. The two steerable catheters were**
12 **used together to position the clip in the left atrium,**
13 **so they were used simultaneously and together in a**
14 **steerable manner.**
15 Q. Okay. And then the final catheter was to
16 deliver the device?
17 **A. Yes. The innermost catheter was a clip**
18 **delivery catheter that was attached to the clip and then**
19 **would deploy the clip on the mitral leaflets.**
20 Q. So, none of those catheters were used for
21 thrombectomy, correct?
22 **A. Correct. That was not the purpose of those**
23 **catheters.**
24 Q. Okay. Have you served as an expert in any
25 cases before this litigation matter?

12

1 **A. No.**
2 Q. Okay. So, you've never testified as an expert
3 before?
4 **A. That's correct.**
5 Q. And how did you prepare for your deposition in
6 this case?
7 **A. I reviewed my deposition yesterday. I met**
8 **with counsel yesterday also.**
9 Q. And you said you -- you reviewed your
10 deposition. I want to make sure that we have a clear
11 record.
12 Are you saying that you reviewed -- you
13 reviewed your declaration?
14 **A. Sorry.**
15 Q. Okay.
16 **A. I meant to say declaration, is what I**
17 **reviewed, yes.**
18 Q. And for clarity, is that the declaration that
19 you submitted in support of Imperative Care's opposition
20 to Inari's motion for preliminary injunction in this
21 case?
22 **A. Yes, that's correct.**
23 Q. And who was involved in that meeting with
24 counsel yesterday?
25 MR. BELAIR: And before we go any further, let

13

1 me just caution the witness not to reveal the substance
2 of any of your communications with counsel. You can
3 certainly let counselor here know who was involved in
4 that meeting.
5 THE WITNESS: Joe Re, and Nick --
6 MR. BELAIR: Belair.
7 THE WITNESS: -- Belair.
8 BY MR. KEESE:
9 Q. And how long did you meet with them?
10 **A. Several hours.**
11 Q. And was that the only meeting that you had to
12 prepare for your deposition?
13 **A. Yes.**
14 Q. Okay. How long in total did you prepare for
15 your deposition today?
16 **A. I don't know exactly.**
17 Q. Can you give me an approximate amount?
18 **A. Several hours.**
19 Q. Okay. More than ten?
20 **A. Fewer than ten.**
21 Q. Okay. And did you have discussions with
22 anyone else, other than the counsel you've mentioned, to
23 prepare for your deposition?
24 **A. No, I did not.**
25 Q. Okay. Did you review any documents from the

14

1 district court litigation to prepare for your
2 deposition, other than your declaration?
3 MR. BELAIR: Objection, vague.
4 THE WITNESS: Yeah, I'm not sure which
5 documents you would be referring to.
6 BY MR. KEESE:
7 Q. Let me ask it this way, then: Was your
8 declaration the only document that you reviewed to
9 prepare for your deposition?
10 **A. No. I believe we have also viewed several of**
11 **the patents that are referenced in the declaration.**
12 Q. And by "several of the patents," does that
13 include the asserted patents?
14 **A. I certainly reviewed portions of the '921 and**
15 **the '910 patent.**
16 Q. Okay. And presumably also some of the prior
17 art references you discuss in your declaration?
18 **A. Some of them, yes.**
19 Q. Yeah. And did you review any of the
20 Imperative Care opposition brief?
21 **A. I don't know what that is.**
22 Q. Okay. So, let me ask this: Have you seen
23 Imperative Care's opposition brief that your declaration
24 supported?
25 **A. I don't believe so. I would need to look at**

15

1 **the document you're referring to.**
2 Q. Yeah. Have you ever reviewed Inari's motion
3 for preliminary injunction?
4 **A. I don't believe so.**
5 Q. Have you reviewed Mr. Brown's declaration in
6 support of Inari's motion for preliminary injunction?
7 **A. Yes.**
8 Q. And when did you review that?
9 **A. Several weeks ago.**
10 Q. Was that as part of preparing your
11 declaration?
12 **A. I don't remember if it was before or after the**
13 **declaration was prepared.**
14 Q. Okay. Have you reviewed the transcript from
15 Mr. Brown's deposition?
16 **A. No, I have not reviewed any transcripts from**
17 **other depositions.**
18 Q. Have you reviewed the declarations that Inari
19 filed, other than Mr. Brown's declaration?
20 MR. BELAIR: Objection, vague.
21 THE WITNESS: I don't know. I would have to
22 look at the documents to which you're referring.
23 BY MR. KEESE:
24 Q. Do you recall if you reviewed Mr. Merritt's
25 declaration?

16

1 **A. That does not sound familiar to me.**
2 Q. And do you recall if you reviewed Mr. Hykes'
3 declaration?
4 **A. I have not reviewed -- I don't know who that**
5 **is.**
6 Q. Okay.
7 **A. I don't know that declaration.**
8 Q. Okay. Fair enough. And just to close out the
9 list, have you reviewed Mr. Strange's declaration?
10 **A. No.**
11 Q. Okay. When you're preparing your declaration,
12 did you review any of Truvic's design documents?
13 MR. BELAIR: Let me interject here. We
14 certainly don't use the word Truvic to describe our
15 client, so it might be confusing for the witness if you
16 use that language. So, I'm going to suggest we refer to
17 Defendant in this case as Imperative Care, if that's
18 okay with you, Dan.
19 MR. KEESE: So, I can certainly clarify the
20 question.
21 BY MR. KEESE:
22 Q. In preparing your declaration, did you review
23 any design documents from Imperative Care or Truvic?
24 **A. What do you mean by design documents?**
25 Q. How would you understand the scope of design

17

1 documents?
2 **A. Engineering documentation, design reviews,**
3 **those types of documents.**
4 Q. Did you review any of those types of documents
5 from Imperative Care or Truvic in preparing your
6 declaration?
7 **A. No.**
8 Q. Did you review any of the IFU documents from
9 Imperative Care or Truvic in preparing your declaration?
10 MR. BELAIR: Objection, vague.
11 THE WITNESS: I don't believe I reviewed any
12 IFU documents.
13 BY MR. KEESE:
14 Q. And do you understand that an IFU is an
15 Instructions For Use?
16 **A. I do.**
17 Q. Okay, great. And did you review the Symphony
18 brochure document in preparing your declaration?
19 MR. BELAIR: Objection, vague.
20 THE WITNESS: I didn't review any brochure
21 documents.
22 BY MR. KEESE:
23 Q. Did you review any documents about the
24 Symphony product in preparing your declaration?
25 MR. BELAIR: Objection, vague.

18

1 THE WITNESS: I have reviewed the patents at
2 issue in preparing my declaration.
3 BY MR. KEESE:
4 Q. Okay. Have you ever reviewed a Symphony
5 system?
6 MR. BELAIR: Objection, vague.
7 THE WITNESS: What aspect of the system are
8 you referring to?
9 BY MR. KEESE:
10 Q. I guess which aspects of the Symphony system
11 have you reviewed, to the extent there are any?
12 MR. BELAIR: Same objection.
13 THE WITNESS: Mostly, I've reviewed the
14 patents that are at issue here.
15 BY MR. KEESE:
16 Q. Okay. Have you reviewed the aspects of the
17 Symphony 24 French BigShot controller handle?
18 MR. BELAIR: Objection, vague.
19 THE WITNESS: I've seen the patents, and I
20 understand -- let me rephrase that.
21 I've seen images of the handle and the inside
22 and understand how the mechanisms work in the handle.
23 BY MR. KEESE:
24 Q. Where did those images come from?
25 **A. I'm not sure.**

19

1 Q. Okay. Were they provided by counsel, without
2 revealing any particular communications?
3 MR. BELAIR: Yeah, you can answer that.
4 THE WITNESS: Yeah, I believe they were
5 provided by counsel.
6 BY MR. KEESE:
7 Q. Okay. In preparing your declaration,
8 approximately how many hours did you spend on it?
9 **A. I don't really remember. There were several**
10 **meetings and Zoom calls, so...**
11 Q. Okay. How was your declaration prepared? Did
12 you draft it?
13 MR. BELAIR: Objection, compound.
14 THE WITNESS: I initially was provided a
15 number of patents from counsel, reviewed those. We had
16 meetings, strategy and the focus.
17 MR. BELAIR: Let me just caution the witness
18 here. I don't want you to reveal any of the contents of
19 any discussions you may have had with counsel in
20 preparing your declaration.
21 THE WITNESS: All right.
22 MR. BELAIR: So, with that, you can continue
23 your response.
24 THE WITNESS: And we prepared it together.
25 ///

20

1 BY MR. KEESE:
2 Q. Okay. Did you personally write the words that
3 appeared in your declaration?
4 **A. I certainly reviewed and edited --**
5 Q. Okay.
6 **A. -- many of -- much of the content.**
7 Q. Approximately how many hours have you billed
8 to your work on this case so far?
9 **A. I don't really remember.**
10 Q. Was it more than 50?
11 **A. No, less than 50.**
12 Q. Okay. And that -- does that include the hours
13 you would have billed to the IPR matters that you
14 submitted declarations in as well?
15 MR. BELAIR: Objection, assumes facts.
16 THE WITNESS: Are you --
17 MR. BELAIR: Vague.
18 THE WITNESS: -- asking about IPRs, the number
19 of hours with the IPR or for the --
20 THE REPORTER: Excuse me, did you have an
21 objection?
22 MR. BELAIR: Yeah, sorry. I said objection,
23 assumes facts and vague. I was slow with that one, I
24 apologize.
25 THE WITNESS: Can you repeat the question?

21

1 BY MR. KEESE:
2 Q. Absolutely. You said that you had spent less
3 than 50 hours on this case so far; is that correct?
4 **A. Meaning preparing for this -- preparing this**
5 **declaration?**
6 Q. Okay.
7 **A. Yes.**
8 Q. And so my question was, that less than
9 50 hours, does that also include the time that you spent
10 on the IPR matters?
11 MR. BELAIR: Same objections.
12 THE WITNESS: I don't remember how many hours
13 we spent on the IPRs that I've worked on.
14 BY MR. KEESE:
15 Q. Okay. In total, between the IPRs and this
16 case, have you spent more than 50 hours?
17 **A. I don't believe so.**
18 Q. Okay. In preparing your declaration in this
19 case, did you have discussions with anyone other than
20 counsel?
21 **A. No.**
22 Q. Okay.
23 (Whereupon, Exhibit 14 was marked for
24 identification.)
25 ///

22

1 BY MR. KEESE:
2 Q. So, Mr. Thornton, I'm going to hand you what
3 has been marked as Exhibit 14 in this matter.
4 MR. KEESE: Just for reference, we're
5 continuing on from the previous exhibit number. So,
6 that's why we're starting with 14.
7 BY MR. KEESE:
8 Q. Do you recognize Exhibit 14?
9 **A. Yes.**
10 Q. And what is Exhibit 14?
11 **A. It is my declaration in support of opposition**
12 **to Plaintiff's motion for preliminary injunction.**
13 Q. And so is it accurate that this is one of
14 three declarations you have prepared on behalf of
15 Imperative Care?
16 MR. BELAIR: Objection, vague.
17 THE WITNESS: Yes, I believe there were two
18 prior.
19 BY MR. KEESE:
20 Q. And those two prior declarations, were each of
21 those for one of the IPR matters?
22 **A. Yes, two separate IPRs.**
23 Q. Okay. One declaration for each of the two
24 separate IPRs, correct?
25 **A. I don't remember if it was one declaration or**

23

1 **two. There were two separate IPRs that I worked on.**
2 Q. Okay. And when you prepared your declaration,
3 what materials did you consider?
4 **A. I considered all of the materials shown in the**
5 **exhibits. I believe there were also some other patents**
6 **that we reviewed and chose not to include --**
7 Q. Okay.
8 **A. -- in this declaration.**
9 Q. Do you remember which patents you reviewed and
10 chose not to include?
11 **A. I don't.**
12 Q. Okay. And when you said "all of the materials
13 shown in the exhibits," were you referring to your table
14 of exhibits?
15 **A. Table of exhibits, page 1 -- it's page 4 of**
16 **this overall exhibit.**
17 Q. Okay. And to your knowledge, are there any
18 other materials referenced in the declaration, other
19 than the exhibits in that table that you reviewed?
20 **A. I don't know of any.**
21 Q. Okay. If I could have you turn to the last
22 page of this exhibit, is that your signature?
23 **A. It's my electronic signature.**
24 Q. Okay. That's how you signed this declaration
25 in this case?

24

1 **A. Yes.**
2 Q. Okay. And did you sign this declaration on
3 September 9th, 2024, in Glen Ellen, California?
4 **A. Yes.**
5 Q. And Glen Ellen, is that where you live, sir?
6 **A. Yes.**
7 Q. To your knowledge, is everything in this
8 declaration true and correct?
9 **A. Yes.**
10 Q. Are there any corrections that you would like
11 to make before we begin?
12 **A. There were a few corrections I noticed**
13 **yesterday in reviewing the document.**
14 Q. Uh-huh.
15 **A. They related to at least two locations where I**
16 **listed the '921 as to the '910 patent, or vice versa.**
17 Q. Okay. Do you remember where those locations
18 are?
19 **A. I don't --**
20 Q. Okay.
21 **A. -- exactly. We could look in more detail**
22 **during a break, if necessary.**
23 Q. Yeah. Well, okay. If you -- if you have
24 corrections to make, let me know, but, you know, we'll
25 proceed as we are going, and there may be some questions

25

1 directed to that, and you can clear it up then.
2 **A. Okay.**
3 Q. Did you reuse sections of your declarations
4 from the IPRs in drafting this declaration?
5 MR. BELAIR: Objection, vague.
6 THE WITNESS: There were certainly
7 commonalities from the IPRs to what is in this
8 declaration, so some of the content is the same, sure.
9 BY MR. KEESE:
10 Q. And what commonalities are you referring to?
11 **A. I don't remember without looking at the IPRs**
12 **and comparing them side by side. I don't remember**
13 **exactly.**
14 Q. For instance, when you talk about challenged
15 claims or representative claims, does that language come
16 from an IPR proceeding?
17 **A. I'm not sure.**
18 Q. Okay.
19 **A. Could it be warmer in here? I usually don't**
20 **say that. I have got my jacket on.**
21 MS. TESSAR: Oh, let's go off the record for a
22 second.
23 THE VIDEOGRAPHER: Sure. We're going off the
24 record at 9:37.
25 (Whereupon, a recess was taken.)

26

1 THE VIDEOGRAPHER: All right. We are back on
2 at 9:38.
3 BY MR. KEESE:
4 Q. And you said you reviewed the declaration of
5 Mr. Brown in preparing this declaration that you signed,
6 correct?
7 **A. I don't remember if it was before or after I**
8 **completed the declaration.**
9 Q. Okay. Did you modify what you said in this
10 declaration based upon the points that Mr. Brown made in
11 his declaration, to your knowledge?
12 MR. BELAIR: Objection, vague.
13 THE WITNESS: I'm not sure that I reviewed it
14 before --
15 BY MR. KEESE:
16 Q. Okay.
17 **A. -- I even wrote this. I don't believe I made**
18 **any changes based upon that declaration, whenever I**
19 **reviewed it.**
20 Q. Okay. Do you understand that the purpose of
21 an opposition brief to a motion for preliminary
22 injunction is to respond to the arguments that the
23 moving party had previously made?
24 **A. I'm not quite clear on the question.**
25 Q. Okay. You said that you had not reviewed

27

1 Inari's motion for preliminary injunction, correct?
2 **A. If you could show me the document, maybe I'll**
3 **remember if I reviewed it or not.**
4 Q. Okay. But you don't recall reviewing Inari's
5 motion for preliminary injunction?
6 **A. I don't recall reviewing it.**
7 Q. Okay. And you don't recall whether you
8 reviewed Mr. Brown's declaration in support of that
9 motion before you signed your declaration in this case?
10 **A. I don't remember.**
11 Q. Okay. And so is it accurate that you are not
12 able to say, as you sit here now, whether you were
13 responding to the arguments that were made in Inari's
14 motion for preliminary injunction?
15 MR. BELAIR: Objection, mischaracterizes,
16 vague.
17 THE WITNESS: Can you repeat the question?
18 I'm not --
19 BY MR. KEESE:
20 Q. Yeah. And so, is it accurate that you are not
21 able to say, as you sit here now, whether you were
22 responding to the arguments that were made in Inari's
23 motion for preliminary injunction?
24 MR. BELAIR: Same objection.
25 THE WITNESS: I was asked to put together the

28

1 declaration regarding the claims in question and the
2 patentability of those claims. That was the focus of my
3 declaration.
4 ///
5 BY MR. KEESE:
6 Q. And which are the claims in question you're
7 referring to?
8 **A. I believe there's two claims on the -- well,**
9 **maybe we should look --**
10 Q. Yeah.
11 **A. -- in detail. There's three claims total, one**
12 **claim on the '910 patent and two on the '921 patent, I**
13 **believe.**
14 Q. Okay. And to shortcut that, to your
15 knowledge, are you referring to claim 1 of the '910 and
16 claims 1 and 2 of the '921 patent?
17 **A. Yes.**
18 Q. Okay. Did you select the prior art
19 references, or alleged prior art references, that you
20 discuss in your declaration?
21 **A. Those references and others were provided by**
22 **counsel.**
23 Q. Okay. So, you didn't find any of the
24 references, correct?
25 **A. I didn't do a Google patent search myself to**

29

1 **find these references.**
2 Q. Okay. Did you conduct any other patent
3 searches or other searches for prior art?
4 **A. I recall doing some Google patent searches for**
5 **some keywords.**
6 Q. But you didn't use any of the references that
7 you found in those searches?
8 **A. I don't remember if we did or not.**
9 Q. Okay. You said that you had not reviewed
10 Mr. Merritt's declaration in preparing your declaration.
11 Have you reviewed it since?
12 **A. No. I don't know what that declaration is.**
13 Q. And so I assume it's fair to say, and correct
14 me if I'm wrong, that you have not reviewed
15 Mr. Merritt's deposition transcript in this case either,
16 correct?
17 **A. I have not reviewed any other deposition --**
18 Q. Okay.
19 **A. -- documents.**
20 Q. So, you've said twice now you've not reviewed
21 any other deposition documents, and I just want to make
22 clear: Have you reviewed any deposition transcripts in
23 this matter?
24 **A. No.**
25 Q. Okay. If I can have you look at paragraph 15

30

1 of your declaration.
2 Let me know when you've had a chance to look
3 at that.
4 **A. Yes.**
5 Q. And in paragraph 15, you state that you "have
6 also relied on my education, training, and experience;
7 my knowledge of pertinent literature in the field of the
8 '921 and '910 patents."
9 Is that correct?
10 **A. Yes, that's what I wrote, paragraph 15.**
11 Q. Yeah. What is the pertinent field of the '910
12 patent?
13 **A. The '910 patent is the -- the field is**
14 **aspiration catheters.**
15 Q. And so, your understanding of the field of the
16 '910 patent, it is aspiration catheters, generally?
17 **A. Yes.**
18 Q. Okay. How did you ascertain the pertinent
19 field?
20 **A. I read the patent.**
21 Q. What is your experience in the field of
22 aspiration catheters?
23 **A. No direct experience with aspiration**
24 **catheters.**
25 Q. Uh-huh.

31

1 **A. Lots of experience with other types of**
2 **catheters used in the cardiovascular system.**
3 Q. Okay. What is the pertinent literature in the
4 field of aspiration catheters that you are aware of?
5 MR. BELAIR: Objection, vague.
6 THE WITNESS: Primarily, the patents shown in
7 the exhibits -- I'm sorry, in the table of contents,
8 table of exhibits.
9 BY MR. KEESE:
10 Q. Uh-huh.
11 **A. Primarily those.**
12 Q. And what is the pertinent field of the '921
13 patent?
14 **A. Well, the claims at issue in the '921 patent**
15 **relate to a hemostasis valve.**
16 THE REPORTER: I'm sorry, "relate to"...?
17 THE WITNESS: A hemostasis valve.
18 BY MR. KEESE:
19 Q. Is it your understanding that the '921 patent
20 relates to hemostasis valves for aspiration
21 thrombectomy?
22 MR. BELAIR: Objection, vague.
23 THE WITNESS: Let me look at the -- based on
24 the claim, it seems more -- let me look at the claim for
25 the -- this '921 patent.

32

1 BY MR. KEESE:
2 Q. Yeah, and I just want to make clear, I'm not
3 asking the question about the claim language only. I'm
4 asking about the disclosure of the '921 patent.
5 Does the disclosure of the '921 patent relate
6 to hemostasis valves for aspiration thrombectomy?
7 MR. BELAIR: Objection, vague.
8 THE WITNESS: I'm not sure about disclosure,
9 what you mean by "disclosure."
10 BY MR. KEESE:
11 Q. Oh, okay. What is your understanding of the
12 parts of a patent?
13 MR. BELAIR: Objection, vague.
14 THE WITNESS: The specification --
15 BY MR. KEESE:
16 Q. Okay.
17 **A. -- portion? Is that -- is that what you mean**
18 **by disclosure, or the specification, or is it --**
19 Q. Right. So, generally, we would refer to the
20 disclosure or the specification in the claims, and so --
21 is your under --
22 Oh, okay. Is it your understanding that the
23 specification of the '921 patent relates to hemostasis
24 valves for aspiration thrombectomy?
25 MR. BELAIR: Objection, vague.

33

1 THE WITNESS: I believe it's not specific
2 to -- the claims are not specific to aspiration
3 catheters. Hemostasis valves are used on multiple types
4 of catheters.
5 BY MR. KEESE:
6 Q. Okay. And how did you ascertain the pertinent
7 field for the '921 patent?
8 **A. By reading the patent.**
9 Q. Okay. And what is your experience in the
10 field of hemostasis valves?
11 **A. Almost all of the catheters that I have**
12 **developed have had a hemostasis valve on the proximal**
13 **end of the device.**
14 Q. What types of hemostasis valves did you use on
15 the catheters at the proximal end of the device?
16 MR. BELAIR: Objection, vague.
17 THE WITNESS: Typically, they were
18 rotating hemostatic -- hemostatic valves or passive
19 sealing valves.
20 BY MR. KEESE:
21 Q. And when you refer to "passive sealing
22 valves," are those silicon bileaflet style valves?
23 THE REPORTER: "Silicon"...?
24 BY MR. KEESE:
25 Q. Bileaflet.

34

1 **A. That's not how I would characterize it.**
2 Q. Okay. What are you referring to when you
3 refer to "passive sealing valves"?
4 **A. A valve that closes on its own when there's no**
5 **device through the valve.**
6 Q. And those passive sealing valves that you used
7 on the catheters you designed, what were the designs of
8 those passive valves?
9 **A. I would describe some of them as off-the-shelf**
10 **rotating hemostatic valves, and one of them that we**
11 **designed for the largest diameter catheter of the**
12 **MitraClip was kind of a two-part valve with a slit and**
13 **an opening proximal to the slit.**
14 Q. Okay. And so what was the largest diameter
15 catheter of the MitraClip?
16 **A. 24 French.**
17 Q. Okay. And that was the steerable guide
18 catheter?
19 **A. Yes.**
20 Q. And the hemostasis valve that you use for that
21 design had a slit that you would insert the catheter
22 through?
23 **A. The hemostatic valve had two segments, one of**
24 **which was a slit, one of which was a round hole opening.**
25 Q. And what was the slit made of?

35

1 **A. The sealing portion of the valve was a type of**
2 **silicon, I believe. I don't recall exactly.**
3 Q. Okay. In the field of hemostasis valves, what
4 pertinent literature are you aware of?
5 MR. BELAIR: Objection, vague.
6 THE WITNESS: I'm certainly aware of the
7 literature that we showed in the exhibits and attached
8 here to the declaration.
9 BY MR. KEESE:
10 Q. Did you rely on any other pertinent literature
11 than the exhibits attached to your declaration?
12 **A. I don't believe so.**
13 Q. Okay. Mr. Thornton, are you an expert in
14 treating pulmonary embolism?
15 MR. BELAIR: Objection, vague.
16 THE WITNESS: In what way? I'm not a doctor,
17 no.
18 BY MR. KEESE:
19 Q. Okay. Are you an expert in systems designed
20 to treat pulmonary embolism?
21 **A. I've not designed devices to treat pulmonary**
22 **embolism, no.**
23 Q. Have you designed or worked on any devices for
24 treating venous thrombo -- thrombo -- sorry.
25 Have you designed or worked on devices for

36

1 treating venous thromboembolism?
2 **A. No.**
3 Q. Okay. And you said you weren't a doctor; it's
4 correct that you're not a clinician of any kind?
5 **A. That's correct.**
6 Q. You don't hold a medical degree?
7 **A. That's correct.**
8 Q. And you only have a bachelor's degree,
9 correct?
10 **A. That's true.**
11 Q. Okay. Have you ever observed a clinical case
12 treating pulmonary embolisms?
13 **A. No.**
14 Q. Do you have any experience with systems
15 designed to treat deep vein thrombosis?
16 **A. I have not designed any devices for treating**
17 **deep vein thrombosis.**
18 Q. And have you worked on any devices used for
19 thrombectomy?
20 **A. No, I have not designed or worked on devices**
21 **for thrombectomy.**
22 Q. Have you ever designed an aspiration catheter?
23 **A. No.**
24 Q. Okay. And you may have somewhat answered
25 this, but have you ever designed a catheter greater than

37

1 16 French in size?
2 **A. Yes.**
3 Q. And which catheter was that?
4 **A. There was a stent graft for treating abdominal**
5 **aortic aneurysms that was compatible with an 18 French**
6 **sheath to deliver the system. Also, the MitraClip, as I**
7 **mentioned before, the outermost catheter is 24 French.**
8 Q. And both of those systems were for delivering
9 devices into the cardiovascular system, is that correct?
10 **A. Yes, those catheters were used to deliver an**
11 **implant in both cases.**
12 Q. Okay. Have you ever designed a hemostasis
13 valve?
14 **A. I was the VP of R&D when we -- when I assigned**
15 **an engineer to develop a hemostasis valve for that**
16 **24 French steerable guide catheter.**
17 Q. And was that a custom hemostasis valve design?
18 **A. Yes, we designed it ourselves.**
19 THE REPORTER: I'm sorry, "we designed it"...?
20 THE WITNESS: Ourselves.
21 THE REPORTER: Thank you.
22 BY MR. KEESE:
23 Q. And prior to this case, what types of
24 hemostasis valves were you aware of for medical
25 applications?

38

1 **A. Several types.**
2 Q. Okay. And going back to the previous
3 discussion of the hemostasis valve on the 24 French
4 catheter and the MitraClip, you didn't personally design
5 that hemostasis valve, correct?
6 **A. No. I had an engineer that did the detail**
7 **design work, but I was familiar with the design and**
8 **the --**
9 Q. Did you specify the design that he was
10 supposed to create?
11 **A. No. I think there was latitude to look at**
12 **multiple design options.**
13 Q. Okay. The MitraClip device, where were you
14 working on that project?
15 **A. In what city?**
16 Q. No, I'm sorry. What company?
17 **A. The company was called Evalve.**
18 Q. Uh-huh.
19 **A. Later acquired by Abbott.**
20 Q. And how many people reported to you on that
21 project?
22 **A. Different numbers at different times. During**
23 **the project, I was the head of R&D for 12 years. So,**
24 **we --**
25 Q. Okay.

39

1 **A. -- grew the department substantially over**
2 **those 12 years.**
3 Q. At the largest head count, well, how many
4 people were reporting to you?
5 **A. I don't remember exactly. Maybe 30, 35.**
6 Q. And going back to the types of hemostasis
7 valves you were aware of before this case, were you
8 aware of Tuohy Borst style valves?
9 **A. Yeah, that's a term that I equate to a**
10 **rotating hemostatic valve.**
11 Q. And you were aware of passive valves with a
12 split to close around a catheter, correct?
13 **A. There were several off-the-shelf type valves**
14 **like that in existing sheaths that I was aware of.**
15 Q. What other hemostasis valve designs had you
16 worked with prior to this case?
17 **A. I recall that we, the team, prototyped pinch**
18 **valves, mechanical pinch valves and a rotating tube**
19 **valve.**
20 Q. And the mechanical pinch valve, how did that
21 work?
22 **A. We were prototyping a soft silicone tube that**
23 **would be pinched by, in its simplest form, a pair of**
24 **hemostats or ultimately with a built-in clamp system.**
25 Q. So, a clamp or some rigid material would be

40

1 pushed against the sides of the silicon tube to compress
2 and close it? Is that right?
3 **A. That's probably how I would describe it.**
4 Q. Okay. And the rotating tube valve, how did it
5 function?
6 **A. It was a hollow flexible tube, and one end**
7 **would be rotated relative to the other in order to**
8 **compress down the inside diameter.**
9 Q. So, you would fix and rotate one end of it,
10 and it would kind of twist that hollow tube to seal it?
11 **A. It would twist the tube to decrease diameter**
12 **and seal, yes.**
13 Q. Okay. Had you ever heard of a Garrot-style
14 hemostasis valve before this case?
15 MR. BELAIR: Objection, vague.
16 THE WITNESS: It's a term that I was not
17 familiar with.
18 BY MR. KEESE:
19 Q. Are you aware that was a name Inari coined to
20 refer to its hemostasis valve design?
21 **A. Only when I saw it in a patent specification,**
22 **I believe.**
23 MR. BELAIR: And let me interject an objection
24 here. Sorry, we're going a little too quickly.
25 THE WITNESS: Sorry.

41

1 MR. BELAIR: That's okay. I just want to
2 object that it assumes facts and lacks foundation.
3 BY MR. KEESE:
4 Q. What is your understanding of what the term
5 Garrot-style hemostasis valve means?
6 **A. Actually, the first time I heard the term was**
7 **reading it in the, I think -- I believe it was the '921**
8 **patent.**
9 Q. Uh-huh. And what does that refer to, in the
10 '921 patent?
11 **A. I would have to look at it to refresh my**
12 **memory.**
13 Q. Okay. Well, I'm sure you will get the chance
14 today.
15 Mr. Thornton, I'm going to show you what is
16 being marked as Exhibit 15.
17 (Whereupon, Exhibit 15 was marked for
18 identification.)
19 MR. BELAIR: Sorry, before we go, are we going
20 to use new exhibit numbering or just use the same
21 exhibit numbering that we have here already?
22 MR. KEESE: So, I've been -- I've been marking
23 deposition exhibits as a Deposition Exhibit Number, so
24 this -- I'll clear it up on the record.
25 MR. BELAIR: Yeah, I just want to make sure

42

1 that the record is clear this is an exhibit submitted
2 with --
3 MR. KEESE: Correct.
4 MR. BELAIR: I presume this was with the
5 opposition, but --
6 MR. KEESE: Yeah, yep, yep.
7 BY MR. KEESE:
8 Q. Mr. Thornton, have you had a chance to look at
9 Exhibit 15, Deposition Exhibit 15?
10 **A. Yes.**
11 Q. And what is Deposition Exhibit 15?
12 **A. It is my resumé as of January 2022.**
13 Q. And did you submit what I have marked as
14 Deposition Exhibit 15 as one of the exhibits to your
15 declaration in this litigation?
16 **A. I'm not sure. I would have to check if it's**
17 **in here.**
18 **It's listed on the table of contents as**
19 **"Experience and Qualifications."**
20 Q. Actually, I think if you go to the next page,
21 you may -- no, the -- sorry, two more pages back, you
22 may see it there.
23 **A. On the table of exhibits, it's listed as**
24 **Exhibit 1035, "Resumé of Troy Thornton."**
25 Q. Right, and if you flip back to the first page

43

1 of this, do you see that this is marked as Exhibit 1035,
2 and it has a document number stamp of Document 36-21?
3 **A. Yes.**
4 Q. Okay. And this resumé provides your full
5 qualifications as an expert in this case, is that
6 correct?
7 MR. BELAIR: Object, vague.
8 THE WITNESS: Yeah, this provides my education
9 and work experience since college.
10 BY MR. KEESE:
11 Q. Are there any other qualifications that
12 qualify you as an expert in this case that are not in
13 your resumé?
14 MR. BELAIR: Object, vague.
15 THE WITNESS: Do you have examples of -- that
16 you're looking for?
17 BY MR. KEESE:
18 Q. No, I'm asking you.
19 **A. Can you ask that again, please?**
20 Q. Yeah.
21 Are there any additional qualifications not
22 listed in your resumé that qualify you to be an expert
23 in this case?
24 **A. It's hard to put all of one's experience on**
25 **two pieces of paper. I think it pretty well covers my**

44

1 **experience that qualifies me to be an expert in this**
2 **case.**
3 Q. Great. And this resumé on page 1 lists your
4 current position; is that correct?
5 **A. Yes, I am providing consulting services for**
6 **medical device companies at this time.**
7 Q. So, your current -- your current --
8 potentially "position" is the wrong word.
9 Your current work is consulting work; is that
10 correct?
11 **A. Yes.**
12 Q. And is there a particular company or firm that
13 you provide your consulting services through?
14 **A. No. It's through myself.**
15 Q. Okay. So, just as an individual?
16 **A. That's correct.**
17 Q. And what types of consulting work do you do?
18 **A. I've been consulting on research and**
19 **development activities, animal study activities, also**
20 **business development, due diligence activities for**
21 **different companies.**
22 Q. And what percentage of your consulting work
23 relates to intellectual property matters?
24 **A. Very little.**
25 Q. Okay. So, less than 10 percent?

45

1 **A. Yes.**
2 Q. Okay. Do you anticipate that the overall
3 amount of consulting work that you do will grow related
4 to this case and IPRs?
5 MR. BELAIR: Objection, vague.
6 THE WITNESS: I don't know.
7 BY MR. KEESE:
8 Q. Okay. And where did you work before coming a
9 consultant?
10 **A. Most recently, I was with Abbott Ventures, a**
11 **part of Abbott Incorporated, Abbott Laboratories;**
12 **focused on early-stage investment opportunities and**
13 **doing technical diligence for potential investments.**
14 Q. Okay. And were any of the potential
15 investments you were looking at with Abbott Ventures
16 related to thrombectomy?
17 **A. I believe we did look at some -- looked at the**
18 **field at some level but not -- not in great detail.**
19 Q. And did you evaluate any aspiration catheter
20 systems in your work at Abbott Ventures?
21 **A. I don't believe so.**
22 Q. And when you say you looked at the field at
23 some level relating to thrombectomy, what did you learn
24 about the field?
25 **A. I think the focus of that activity was**

46

1 **primarily another person and looking at more of the**
2 **market size and market potential.**
3 Q. Okay.
4 **A. I wasn't directly involved in that.**
5 Q. Okay. And before you were at Abbott Ventures,
6 you were the vice president at Evalve; is that correct?
7 **A. Abbott and Evalve before that, I was a vice**
8 **president for both companies --**
9 Q. Okay.
10 **A. -- yes.**
11 Q. Ah, okay.
12 And that was related to the MitraClip device,
13 correct?
14 **A. Yes, primarily related to the MitraClip**
15 **device.**
16 Q. Were there any other devices you were working
17 on as a vice president at Evalve and then at Abbott?
18 **A. We certainly filed patents and had**
19 **brainstorming sessions in other areas, but the vast**
20 **majority of the effort was focused on one product, the**
21 **MitraClip system.**
22 Q. It's fair to say that commercializing a
23 product can often be much more difficult than
24 brainstorming the ideas?
25 **A. Yeah, I'm not sure.**

47

1 Q. Okay. Before you were at MitraClip, you were
2 at Prograft, is that correct?
3 **A. Before I was at Evalve, I was the project**
4 **manager at Prograft Medical, yes.**
5 Q. Okay. Sorry. Let me re-ask the actual
6 question that I should have asked, which is: Before you
7 moved on to Evalve, you were a project manager at
8 Prograft; is that correct?
9 **A. W.L. Gore and then Prograft before that.**
10 Q. Okay.
11 **A. So, I worked for W.L. Gore for a couple of**
12 **years after they acquired Prograft.**
13 Q. Okay. And what products were you working
14 at -- working on -- sorry.
15 What products were you working on at Prograft
16 and then at W.L. Gore?
17 **A. Primarily worked on a -- an abdominal aortic**
18 **aneurysm stent graft device.**
19 Q. And was that the device that you mentioned
20 earlier today?
21 **A. I mentioned it with respect to having**
22 **18 French sheath compatibility.**
23 Q. Okay. And, again, that Prograft product
24 related to the modular stent grafts, that didn't involve
25 any thrombectomy products, correct?

48

1 **A. It was not related to thrombectomy, no.**
2 Q. And it wasn't related to aspiration catheters
3 either?
4 **A. No. It was related to treating abdominal**
5 **aortic aneurysms.**
6 Q. Okay. And before you joined Prograft, you
7 were at Quidant; is that correct?
8 **A. Guidant. Advanced Cardiovascular Systems,**
9 **from '89 to '95, that was acquired by Guidant.**
10 Q. Okay. And what was the product that you were
11 focused on during your time at Advanced Cardiovascular
12 Systems and then Guidant?
13 **A. I primarily worked on rapid-exchange coronary**
14 **angioplasty balloon catheters, also profusion balloon**
15 **catheters used to treat coronary occlusions, coronary**
16 **arterial occlusions.**
17 Q. Okay. And what is a profusion balloon
18 catheter?
19 **A. It's a catheter whereby when the balloon is**
20 **inflated to open the stenosis, it allows blood to flow**
21 **through the catheter so that the balloon can be inflated**
22 **for a longer time period.**
23 Q. Okay. But, again, that wasn't an aspiration
24 catheter, to remove the occlusions?
25 **A. Not an aspiration catheter.**

49

1 Q. Of the 30 or so patents that you have, are any
2 relevant to the subject matter of this case?
3 MR. BELAIR: Objection, vague.
4 THE WITNESS: Yeah, I don't know.
5 BY MR. KEESE:
6 Q. Okay.
7 **A. Let me add, I think some of them are relevant**
8 **from the standpoint of developing catheters to access**
9 **different parts of the vasculature.**
10 Q. Were any of them designed to access the
11 pulmonary vasculature?
12 **A. They weren't used for that application.**
13 Q. Okay.
14 MR. KEESE: All right. Well, I have kept you
15 on for over an hour now, Mr. Thornton. So, why don't we
16 take a ten-minute break?
17 THE WITNESS: Okay.
18 THE VIDEOGRAPHER: All right. We are going
19 off the record at 10:16.
20 (Whereupon, a recess was taken.)
21 THE VIDEOGRAPHER: And we are back on at
22 10:30.
23 BY MR. KEESE:
24 Q. Welcome back, Mr. Thornton.
25 In your declaration, you provide a proposed

50

1 definition for a person of ordinary skill in the art for
2 the '921 patent; is that correct?
3 **A. Yes.**
4 Q. And are you a person of ordinary skill in the
5 art for the '921 patent under your definition?
6 **A. Can we look at that definition?**
7 Q. Sure.
8 **A. Can you ask the question again?**
9 Q. Yeah. Are you a person of ordinary skill in
10 the art for the '921 patent under your definition?
11 **A. So, I defined it in Section D, paragraph 34,**
12 **as "someone with an undergraduate degree in mechanical**
13 **engineering" --**
14 (Reporter requested clarification.)
15 THE WITNESS: Sorry. I'll go a little slower.
16 I'll just read it, "undergraduate degree in
17 mechanical engineering or a related engineering
18 discipline and two to four years of -- I have more
19 experience than what a person of ordinary skill in the
20 art would require, I believe, to -- as related to the
21 '921 patent.
22 BY MR. KEESE:
23 Q. And so, under your definition, anyone with a
24 mechanical engineering or a related engineering degree
25 and two to four years of product design or engineering

51

1 experience is a -- is a person of skill in the art for
2 the '921?
3 **A. That's what I put in my definition, yes.**
4 Q. Did you come up with that definition?
5 **A. Yes.**
6 Q. And under your definition, the product design
7 experience can be related to any product, correct?
8 **A. Engineering product design, mechanical**
9 **engineering design, yes.**
10 Q. So, it could be for road equipment, rather
11 than medical devices?
12 **A. I wouldn't characterize it that way, but I've**
13 **hired engineers from other specialties, aerospace**
14 **engineers, chemical engineers, who have -- who I think**
15 **could design what would be appropriate as a person of**
16 **ordinary skill for the '921 patent.**
17 Q. Is there any type of product design that you
18 think would not qualify someone as a person of ordinary
19 skill in the art for the '921 patent?
20 **A. That's a pretty vague question. Can you be**
21 **more specific?**
22 Q. Well, you identified a person of ordinary
23 skill in the art as having two to four years of product
24 design or engineering experience.
25 So, am I correct that the product design does

52

1 not have to be an engineering product design, under your
2 definition?
3 **A. By "product design," I mean an engineering --**
4 **an engineer designing a product.**
5 Q. And you mean an engineer designing any type of
6 product; is that correct?
7 **A. "Any" is very broad, and the types of**
8 **engineers that we hired to work on medical devices, we**
9 **felt like, were good engineers who could design medical**
10 **devices, if they didn't have that design experience**
11 **before.**
12 Q. Those engineers that you were hiring from
13 other fields, was there any limit on the type of design
14 experience they might have had that would indicate to
15 you that they could design medical devices?
16 **A. I -- I don't know.**
17 Q. Okay. Under your definition of a person of
18 ordinary skill in the art for the '921 patent, a
19 mechanical engineer that designed bubble gum would
20 qualify for -- for two to four years, would qualify as a
21 person of ordinary skill in the art, correct?
22 **A. I don't know that engineers design bubble gum.**
23 **Did I mishear the question?**
24 Q. Absolutely not. Do -- is it your
25 understanding that chemical engineers do design bubble

53

1 gum?
2 **A. I don't know.**
3 Q. Under your definition, somebody who was --
4 actually, let -- let's ask this first:
5 When you refer to a related engineering
6 discipline to mechanical engineering, what does that
7 encompass?
8 **A. I would typically think of biomedical**
9 **engineering as one -- one specialty that -- of the types**
10 **of engineers that we have hired that can do mechanical**
11 **design.**
12 Q. What about a nuclear engineer? Would they
13 qualify?
14 **A. I don't believe I've ever hired a nuclear**
15 **engineer to work on products.**
16 Q. What about a civil engineer?
17 **A. I don't believe I've ever hired a civil**
18 **engineer to work on products.**
19 Q. What about an electrical engineer?
20 **A. I have hired electrical engineers that have**
21 **good mechanical experience to do mechanical-type**
22 **designs.**
23 Q. Under your definition of a person of ordinary
24 skill in the art, would a civil engineer be a related
25 engineering discipline?

54

1 **A. As I said, I've not hired a civil engineer to**
2 **do mechanical engineering design. To me, that's not a**
3 **closely related -- that's not a related engineering**
4 **discipline.**
5 Q. Okay.
6 **A. I didn't say any engineering discipline.**
7 Q. No, I understand. I'm just trying to get
8 at what -- what you view as a related engineering
9 discipline.
10 So, somebody that had a degree in engineering
11 physics, would they have a degree in a related
12 engineering discipline?
13 **A. I'm not familiar with that specialty.**
14 Q. What about somebody with a degree in material
15 sciences?
16 **A. Possibly, if they had mechanical design**
17 **experience as part of their experience.**
18 Q. What about a chemical engineer?
19 **A. I've not hired any chemical engineers to do**
20 **mechanical-type design work.**
21 Q. Under your definition, does the product design
22 experience have to be mechanical engineering product
23 design?
24 **A. Not necessarily.**
25 Q. Okay. So, I'll ask, what type of product

55

1 design experience would not qualify you as a person of
2 ordinary skill in the art for the '921 patent?
3 MR. BELAIR: Objection, vague.
4 THE WITNESS: Yeah, I don't know. There are
5 probably, you know, many types of engineers that
6 would -- would not have the appropriate experience or
7 educational background to do mechanical designs.
8 BY MR. KEESE:
9 Q. How is the Court supposed to determine whether
10 a person would -- or a category of persons would or
11 would not be a person of ordinary skill in the art under
12 your definition if it's not clear what types of product
13 designs would qualify them?
14 MR. BELAIR: Calls for speculation.
15 THE WITNESS: Yeah, I don't know.
16 BY MR. KEESE:
17 Q. Okay. You also provide a definition of a
18 person of ordinary skill in the art for the '910 patent;
19 is that correct?
20 **A. Yes.**
21 Q. And for the '910 patent, you say that the
22 experience would have to relate to catheter design; is
23 that correct?
24 **A. Yes. I said that the person should have an**
25 **undergraduate degree in mechanical engineering or a**

56

1 **related engineering discipline and two to four years of**
2 **catheter design experience.**
3 Q. And so, is it your view that the '910 patent
4 is only related to catheters?
5 MR. BELAIR: Objection, misstates.
6 THE WITNESS: Well, catheter -- the focus of
7 the '910 patent certainly includes catheters,
8 one-catheter, two-catheter systems, and that's why I
9 included the need to have some catheter design
10 experience in the definition.
11 BY MR. KEESE:
12 Q. And your definition does not require any
13 thrombectomy design experience, correct?
14 **A. I just listed catheter design experience.**
15 Q. And so that doesn't have to be for
16 thrombectomy, correct?
17 **A. I didn't specify that it had to include**
18 **thrombectomy experience.**
19 Q. And the catheter design experience doesn't
20 have to be for aspiration catheters, correct?
21 **A. I don't believe it would need to be that**
22 **specific, no.**
23 Q. And, again, how did you come up with your
24 definition for a person of ordinary skill in the art for
25 the '910 patent?

57

1 **A. Based upon my experience of developing**
2 **catheters and hiring engineers to develop catheters.**
3 Q. And none of that experience was for
4 thrombectomy catheters, correct?
5 **A. Right. I have not worked directly on**
6 **thrombectomy catheters.**
7 Q. Do you agree that the '910 patent relates to
8 aspiration catheters, rather than other types of
9 catheters?
10 **A. The focus in the patent in the specification**
11 **is on aspiration catheters.**
12 Q. And the focus of the '910 patent is on
13 aspiration catheters for thrombectomy; is that correct?
14 **A. Yes.**
15 Q. And specifically, aspiration catheters for
16 thrombectomy of pulmonary embolism, correct?
17 MR. BELAIR: Object, vague.
18 THE WITNESS: Certainly, the claim -- claim 1
19 of the '910 patent is -- has limitations for pulmonary
20 embolism.
21 BY MR. KEESE:
22 Q. Do you qualify as a person of ordinary skill
23 in the art under Mr. Brown's definition of a person of
24 ordinary skill in the art?
25 MR. BELAIR: Object. Where's Mr. Brown's

58

1 definition?
2 MR. KEESE: Well, you've reviewed Mr. Brown's
3 declaration, correct?
4 MR. BELAIR: Object, same objections.
5 THE WITNESS: Some time ago. I don't remember
6 what his definition was.
7 BY MR. KEESE:
8 Q. Would you qualify as a person of ordinary
9 skill in the art under a definition of a person with a
10 bachelor of science degree in engineering or an
11 equivalent field with two or more years -- or, two to
12 four years of academic or industry experience in the
13 mechanical thrombectomy industry or comparable industry
14 experience who would, where necessary desire -- or
15 desired, work or consult --
16 THE REPORTER: I'm sorry, I lost you after
17 "comparable industry experience."
18 BY MR. KEESE:
19 Q. -- who would, where necessary or desired, work
20 or consult with others, including a physician to develop
21 thrombectomy devices?
22 MR. BELAIR: Let me object as vague.
23 Can we put the language in front of us so he
24 can actually see what you're saying? That was like a
25 ten-line question.

59

1 THE WITNESS: Yeah, I would like to see the
2 document.
3 BY MR. KEESE:
4 Q. You haven't offered an opinion that you would
5 be a person of ordinary skill in the art under the
6 definition that Mr. Brown proffered, correct?
7 **A. I'm not sure what his definition is.**
8 Q. Do you have any industry experience in
9 mechanical thrombectomy?
10 **A. No, I've not designed catheters for a**
11 **mechanical thrombectomy.**
12 Q. It is fair to say you're not an interventional
13 radiologist or pulmonologist either?
14 **A. Correct.**
15 Q. Your declaration does not dispute whether
16 Mr. Brown's definition of a person of ordinary skill in
17 the art is appropriate or not; is that right?
18 **A. I didn't look at his definition when I wrote**
19 **mine.**
20 Q. Great. And if the Court accepts a definition
21 of ordinary skill in the art that requires two to four
22 years of academic or industry experience in the
23 mechanical thrombectomy industry, or comparable industry
24 experience, you would not qualify --
25 MR. BELAIR: Object, misstates --

60

1 BY MR. KEESE:
2 Q. -- correct?
3 MR. BELAIR: -- and it's an incomplete
4 hypothetical.
5 THE WITNESS: The second part of what you said
6 was "equivalent industry experience"? Could you repeat
7 that part?
8 BY MR. KEESE:
9 Q. I said if the Court requires a person of
10 ordinary skill in the art to have two to four years of
11 academic or industry experience in the mechanical
12 thrombectomy industry, or a comparable industry
13 experience, would you qualify as a person of ordinary
14 skill in the art under that definition?
15 MR. BELAIR: Same objection.
16 THE WITNESS: I certainly believe I have
17 comparable engineering experience.
18 BY MR. KEESE:
19 Q. To mechanical thrombectomy?
20 MR. BELAIR: Misstates the question.
21 THE WITNESS: It says "or," I believe. "Or
22 comparable industry experience," I believe is what you
23 said; is that correct?
24 BY MR. KEESE:
25 Q. Well, I'm asking you whether you have

61

1 comparable industry experience to mechanical
2 thrombectomy.
3 MR. BELAIR: Same objections.
4 THE WITNESS: Yes, I believe so.
5 BY MR. KEESE:
6 Q. Okay. What is that comparable industry
7 experience that you believe you have?
8 **A. Developing catheters for cardiovascular use**
9 **in -- from small diameters to large diameters, used in**
10 **multiple locations throughout the body.**
11 Q. Is it accurate that your declaration does not
12 respond to Mr. Brown's proposed definition of a person
13 of ordinary skill in the art?
14 MR. BELAIR: Objection, vague.
15 THE WITNESS: Yes, as I said before, or maybe
16 read back what I said before. Can we read back what I
17 said before in response to the same question?
18 BY MR. KEESE:
19 Q. Is it accurate that your declaration does not
20 respond to Mr. Brown's proposed definition of a
21 person -- person of ordinary skill in the art?
22 **A. I think I responded to the question before. I**
23 **said I did not look at or have his definition when I**
24 **wrote my definitions of person of ordinary skill in the**
25 **art.**

62

1 Q. Okay. If I could have you look at paragraph
2 13 of your declaration.
3 Paragraph 13 is a list of the topics you offer
4 opinions on in this declaration; is that correct?
5 **A. Yes.**
6 Q. So, you offer opinions on the subject matter
7 described and claimed in the '910 -- '910 and '921
8 patents?
9 **A. Yes.**
10 Q. And you offer testimony regarding the level of
11 ordinary skill in the art pertaining to the '910 and
12 '921 patents?
13 **A. Yes.**
14 Q. You offer opinions regarding the teachings of
15 the prior art?
16 **A. Yes.**
17 Q. And is that the prior art generally or
18 specific prior art references?
19 **A. It's specific to the references provided in**
20 **the -- or referenced in the declaration.**
21 Q. And, finally, you say that you offer opinions
22 regarding whether claims 1 and 10 of the '921 patent and
23 claim 1 of the '910 patent would have been obvious to a
24 person of ordinary skill in the art at the time of the
25 alleged invention, in view of the prior art?

63

1 **A. Yes.**
2 Q. And so that's the sum of the opinions that you
3 are offering, correct?
4 MR. BELAIR: Objection, vague.
5 THE WITNESS: And whatever else is in this
6 declaration that may not have been covered under that
7 Section 13.
8 BY MR. KEESE:
9 Q. Did you offer any opinions regarding
10 anticipation by prior art?
11 MR. BELAIR: Objection, vague.
12 THE WITNESS: Certainly, we have -- I have
13 this in the declaration in multiple locations, I
14 believe.
15 BY MR. KEESE:
16 Q. You have what in the declaration in multiple
17 locations?
18 **A. Discussing prior art and how it pertains to**
19 **these patents.**
20 Q. But have you offered an opinion that any of
21 the prior art anticipates claim 1 or claim 10 of the
22 '921 or claim 1 of the '910 patent?
23 **A. I believe so.**
24 Q. Which claims do you opine are anticipated?
25 **A. I think we need to go through them in detail.**

64

1 Q. Did you offer any opinions on infringement or
2 non-infringement?
3 **A. No, I wasn't asked to consider infringement as**
4 **part of this declaration.**
5 Q. And so, you aren't offering any opinion that
6 the Symphony product does not infringe the '910 patent,
7 right?
8 MR. BELAIR: Objection, vague, to the extent
9 it misstates the document.
10 THE WITNESS: Yeah, this document was
11 around -- was not focused on infringement. I have not
12 done infringement analysis.
13 BY MR. KEESE:
14 Q. And the same is true of the '921 patent; you
15 haven't offered any opinions that the Symphony does not
16 infringe the '921 patent. Is that correct?
17 **A. Correct, I have not -- this is not an**
18 **infringement analysis.**
19 Q. And are you familiar with how the Symphony
20 product works?
21 MR. BELAIR: Objection, vague.
22 THE WITNESS: Which aspect of the product?
23 BY MR. KEESE:
24 Q. Are you familiar with any documents describing
25 the Symphony design?

65

A. Yes. I've included some photographs focused on the valve, the valve area within the handle.
Q. Okay. And have you reviewed any documents describing the telescoping catheters of the Symphony design?
MR. BELAIR: Objection, assumes facts, lacks foundation.
THE WITNESS: I've reviewed the patents related to, you know, one catheter system being inserted into the other catheter system, the '910 patent.
BY MR. KEESE:
Q. So, you reviewed the '910 patents to describe the telescoping catheters of the Symphony design?
MR. BELAIR: Misstates the testimony.
THE WITNESS: Yeah, I'm not sure I've used it for telescoping.
BY MR. KEESE:
Q. Okay.
A. There's one catheter inside the other. I'm not sure what telescoping means in your definition, but --
Q. Okay. Are you aware of whether Imperative Care made any non-infringement arguments in its opposition brief?
A. I'm not.

66

Q. So, it's fair to say you aren't aware of whether there's any tension between the invalidity arguments you put forth and the non-infringement arguments that Imperative Care made?
MR. BELAIR: Objection, vague.
THE WITNESS: Yeah, I'm not sure what the question is.
BY MR. KEESE:
Q. Is it fair to say that you aren't aware of whether there's a tension between the invalidity arguments that you offer in your declaration and the non-infringement arguments that Imperative Care may have made in its opposition brief?
MR. BELAIR: Objection, vague, misstates the prior testimony.
THE WITNESS: I have not seen the opposition brief, so I'm not aware conflicts or questions related to that.
BY MR. KEESE:
Q. Okay. So, you're not aware of whether there are or are not any conflicts or tensions, correct?
MR. BELAIR: Asked and answered.
THE WITNESS: Same answer I said before.
BY MR. KEESE:
Q. So, you said that you're not aware of any

67

conflicts or questions related to that.
I guess what I'm asking is, is it true that you aren't able to say whether there are or are not any conflicts or tensions?
MR. BELAIR: Objection, vague.
THE WITNESS: I haven't seen the document you're referring to. I can't respond any more than that.
BY MR. KEESE:
Q. Okay. Could you turn to paragraph 30 of your declaration, Mr. Thornton.
And what do you have in paragraph 30 of your declaration?
A. It says that, "The obviousness analysis must also consider whether there are additional factors that would indicate that the invention would not have been obvious," and I list the factors, which are legal -- legal factors, as -- as I understand it.
Q. So, this is a list of some of the factors regarding secondary considerations bearing on obviousness, correct?
MR. BELAIR: Objection to the extent it misstates the contents of the document.
THE WITNESS: I'm not sure what "secondary factors" -- the section next talks about secondary

68

considerations, I guess. Section -- Section 5, sorry, talks about secondary considerations.
BY MR. KEESE:
Q. So, you -- you list a number of factors in paragraph 30, correct?
A. Yes.
Q. And those factors relate to secondary considerations of non-obviousness, correct?
A. Yes.
Q. Okay. The first factor that you list is whether there was a long-felt need in the industry; is that correct?
A. Yes.
Q. Did you consider whether there was or was not a long-felt need in the industry for the interventions of the '921 or '910 patents?
A. I mean, I considered these factors overall.
Q. Okay. Do you offer an opinion that there was not a long-felt need in the industry for Inari's inventions?
A. I think we need to go to the section where we talk about these secondary considerations.
Q. Did you gather any facts or evidence to analyze whether there was a long-felt need in the industry?

69

A. Did I gather any facts or evidence? No.
Q. And the second factor that you list is whether there were any unexpected results; is that correct?
A. Yes.
Q. Did you consider this factor?
A. Whether there were any unexpected results?
Q. Correct.
A. Yes.
Q. And did you determine whether there were or were not any unexpected results?
A. Double negative is in there. Can you say that again?
Q. Yeah. Did you determine whether there were any unexpected results?
A. Yes.
Q. Were there any unexpected results?
A. No.
Q. Where do you offer the opinion that there were no unexpected results?
A. Section 5, page 68.
Q. And is it your testimony that you determined that there were no unexpected results?
A. It's my testimony that I'm not aware of any secondary considerations of nonobviousness relating to those claims in question.

70

Q. And with respect to unexpected results, did you determine that there were no unexpected results?
MR. BELAIR: I would just object, the document speaks for itself.
THE WITNESS: Yeah, I'm not aware of any secondary considerations, including the nonobvious results -- or the term you used was, sorry --
BY MR. KEESE:
Q. Unexpected results?
A. Unexpected results.
Q. Did you do an analysis to determine whether there were unexpected results or not?
A. No.
Q. And if you turn back to paragraph 30, and, actually, let me ask a follow-up while you're -- while I'm putting my microphone back on and -- and you're turning back.
Did you gather any facts or evidence to determine whether there were or were not unexpected results?
A. No.
Q. The third factor that you list is skepticism regarding the invention, correct?
A. Yes.
Q. And did you do an analysis to determine

71

whether there was or was not skepticism of the invention?
A. No.
Q. And so, is it true that you didn't gather any facts or evidence to analyze whether there was any skepticism of the invention?
A. That's true.
Q. With respect to the fourth factor, teaching away from the invention, did you perform an analysis to determine whether there was or was not teaching away from the invention?
A. No.
Q. And so you didn't go out and gather any facts or evidence to make that determination, correct?
A. Correct.
Q. There's only a couple of more.
With respect to commercial success, did you consider this factor?
A. Yes, as part of the obviousness, yes.
Q. Did you determine whether Inari's products embodying the '921 or '910 patents have been commercially successful?
MR. BELAIR: Lacks foundation.
THE WITNESS: Yeah, I don't know.
///

72

BY MR. KEESE:
Q. Did you determine whether there had been commercial success or not?
A. No.
Q. Did you investigate whether any products from Inari were or were not commercially successful?
A. No.
Q. And then in terms of praise by others for the invention, did you perform an analysis to determine whether there had been praise for others of the inventions?
A. No.
Q. And the last factor, copying by others, did you do an analysis to determine whether others had copied Inari's innovations?
A. No.
Q. If you go back to page 68, you say that you are not aware of any secondary considerations of nonobviousness; is that correct?
A. Yes.
Q. Other than looking at what Mr. Brown said, did you do anything else to determine whether any of the secondary considerations of nonobviousness were present or not?
A. No.

73

Q. And going on in this paragraph, is it your opinion that the only secondary consideration that Mr. Brown's declaration addresses is the first factor, long-felt need?

A. That's the only one I included here, and that's the one I remember --

Q. Okay.

A. -- seeing.

Q. It's fair to say that the only secondary consideration you address in this paragraph, other than saying you're unaware, is long-felt need; is that right?

MR. BELAIR: Objection, misstates the contents.

THE WITNESS: Well, that's the one factor that's being discussed in paragraph 139, yes.

BY MR. KEESE:

Q. Okay. Do you think that evidence of secondary considerations of nonobviousness must come exclusively from expert witnesses?

MR. BELAIR: Objection, vague, calls for legal conclusion.

THE WITNESS: Yeah, I don't know.

BY MR. KEESE:

Q. Okay. You haven't formed an opinion regarding whether Inari's FlowTriever device embodies the claims

74

of the '910 patent, correct?

MR. BELAIR: Objection, vague, calls for a legal conclusion.

THE WITNESS: I have not looked at infringement questions in this declaration.

BY MR. KEESE:

Q. Are you aware that FlowTriever is made by Inari?

A. I know the device.

Q. And have you also heard of the ClotTriever device?

A. I don't think so.

Q. You haven't offered an opinion regarding whether the FlowTriever device practices any of claims 1 and 10 of the '921 patent or claim 1 of the '910 patent, correct?

A. I have not included any analysis of that device you're discussing.

Q. And the same goes for ClotTriever; is that right?

A. That's correct. It's not in the declaration.

(Confidential portion on following pages.)

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(Begin confidential portion of testimony)

BY MR. KEESE:

[redacted]

76

BY MR. KEESE:

[redacted]

(End of confidential portion.)

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77

1 BY MR. KEESE:
2 Q. You just simply didn't consider whether those
3 devices had been commercially successful, correct?
4 **A. That wasn't the focus of the analysis here.**
5 Q. You haven't offered an opinion that the
6 FlowTriever or ClotTriever device has not had commercial
7 success, correct?
8 **A. I didn't address commercial success in the**
9 **declaration, no.**
10 Q. And you don't offer any opinions regarding
11 whether Imperative Care or Truvic did or did not copy
12 any of the claimed features from Inari, correct?
13 **A. I don't discuss that in the declaration at**
14 **all.**
15 Q. You didn't perform any analysis regarding
16 whether Imperative Care or Truvic had copied; is that
17 right?
18 **A. I did not.**
19 Q. Is it your understanding that Inari was the
20 first to market with 24 French aspiration catheters?
21 MR. BELAIR: Lacks foundation.
22 THE WITNESS: I do not know.
23 BY MR. KEESE:
24 Q. Do you know when Inari began to market
25 24 French aspiration catheters?

78

1 MR. BELAIR: Lacks foundation.
2 THE WITNESS: I don't know.
3 BY MR. KEESE:
4 Q. Do you know of anyone or any other company
5 that provided 24 French aspiration catheters before
6 Inari?
7 MR. BELAIR: Lacks foundation.
8 THE WITNESS: I don't know.
9 BY MR. KEESE:
10 Q. Do you know of anyone that provided 16 French
11 aspiration catheters before Inari?
12 MR. BELAIR: Lacks foundation.
13 THE WITNESS: Yeah, I don't know.
14 BY MR. KEESE:
15 Q. Okay. Are you aware of any 16 French
16 aspiration catheter that was brought to market before
17 2019?
18 **A. I don't know.**
19 Q. You don't know whether you're aware of that?
20 **A. I don't know of which companies had which size**
21 **product and which year at all.**
22 Q. Okay. So, you are not aware of any company
23 that had a 16 French or larger aspiration catheter
24 before 2019; is that correct?
25 **A. I'm not familiar with which company had which**

79

1 **product in which year at all, and it's not addressed in**
2 **the declaration.**
3 Q. You can't identify any company that beat Inari
4 to the market, correct?
5 MR. BELAIR: Lacks foundation.
6 THE WITNESS: Yeah, I don't know the timing of
7 different companies and different products at all.
8 BY MR. KEESE:
9 Q. Can you identify a company that beat Inari to
10 the market?
11 MR. BELAIR: Lacks foundation and vague.
12 THE WITNESS: I -- I don't know which
13 companies and which products at which time.
14 BY MR. KEESE:
15 Q. So, the answer is, no, you can't identify a
16 company that beat Inari to the market with 16 French or
17 larger aspiration catheters?
18 MR. BELAIR: Same objection.
19 THE WITNESS: I don't know of which companies
20 were first or second or third with different sized
21 catheters. I don't know.
22 BY MR. KEESE:
23 Q. Okay. Your declaration does not address
24 whether Inari's technology path of creating 24 French
25 and 16 French aspiration catheters was contrary to the

80

1 accepted wisdom at the time; is that correct?
2 MR. BELAIR: Objection, vague, lacks
3 foundation.
4 THE WITNESS: Yeah, I don't know.
5 BY MR. KEESE:
6 Q. So, is it correct that your declaration does
7 not address whether Inari's technology path of creating
8 24 French and 16 French aspiration catheters was
9 contrary to the accepted wisdom at the time?
10 MR. BELAIR: Same objections.
11 THE WITNESS: I don't talk about the accepted
12 wisdom of the time at the time.
13 BY MR. KEESE:
14 Q. Okay. So, it's true that your declaration
15 does not address that, right?
16 MR. BELAIR: Asked and answered.
17 THE WITNESS: Yeah, I don't discuss that
18 aspect in here.
19 BY MR. KEESE:
20 Q. Do you know whether doctors have been
21 resistant to using large diameter catheters in treating
22 pulmonary embolism?
23 MR. BELAIR: Vague.
24 THE WITNESS: I don't know.
25 ///

81

1 BY MR. KEESE:
2 Q. Is it difficult to steer a 24-French catheter
3 through the heart to get to the lungs?
4 MR. BELAIR: Vague.
5 THE WITNESS: I'm familiar with steering
6 catheters through the heart down to the mitral valve,
7 and that was not an easy project.
8 BY MR. KEESE:
9 Q. Why is it difficult to steer large diameter
10 catheters through the heart?
11 A. My experience with MitraClip, it was difficult
12 because we also needed certain areas of rigidity and
13 torqueability in the system. So, there's always
14 tradeoffs when you're steering a catheter and it has to
15 do other -- have other attributes also.
16 Q. And those tradeoffs, do they become more
17 difficult with a larger diameter of a catheter --
18 MR. BELAIR: Vague.
19 BY MR. KEESE:
20 Q. -- going through the same location?
21 MR. BELAIR: Same objection.
22 THE WITNESS: In my experience, there are
23 significant challenges designing small-diameter
24 catheters to go through small vasculature and
25 large-diameter catheters. They each have their own

82

1 challenges.
2 BY MR. KEESE:
3 Q. I imagine that's correct.
4 What -- what are the unique challenges for the
5 larger diameter catheters?
6 MR. BELAIR: Objection, vague.
7 THE WITNESS: Are you asking about the
8 MitraClip system that I worked on?
9 BY MR. KEESE:
10 Q. So, your experience in MitraClip, why was --
11 what was the challenge of a larger diameter catheter?
12 A. Many challenges relating to maintaining
13 appropriate stiffness, torqueability, steerability,
14 stability in the left atrium between the two steerable
15 catheters. Atraumaticness is another requirement.
16 Q. So, in your experience with creating a
17 24 French catheter that had to go through the heart,
18 with the larger diameter, the stiffness, torqueability,
19 and steerability were particularly difficult; is that
20 correct?
21 A. Torqueability, trackability, flexibility,
22 steerability were all factors that had to be optimized
23 in the development of that product.
24 Q. And what challenges are present in a smaller
25 diameter catheter that aren't present in a larger

83

1 diameter catheter?
2 A. For the smallest diameter catheters I worked
3 on, they have many of the same challenges, of needing a
4 certain amount of torque, a certain amount of
5 flexibility, a certain amount of trackability;
6 atraumaticness of the system, and lowest profile
7 possible for insertion into the vessels.
8 Q. Do catheters generally get stiffer as they get
9 larger?
10 A. In general, yes.
11 Q. And is it more difficult to track and steer a
12 larger catheter in general?
13 A. Diameter isn't everything. The materials, the
14 structure, the layers of polymer or braid material in
15 there can create very flexible segments, even in large
16 diameter catheter.
17 Q. But in general, does it become more difficult
18 to track and steer a catheter as it gets larger in
19 diameter?
20 A. I think there's difficulty in creating very
21 small-diameter catheters to track and steer and torque
22 appropriately also. So, they both have their
23 challenges.
24 Q. When you did the 24 French catheter for the
25 MitraClip device, did you experience pushback from the

84

1 medical community about pushing such a large catheter
2 through the heart?
3 MR. BELAIR: Objection, vague.
4 THE WITNESS: At the time -- well, first of
5 all, let me clarify. It's 24 French, and the proximal
6 section for the insertion into the femoral vein; it's 22
7 French in the distal section that crosses the
8 interatrial septum.
9 THE REPORTER: "In the distal section that
10 crosses"...?
11 THE WITNESS: The interatrial septum.
12 At the time, it was one of the larger devices
13 to cross the interatrial septum. Subsequently, there
14 are several other valves that are bigger than that, and
15 doctors have gotten well used to the MitraClip 24 French
16 system.
17 BY MR. KEESE:
18 Q. And was there worry from customers about using
19 such a large design when the product came out?
20 A. Say that again?
21 Q. Yeah.
22 Was there worry from customers about beginning
23 to use such a large catheter through the heart when the
24 product came out?
25 MR. BELAIR: Objection, vague.

85

1 THE WITNESS: With the MitraClip system,
2 the -- the primary concern was for bleeding in the
3 introduction site.
4 BY MR. KEESE:
5 Q. Uh-huh.
6 **A. Not so much for the -- crossing the septum**
7 **with the 22 French segment.**
8 Q. Okay. And why was there concern regarding
9 bleeding for a 24 French insertion site, as opposed to a
10 smaller insertion site?
11 **A. A larger diameter device has more risk of**
12 **hematoma or other bleeding complications, though we were**
13 **in the venous side, which is more accommodating to large**
14 **diameter devices than the arterial side would be.**
15 Q. Why is the venous side more accommodating to
16 large-diameter devices than the arterial side?
17 **A. The complications are lower because the**
18 **vessels are larger and more compliant, and the blood**
19 **pressure is lower than on the arterial side.**
20 Q. You testified earlier that there were
21 different challenges for catheter design for large and
22 small vessels.
23 What are the differences in challenges?
24 **A. I think I also said that there are similar**
25 **challenges between large and small. They both have, you**

86

1 **know, challenges with torqueability, trackability,**
2 **flexibility in different segments; atraumaticness --**
3 **that's not a good word. I can't think of the right**
4 **word -- less atraumatic features on their tips. They**
5 **both have challenges.**
6 Q. So, my question was, what were the differences
7 in the challenge between the large and the small
8 vessels, and I think you said what was similar.
9 So, understanding that there are similarities,
10 what are the different challenges between the catheter
11 designs for those small vessels versus the catheter
12 design for the large vessels?
13 **A. Well, in my experience developing the**
14 **angioplasty balloons decades before, insertion profile**
15 **was -- was an important driver, and in venous -- larger**
16 **diameters for the MitraClip using the venous system,**
17 **diameters were less important. So, that was one**
18 **difference.**
19 **You know, the functions of the catheters were**
20 **very different. The small diameter angioplasty**
21 **catheters I was working on needed to track through very**
22 **tight tortuosity and have a very low profile.**
23 **The large diameter catheters I worked on with**
24 **MitraClip were not tracking through small vessels. They**
25 **were in position in an open chamber of the left atrium,**

87

1 **primarily.**
2 Q. Would it have been difficult to track a
3 large-diameter catheter through a tortuous path?
4 MR. BELAIR: Objection, vague.
5 THE WITNESS: It depends how tortuous. It
6 depends on the diameter of the vessel you're talking
7 about, and it depends on the flexibility and the design
8 of the large-diameter device.
9 BY MR. KEESE:
10 Q. With respect to thrombectomy systems
11 generally, are there specific challenges for larger
12 diameter vessels, as opposed to smaller diameter
13 vessels?
14 **A. I think they would have very similar**
15 **requirements and challenges that the engineers would**
16 **optimize for each -- each application.**
17 Q. Are you aware of any specific challenges for
18 thrombectomy in larger diameter vessels that are
19 different than the challenges you would face in smaller
20 diameter vessels?
21 **A. One might be when creating a vacuum, a larger**
22 **diameter would have to have more radial rigidity to**
23 **counteract the vacuum than a smaller diameter, and**
24 **that's just due to physics.**
25 Q. So, I liked physics. So, let's talk about the

88

1 physics there.
2 Why would you need more radial rigidity in the
3 larger diameter vessel to counteract the vacuum?
4 **A. Well, in both cases, you would need enough**
5 **hoop strength to counteract the vacuum, and it would be**
6 **designed to accommodate that hoop strength, depending on**
7 **what the level of vacuum is.**
8 Q. And when you're talking about the radial
9 rigidity and hoop strength, are you talking about the
10 rigidity and the hoop strength of the catheter being
11 used, correct?
12 **A. Right, of the lumen of the catheter being**
13 **aspirated.**
14 Q. Okay. And assuming the same level of vacuum,
15 do you need more radial rigidity and hoop strength for a
16 larger diameter catheter?
17 **A. Yes.**
18 Q. So, while that challenge might not be unique
19 to larger diameter catheters, it is increased with the
20 larger diameter catheter; is that accurate?
21 **A. I'm not sure it's a bigger challenge. It**
22 **would just have to be designed differently with greater**
23 **hoop strength.**
24 Q. Okay. With respect to long-felt need for an
25 invention, does the long-felt need have to be for the

89

1 particular claim structures, or does the long -- sorry.
2 Let me -- I'll -- I will not ask it compound.
3 With respect to the long-felt need for an
4 invention, does the long-felt need have to be for the
5 particular claim structures?
6 MR. BELAIR: Object, calls for a legal
7 conclusion.
8 THE WITNESS: Yeah, I'm not sure.
9 BY MR. KEESE:
10 Q. Could you have a long-felt need for the
11 functionality that a claimed design provides?
12 MR. BELAIR: Same objection.
13 THE WITNESS: Yeah, I don't know.
14 BY MR. KEESE:
15 Q. In terms of a hemostasis valve, a user doesn't
16 necessarily know what's inside of it --
17 **A. Sorry, can you go back?**
18 Q. Sorry -- yeah, absolutely. Go back to what,
19 sorry?
20 **A. Start the question again.**
21 Q. Yeah. In terms of a hemostasis valve in a
22 system, like these thrombectomy systems, a user might
23 not know the internal design of that hemostasis valve,
24 correct?
25 **A. Most doctors don't know the design specifics**

90

1 **of any valve or mini-devices.**
2 Q. They're users, not creators, for the most
3 part, correct?
4 **A. For the most part.**
5 Q. Yeah. And, but a doctor using a system with a
6 hemostasis valve will experience how that valve
7 functions when interacting with it, correct?
8 MR. BELAIR: Objection, vague.
9 THE WITNESS: The doctors use lots of
10 hemostatic valves and want them to function
11 appropriately.
12 THE REPORTER: "Lots of hemostatic valves
13 and"...?
14 THE WITNESS: Want them to function
15 appropriately.
16 BY MR. KEESE:
17 Q. And so they want them to seal completely,
18 correct?
19 **A. They don't like blood leaking, yes.**
20 Q. And they also want them to be easy to use,
21 correct?
22 MR. BELAIR: Objection, lacks foundation,
23 calls for speculation.
24 THE WITNESS: I think in general, doctors
25 appreciate easy-to-use devices.

91

1 BY MR. KEESE:
2 Q. So, it would be an advantage to allow
3 one-handed operation, for instance, correct?
4 MR. BELAIR: Calls for speculation.
5 THE WITNESS: I don't know.
6 BY MR. KEESE:
7 Q. Is it fair to say that a doctor using a
8 hemostasis valve will care about how it functions rather
9 than the particular way it's designed?
10 MR. BELAIR: Calls for speculation.
11 THE WITNESS: Yeah, I don't know what doctors
12 would think in that instance.
13 BY MR. KEESE:
14 Q. Do you know whether physicians have provided
15 feedback that they appreciate the Inari hemostasis valve
16 and how it functions?
17 **A. I'm not familiar with physician feedback on**
18 **that device.**
19 MR. KEESE: All right. We have been on for
20 1:10. Let's take a short break. Lunch may be here, but
21 I will check.
22 THE VIDEOGRAPHER: Okay. We're going off the
23 record at 11:40.
24 (Whereupon, a recess was taken.)
25 THE VIDEOGRAPHER: And we are back on at

92

1 11:54.
2 MR. KEESE: Welcome back, Mr. Thornton.
3 BY MR. KEESE:
4 Q. Early on in the deposition, we discussed
5 whether you were offering obviousness opinions or
6 anticipation opinions, and I believe you said that
7 you're offering anticipation opinions in addition to
8 obviousness opinions; is that correct?
9 MR. BELAIR: Object to the extent it misstates
10 the prior testimony.
11 THE WITNESS: I believe that I have both
12 anticipation opinions and obviousness as part of this
13 declaration.
14 BY MR. KEESE:
15 Q. Okay. Which claims do you contend are
16 anticipated?
17 **A. I think we need to go through the specific**
18 **claims we're talking about.**
19 Q. Sure. Can you point me to where you opine
20 that a claim is anticipated?
21 MR. BELAIR: Feel free to look through the
22 document --
23 THE WITNESS: Yeah.
24 MR. BELAIR: -- and find the specific spot.
25 THE REPORTER: You said "feel free to look

93

1 through the document"...?
2 MR. BELAIR: And find the specific spot.
3 THE WITNESS: So, for the '921 patent,
4 independent claim 1, independent claim 10, I discuss
5 that. The invalidity of those claims in a number of
6 pages -- I lost it again, 20 -- basically, starting at
7 page 17, Section E, where I say that Schaffer renders
8 claims 1 and 10 of the '921 patent invalid.
9 BY MR. KEESE:
10 Q. So, you're offering an opinion that Schaffer
11 anticipates both claims 1 and claim 10 of the '91 -- or
12 '921 patent?
13 **A. Yes.**
14 Q. Do you have any anticipation opinions for
15 the -- well, sorry. Let me --
16 Do you opine that any of the other references
17 anticipate claims 1 or 10 of the '910 patent?
18 **A. The other prior art; is that what you're**
19 **asking?**
20 Q. Correct.
21 MR. BELAIR: I'm sorry, let me just jump in
22 here. You said claims 1 or 10 of the '910 patent. Did
23 you mean '921?
24 MR. KEESE: Yeah, I'm sorry.
25 MR. BELAIR: That's all right. I just want to

94

1 make sure that's clear on the record.
2 MR. KEESE: I will clear it up on the record
3 because I -- I don't have it in front of me right now.
4 So --
5 MS. TESSAR: Do you want to go off and fix
6 that?
7 MR. KEESE: Yeah. Why don't we go off the
8 record so that the real-time can get fixed.
9 THE VIDEOGRAPHER: We are going off the record
10 at 11:59.
11 (Whereupon, a recess was taken.)
12 THE VIDEOGRAPHER: We are back on at 12:03.
13 BY MR. KEESE:
14 Q. Mr. Thornton, you had said that you provided
15 an anticipation opinion regarding the Schaffer reference
16 for claims 1 and 10 of the '921 patent; is that correct?
17 **A. Yes.**
18 Q. Do you provide an opinion that any of the
19 other references anticipates either claim 1 or 10 of the
20 '921 patent?
21 **A. I do include Hartley. I'm not sure of the**
22 **exhibit number, but Hartley is also included in part of**
23 **the analysis.**
24 Q. But do you opine that Hartley anticipates the
25 claims?

95

1 **A. Hartley has a suture string band which is**
2 **similar to the filament as shown in the '921 --**
3 **described in the '921 patent. That's why I included it.**
4 Q. Do you contend that Hartley discloses the
5 other elements of claim 1 of the '921 patent, other than
6 the suture?
7 **A. So, in paragraph 56, I noted that I believed**
8 **that the combination of Schaffer with Hartley would**
9 **render claim 1 obvious.**
10 **And I just noted a correction that we should**
11 **probably make in the declaration, because it says,**
12 **"Hartley or Eller" and that -- I didn't expand on that,**
13 **so the "or Eller" should be removed. It might be in**
14 **another location too. I'm not sure.**
15 Q. And, I'm sorry, which paragraph were you --
16 **A. Paragraph 56.**
17 Q. So, in paragraph 56, we should strike "or
18 Eller" from the last sentence of paragraph 56?
19 **A. Yes.**
20 Q. That's the correction you're making?
21 **A. Yes.**
22 Q. Okay. And -- sorry, did you have something
23 else?
24 **A. There may be one other location --**
25 Q. Okay.

96

1 **A. -- where that shows up.**
2 Q. Okay. Sure.
3 **A. We could strike that also.**
4 Q. Okay. So, you aren't offering any opinions
5 regarding the Eller reference?
6 **A. Correct.**
7 Q. Do you have any opinions that Hartley alone,
8 without Schaffer, anticipates or renders obvious claims
9 1 or 10 of the '921 patent?
10 **A. It's Hartley in -- enjoined -- that's not the**
11 **right word. Let me read it here -- in combination with**
12 **Schaffer, that it would render claim 1 and 10 obvious.**
13 Q. But you don't have any opinions regarding
14 Hartley alone doing so, correct?
15 **A. Correct. It's in combination with Schaffer.**
16 Q. Did you offer any opinions that any of the
17 prior art anticipates claim 1 of the '910 patent?
18 **A. All right. Let me go to the '910.**
19 **So, my conclusion is on Section 141, relating**
20 **to the '910 patent -- actually, no, it must be somewhere**
21 **else. Let me --**
22 **So, the many pages of my declaration are**
23 **really focused on -- that relate to the '910 patent are**
24 **really focused on the Garrison patent --**
25 Q. Okay.

97

A. -- and that the Garrison anticipates claim 1 of the '910 patent.
Q. Where do you opine that Garrison anticipates claim 1 of the '910 patent?
A. I'm trying to find a -- that specific line in here.
Q. If you look at paragraph 109 of your declaration, that might be helpful.
MR. BELAIR: Thank you, Dan. I was going to say, in the interest of time...
Next page.
THE WITNESS: Yeah, so, line 109, I said it is rendered obvious by Garrison in combined with Laub.
BY MR. KEESE:
Q. And so, you only have an opinion that Garrison combined with Laub renders claim 1 obvious, is that correct?
A. Yes.
Q. Yeah, so there's no opinions that you have provided that Garrison anticipates claim 1, is that right?
A. Correct.
Q. And you understand that anticipation, broadly speaking, means that every limitation of a claim is found in a single prior art reference; is that correct?

98

MR. BELAIR: Calls for a legal conclusion.
THE WITNESS: I'm not sure, yeah.
BY MR. KEESE:
Q. Okay. What is your understanding of the difference between obviousness and anticipation?
MR. BELAIR: Same objections.
THE WITNESS: Yeah, I don't know the legal -- I'm not sure of the legal differences.
BY MR. KEESE:
Q. Okay. Did you -- okay.
So, we've established that you didn't provide an anticipation opinion regarding claim 1 based upon Garrison, correct?
A. Right. I said it was rendered obvious in combination with Laub.
Q. And so, what was missing from Garrison, such that you needed to combine Garrison with Laub?
MR. BELAIR: I'll just object to the extent it misstates the contents of the declaration or the witness's testimony.
THE WITNESS: Laub was focused on and gave a wide range of sizes of catheters that -- that size range was not in Garrison.
BY MR. KEESE:
Q. So, you rely on Laub because Garrison does not

99

disclose a catheter that's 16 French or larger; is that correct?
MR. BELAIR: Object to the extent it misstates the contents of the declaration and the witness's prior testimony.
THE WITNESS: Laub was helpful in adding, you know, larger diameter sizes.
BY MR. KEESE:
Q. Do you offer an opinion that Garrison discloses a catheter larger than 16 French?
A. I don't recall if they give specific diameters in the patent.
Q. Is there anywhere in your declaration that you have offered an opinion that Garrison discloses a catheter size, 16 French or larger?
A. I don't believe they do.
Q. Okay. And Garrison also doesn't disclose treating pulmonary embolism; is that correct?
A. I believe Garrison does mention pulmonary embolisms and DVT in its specification.
Q. Okay.
A. My paragraph 111, line 6, references that Garrison sentence.
Q. So, let's actually mark Garrison -- well, provide you Garrison.

100

MR. BELAIR: Thanks.
THE REPORTER: I'm sorry. Is this being marked as an exhibit?
MR. KEESE: It was previously marked.
(Whereupon, previously marked Exhibit 12 was introduced.)
BY MR. KEESE:
Q. So, Mr. Thornton, I've handed you what was previously marked as exhibit -- Deposition Exhibit 7 [sic]. And can you look at what was previously marked as Deposition Exhibit 7 [sic]?
A. Yes, I have it.
Q. Okay. What is it?
A. Garrison patent US 20150173782A1.
Q. And if you flip to the first page, again -- actually, the slip sheet, I apologize, the very first page of that document, it says that it was Exhibit 29, and it was filed as Document 24-36; is that correct?
A. Yes.
Q. Okay. And if it's okay, I'll refer to it as Deposition Exhibit 7 [sic]; does that work for you?
A. Sure.
Q. Okay. Where does Garrison disclose treating pulmonary embolisms?
A. I would have to look through the entire

101

1 **document to see if the word is listed.**
2 Q. Okay.
3 **A. I don't know if you can point me to a place**
4 **where it talks about it.**
5 Q. Where does your declaration -- or does your
6 declaration say that Garrison teaches to treat pulmonary
7 embolisms?
8 **A. So, in my declaration page 49, line 11, it**
9 **refers to, "Garrison explains that cerebral occlusions**
10 **are more difficult to treat than larger vessels,**
11 **pulmonary embolisms, and DVT, for example."**
12 **So, that may be the only mention in here, I'm**
13 **not sure. In the Garrison patent, I'm not sure.**
14 Q. And if you go -- where -- okay.
15 So, if we go to paragraph 42 of Garrison,
16 that's what you're referring to there?
17 Is that correct, that's what you're referring
18 to there?
19 **A. Yes, but I believe there are two Garrison**
20 **patents, and I'm not sure if -- which one we're talking**
21 **about here.**
22 Q. Okay. Well, if you look at paragraph 42 of
23 Garrison, which is Exhibit 29 and has been marked as
24 Deposition Exhibit 7 [sic] -- is that correct?
25 **A. I want to go back and look at the**

102

1 **attachments --**
2 Q. Okay.
3 **A. -- the exhibits, which one we're looking at,**
4 **378 -- so, Exhibit 29 in my declaration is this**
5 **patent --**
6 Q. Correct.
7 **A. -- 3782. So, that's the one we're looking at.**
8 **Okay.**
9 Q. Okay. So, and you -- so, let's go back to
10 paragraph 111 of your declaration.
11 **A. Uh-huh.**
12 Q. You -- is it correct that you are now
13 testifying that it's your opinion that Garrison teaches
14 to treat pulmonary embolism?
15 **A. No. Garrison is focused on cerebral and**
16 **intracranial vascular interventions.**
17 Q. Okay. So, Garrison is focused on stroke; is
18 that correct?
19 THE REPORTER: "Garrison is focused on"...?
20 MR. KEESE: Stroke.
21 MR. BELAIR: Objection, misstates.
22 THE WITNESS: Thrombectomy, removing thrombus
23 from the cerebral, which can be a stroke, yeah.
24 BY MR. KEESE:
25 Q. Okay. And if you go to paragraph 2 of

103

1 Garrison, which you cite in paragraph 111 of your
2 declaration --
3 **A. Yes.**
4 Q. -- what does paragraph 2 say that the present
5 disclosure of Garrison relates to?
6 **A. It relates generally to medical methods and**
7 **devices for treatment of acute ischemic stroke.**
8 Q. Okay. And then it goes on to say that, "The
9 present disclosure relates to methods and systems for
10 transcarotid access of cerebral arterial vasculature and
11 treatment of cerebral occlusions."
12 Is that correct?
13 **A. Yes.**
14 Q. Okay. And so, none of that discloses treating
15 pulmonary embolism, correct?
16 **A. Correct.**
17 Q. Or discusses treating DVT, correct?
18 **A. That's true.**
19 Q. And if we go to paragraph 42 of Garrison, is
20 it your opinion that Garrison says that treating
21 cerebral occlusions is more difficult than treating
22 pulmonary embolism or DVT?
23 MR. BELAIR: Objection, vague.
24 THE WITNESS: I don't think paragraph 42
25 mentions DVT or PE.

104

1 BY MR. KEESE:
2 Q. Okay. And I asked this before, but I want to
3 make sure that we have a clear record: Does this
4 Garrison reference, which we've marked as exhibit --
5 Deposition Exhibit 7 [sic], does it disclose at all
6 treating pulmonary embolism, to your understanding?
7 **A. That's certainly not the focus of the patent,**
8 **no.**
9 Q. In your declaration, have you identified
10 anywhere that Garrison teaches to treat pulmonary
11 embolism?
12 **A. No.**
13 Q. Okay. And the claim language of claim 1 of
14 the '910 patent is of a system for treating pulmonary
15 embolism; is that correct?
16 **A. Claim 1 of the '910 patent, where can I find**
17 **that?**
18 MR. BELAIR: Troy, if you -- page 42 of your
19 dec actually has the --
20 THE WITNESS: 42? I have -- okay. 42?
21 MR. BELAIR: Yeah.
22 THE WITNESS: For the '901 patent claim 1, it
23 does include the limitation of positioning the second
24 catheter -- the limitation of the method of positioning
25 a second catheter proximate to the pulmonary embolism.

105

1 That's a limitation of claim 1 in the '910 patent, yes.
2 BY MR. KEESE:
3 Q. Is it your understanding that claim 1 is a
4 method claim?
5 **A. No. I think the active positioning is more of**
6 **a method than a device claim -- statement, I guess. But**
7 **I'm not a lawyer.**
8 Q. Okay. And just to be clear, the claim
9 language of claim 1 recites, "Wherein, the second
10 catheter is shaped to be intravascularly advanced
11 through the vasculature of the patient such that the
12 distal portion of the second catheter is positioned
13 proximate to the pulmonary embolism."
14 Is that correct?
15 **A. Yes, that's what the claim says.**
16 Q. And so, is the claim saying that the catheter
17 is shaped so that it can be advanced, such that it is
18 positioned in that location?
19 **A. That's what the claim is saying, yes.**
20 Q. Okay. And so claim 1 recites a system for
21 treating clot material comprising a pulmonary embolism,
22 correct?
23 **A. Yes, or aspiration of the embolism.**
24 Q. And Garrison doesn't disclose aspiration of a
25 pulmonary embolism, correct?

106

1 **A. Correct.**
2 Q. And claim 1 of the '910 patent requires a
3 second catheter that has a size of 16 French or greater;
4 is that correct?
5 **A. Yes.**
6 Q. And because that second catheter is advanced
7 through a first catheter, the first catheter has to have
8 a size that is greater than 16 French; is that your
9 understanding as well?
10 **A. Yes, that would be the logical conclusion.**
11 Q. Because you need a larger catheter to advance
12 16 French through it, correct?
13 **A. Yes.**
14 Q. Okay. And Garrison does not disclose a
15 16 French aspiration catheter, correct?
16 **A. That's what I recall, yeah.**
17 Q. Yeah, and it doesn't disclose, therefore, an
18 aspiration catheter that's larger than 16 French,
19 correct?
20 **A. Correct.**
21 Q. And so that's why you also rely on the Laub
22 reference; is that fair to say?
23 **A. Laub brings in larger diameter catheters for**
24 **treating PE.**
25 Q. Okay. Because, otherwise, Garrison plainly

107

1 wouldn't disclose everything in the claims and doesn't,
2 correct?
3 MR. BELAIR: I'll object to the extent it
4 misstates the prior testimony.
5 THE WITNESS: Yes. As I said, Garrison plus
6 Laub would render the -- render it obvious.
7 BY MR. KEESE:
8 Q. But Garrison alone doesn't, correct?
9 **A. Correct.**
10 Q. Okay.
11 MR. KEESE: All right. I am getting hungry.
12 Let's head to lunch.
13 MS. TESSAR: It's 12:31 --
14 MR. KEESE: I know.
15 THE VIDEOGRAPHER: Okay. We are going off the
16 record at 12:31.
17 (Whereupon, a recess was taken.)
18 THE VIDEOGRAPHER: And we are back on at
19 13:13.
20 BY MR. KEESE:
21 Q. Good afternoon, Mr. Thornton. If I could have
22 you look at your declaration again, I wanted to talk
23 about claim construction.
24 Is it true that you provide a claim
25 construction for only one term in the two asserted

108

1 patents?
2 **A. So, which patent are we talking about now?**
3 Q. Well, I think for both.
4 Do you provide any claim constructions for the
5 '910 patent?
6 **A. Yeah, as shown on page 44 of the claim**
7 **construction, I've not identified any other terms that**
8 **require construction.**
9 Q. Okay. So, you aren't offering an express
10 claim construction for any of the terms of claim 1 of
11 the '910 patent; is that correct?
12 **A. Correct.**
13 Q. And in the absence of offering any express
14 constructions, how are you interpreting the claim
15 language of the claim 1 of the '910 patent?
16 **A. By using the ordinary and customary --**
17 **customary meaning.**
18 Q. Okay. And in terms of the claim language of
19 claim 1, you haven't offered an express construction on
20 what it means to have one catheter that is advanceable
21 through another one; is that right?
22 **A. I have not.**
23 Q. And you don't offer any express construction
24 regarding the first pressure source and second pressure
25 source limitations, correct?

109

1 **A. Correct.**
2 Q. And you haven't offered an express opinion
3 regarding whether the first pressure source and the
4 second pressure source can be the same; is that correct?
5 MR. BELAIR: Objection, vague.
6 THE WITNESS: I don't think that was part of
7 any claim construction analysis.
8 BY MR. KEESE:
9 Q. Okay. If I could have you turn back to the
10 '921 patent, you do offer an express construction, at
11 least one, for the '921 patent; is that correct?
12 **A. I believe so.**
13 Q. And what term or terms do you offer a
14 construction for of the '921 patent?
15 **A. As shown on page 15 of my declaration, so, I**
16 **am using the term "filament" to be exactly how it's**
17 **stated in the specification for the '921 patent.**
18 Q. And what definition are you applying to the
19 term "filament"?
20 **A. As shown on line 20, "one or more threads,**
21 **lines, cords, ropes, ribbons, flat wires, sheets or**
22 **tapes."**
23 Q. And so you've offered the opinion that the
24 term "filament" means at least one or more threads,
25 cords, ropes, ribbons, flat wires, sheets or tapes; is

110

1 that correct?
2 **A. Yes.**
3 Q. So, it could include something else other than
4 one or more thread, lines, cords, ropes, ribbons, flat
5 wires, sheets or tapes; is that right?
6 **A. It means at least those things.**
7 Q. Uh-huh. So, I guess what structures that
8 include one or more of those things would not be a
9 filament?
10 MR. BELAIR: Objection, vague.
11 THE WITNESS: Do you have specific examples of
12 what you're looking for?
13 BY MR. KEESE:
14 Q. Sure. If I had a wall, and I put some flat
15 wire on it, is that a filament?
16 MR. BELAIR: Objection, vague. The wall?
17 What are we talking about? The wall or the flat wire?
18 BY MR. KEESE:
19 Q. So, if I have a structure, let's say a wall or
20 a bag, and I put a flat wire on that structure, is that
21 a filament?
22 MR. BELAIR: Objection, vague.
23 THE WITNESS: I think the ordinary meaning of
24 "filament" would be the filament, the flat wire, for
25 instance, in that example.

111

1 BY MR. KEESE:
2 Q. Okay. So, is it your opinion that the meaning
3 of the word "filament" is one or more threads, lines,
4 cords, ropes, ribbons, flat wires, sheets or tapes, and
5 there can be nothing added to that?
6 MR. BELAIR: Objection, misstates.
7 THE WITNESS: I'm just using the definition
8 that was provided in the '921 patent.
9 BY MR. KEESE:
10 Q. Does the '921 patent say that it would include
11 any structure with at least that structure?
12 **A. I would have to look exactly where that is**
13 **listed.**
14 **Do I have the '921 yet? No, I've got Garrison**
15 **here.**
16 Q. While we're on paragraph 48, I think there may
17 be another one of the things that you mentioned.
18 If you look at the last three sentences, is
19 there anything there that you think needs to be
20 corrected?
21 **A. Yeah, I think this is one example where we had**
22 **the patent number listed incorrectly, on line 24, it**
23 **lists the '910 patent; line 26, line 27.**
24 Q. Okay. And so --
25 **A. I believe those should be the '921 patent.**

112

1 Q. Okay.
2 **A. That's a correction.**
3 Q. Okay. Typos happen to all of us, or so I tell
4 the partners.
5 So, just for clarity of the record, you think
6 that the reference to the '910 patent specification at
7 line 24, line 26 and line 27 of page 15 of your
8 declaration, should instead be referenced to the '921
9 patent specification in those locations; is that
10 correct?
11 **A. Correct.**
12 Q. Okay. And that would make sense because,
13 obviously, you don't offer any opinions regarding
14 Schaffer with respect to the '910 patent, correct?
15 **A. Yes.**
16 Q. Okay.
17 **A. That was the change I mentioned this morning.**
18 Q. Okay, okay. You had seen that before.
19 **A. Yeah.**
20 Q. Okay, great. And is the term "filament" a
21 term of art in the mechanical thrombectomy industry?
22 **A. I don't know.**
23 Q. Okay. Is it -- do you know whether it's a
24 term of art in any industry?
25 **A. I think of it as a fairly general term in the**

113

1 **usual sense of the word.**
2 Q. Yeah. So, when you hear the term "filament,"
3 what comes to mind then, in the general term?
4 **A. Well, I recall using some pull -- pull**
5 **wires -- they weren't wires, but pulling member in a**
6 **steerable catheter we called the filament. That was one**
7 **use of the term that I recall using myself.**
8 Q. And what was that pull member formed of?
9 **A. The one I'm thinking of was called Vectran. I**
10 **don't -- I don't remember the polymer composition, but**
11 **their trade name is Vectran.**
12 Q. So it was like a line of polymer that you
13 would pull the catheter with?
14 **A. Yeah, it was a -- almost like a fishing line,**
15 **but a braided -- braided fishing line almost.**
16 Q. Ah, so it wasn't a monofilament, but it was
17 braided like a braided fishing line?
18 **A. We've used both types, but --**
19 Q. Okay, okay. And a monofilament is simply a
20 line that has only a single strand; is that correct?
21 **A. To my understanding, yes.**
22 Q. Okay. And so monofilament fishing line is
23 pretty common; is that right?
24 **A. I'm not really a fisherman.**
25 Q. Okay.

114

1 **A. But we did use a fishing line for early**
2 **prototypes.**
3 Q. For early prototypes of what?
4 **A. Of steerable catheters. And those were**
5 **multifilaments.**
6 Q. Okay. You don't specifically address
7 Mr. Brown's proposed claim construction for filament in
8 this section, correct?
9 **A. I did not.**
10 Q. Okay. Do you know what his construction of
11 filament was?
12 **A. I don't --**
13 Q. Okay.
14 **A. -- recall, no.**
15 Q. So, I want to go back to your proposed
16 definition of at least one or more threads, lines,
17 cords, ropes, ribbons, flat wires, sheets or tapes.
18 In that context, would, for instance, a chain
19 that also has a thread, is that a filament?
20 MR. BELAIR: Objection, vague.
21 THE WITNESS: I think using the ordinary
22 meaning of a chain, I would not consider a chain a
23 filament.
24 BY MR. KEESE:
25 Q. Okay. So, what distinguishes a structure that

115

1 includes one or more of a thread, line, cord, rope,
2 ribbon, flat wire, sheet, or tape, that is a filament
3 from one that is not?
4 **A. Well, the patent itself describes these things**
5 **as their definition of filament. They provide the**
6 **definition, and I'm agreeing with that.**
7 Q. Does the '921 patent say that it's defining a
8 filament as that?
9 **A. I would have to look at the language they use.**
10 Q. Sure.
11 MR. BELAIR: Mr. Thornton.
12 THE WITNESS: Well, I have the quote from the
13 '921 patent on line 18 -- I'm sorry, page 16, line 18.
14 So, in quotes, the '921 -- the '921 patent also states
15 in quotes, "The filament 150 can comprise one or several
16 threads, lines, cords, rope, ribbon, flat wire, sheet or
17 tape."
18 Section 9, line 15 through 17 of the prior
19 reference, I assume it's the '921 patent.
20 Q. Yeah, you can go ahead and grab that.
21 So, under your definition --
22 MR. BELAIR: Sorry. Did you want to mark this
23 for the record?
24 MR. KEESE: Yeah, we'll get there.
25 ///

116

1 BY MR. KEESE:
2 Q. So, you have what's before you as Deposition
3 Exhibit 16.
4 (Whereupon, Exhibit 16 was marked for
5 identification.)
6 BY MR. KEESE:
7 Q. Do you see that?
8 **A. Yes.**
9 Q. Can you identify what that is?
10 **A. US Patent, Merritt et al., Patent Number**
11 **US 11,844,921 B1.**
12 Q. And is that the '921 patent you have been
13 referring to?
14 **A. Yes.**
15 Q. And that you discuss in your declaration?
16 If you could flip back to the first page. And
17 does it have markings for Exhibit 2 and a filing marking
18 as Document 24-9?
19 **A. Yes.**
20 Q. Okay, great. Under your definition of a
21 "filament," is a piece of paper a filament?
22 **A. It depends what the material is, the size.**
23 **The word "sheet" is here. That's a sheet of paper. It**
24 **depends on the dimensions, I guess.**
25 Q. So, I'm holding up a normal 8-1/2 by 11 piece

117

1 of printer paper. Is that a filament under your
2 definition?
3 **A. Under the ordinary meaning, I would not**
4 **consider that a filament.**
5 Q. Okay. So, what distinguishes a sheet that is
6 a filament from one that is not?
7 **A. Probably, the dimensions being a -- narrower**
8 **in one dimension.**
9 Q. Okay. So, a filament has to be narrow in one
10 dimension?
11 MR. BELAIR: Objection, misstates the
12 testimony.
13 THE WITNESS: A sheet would have to be narrow
14 for me to consider it a -- narrow in one dimension to
15 be -- to think of it possibly as a filament.
16 BY MR. KEESE:
17 Q. Okay. So, a piece of paper, it is narrow in a
18 couple of dimensions, right?
19 **A. It's thin --**
20 Q. Okay.
21 **A. -- in its thickness.**
22 Q. Okay. So, why is a piece of paper that is
23 quite thin in one dimension not a filament?
24 **A. I would consider it a filament if it were**
25 **narrow in its, I'll say, X or Y dimension, not in the**

118

1 **thickness dimension.**
2 Q. Okay. So you would need it to be narrow in
3 two dimensions?
4 MR. BELAIR: Objection, misstates the
5 testimony.
6 THE WITNESS: Narrow and thin.
7 BY MR. KEESE:
8 Q. Okay.
9 THE WITNESS: Sorry.
10 Thickness, I would say, is different than
11 being narrow.
12 BY MR. KEESE:
13 Q. Okay.
14 **A. If we're talking about flat wire or tape or**
15 **ribbon.**
16 Q. Okay. So, in terms of a sheet, it could be a
17 filament if it is long in one dimension, correct? So,
18 long is -- is narrow and not thick.
19 **A. I guess it could be.**
20 Q. So, if I have a sheet, like this sheet of
21 paper, you agree that it is thin enough that it could be
22 a filament, correct?
23 MR. BELAIR: Objection, misstates testimony.
24 THE WITNESS: I think it depends on what
25 purpose and what function you're using it as, but it's

119

1 thin.
2 BY MR. KEESE:
3 Q. Okay. For the purpose of a filament in the
4 '921 patent, is a sheet of paper's thickness
5 sufficiently not thick that it could be a filament?
6 **A. Can you rephrase that?**
7 Q. Yeah. So, in terms of the purpose of a
8 filament for the '921 patent, which is what we're
9 talking about, is a sheet of paper thin enough in terms
10 of thickness that it could be a filament?
11 MR. BELAIR: Objection, vague.
12 THE WITNESS: I don't think any engineer would
13 think of using paper, almost regardless of the
14 dimensions, as a filament in a medical device.
15 BY MR. KEESE:
16 Q. So, what about a sheet of fabric, right, a bed
17 sheet? Is that a filament?
18 **A. It would depend on the dimensions.**
19 Q. So, a normal bed sheet, is it a filament?
20 **A. I wouldn't consider a normal bed sheet a**
21 **filament, no.**
22 Q. Okay. And why not?
23 **A. Because it's not narrow in one dimension and**
24 **long in the other dimension.**
25 Q. Would a bed sheet be a filament under the

120

1 construction you provided, because it is one or more
2 sheets?
3 **A. I -- I don't know.**
4 Q. Okay. And so I just want to be clear, you
5 don't know whether a bed sheet could be a filament or
6 not under your construction?
7 MR. BELAIR: Objection, misstates the
8 testimony.
9 THE WITNESS: I think what I said is I would
10 not consider a bed sheet to be a filament.
11 BY MR. KEESE:
12 Q. What determines, under your proposed
13 construction, whether one or more sheets is a filament
14 or not?
15 **A. One or more bed sheets, you're talking about?**
16 Q. No. So, your construction says one or more
17 sheets is a filament, correct?
18 **A. It can be.**
19 Q. So, what distinguishes one or more sheets that
20 is a filament from one or more sheets that isn't a
21 filament?
22 MR. BELAIR: Objection, vague.
23 THE WITNESS: I think a sheet of the
24 appropriate material, whether it's polymer or metal,
25 that has the appropriate strength could be considered a

121

1 filament for the purposes of this '921.
2 BY MR. KEESE:
3 Q. So, if I took one string from a bed sheet, is
4 that a filament?
5 **A. I do believe that that's the common term used**
6 **in fabric making, are filaments. Yeah, a filament of**
7 **cotton or polyester would be considered a filament for**
8 **the purposes of making a bed sheet.**
9 Q. What about for the purpose of the '921 patent?
10 Is a string such -- of fabric, such as one found in a
11 bed sheet, is that a filament?
12 **A. It could be if it were a polymer strong enough**
13 **to perform the functions that are required for the**
14 **device.**
15 Q. Is it your testimony that a filament has to be
16 a polymer?
17 MR. BELAIR: Objection, misstates.
18 THE WITNESS: No, as I think the patent itself
19 says a polymer is synthetic or metal.
20 BY MR. KEESE:
21 Q. Doesn't the patent say it can be formed from a
22 range of materials; for example, a polymer, a synthetic,
23 or a metal?
24 **A. That is what it says.**
25 Q. Okay. And a bed sheet can certainly be formed

122

1 from polymer, right, polyester?
2 **A. I guess there are polyester bed sheets. I**
3 **prefer cotton.**
4 Q. Sure enough. I prefer a flannel.
5 But if I took a string of polyester from a bed
6 sheet, is that a filament?
7 **A. I think in the ordinary meaning of terms, it**
8 **would be a filament.**
9 Q. And is it your testimony that a bed sheet made
10 from those polyester strings is not a filament?
11 **A. If it's the size of a queen-sized bed, I would**
12 **not consider that a filament.**
13 Q. And so what distinguishes the string of
14 polyester from the bed sheet in determining whether the
15 bed sheet is a filament or not?
16 **A. The relative size of the length and the width.**
17 Q. Okay. So, you need something that is long and
18 thin to be a filament, correct?
19 MR. BELAIR: Misstates the testimony.
20 THE WITNESS: I think that's part of the
21 ordinary meaning of filament, would be long and thin.
22 BY MR. KEESE:
23 Q. Okay.
24 **A. But it depends what dimensions we're talking**
25 **about too.**

123

1 Q. Does a filament have to be flexible?
2 **A. I think in the ordinary meaning of filament,**
3 **it has flexibility.**
4 Q. Okay. So, is a rubber band a filament under
5 your construction?
6 **A. I think it could be.**
7 Q. Okay.
8 **A. It's a polymer or a synthetic.**
9 Q. What about a plastic clip like this, is it a
10 filament?
11 **A. I would not consider it a filament.**
12 Q. What about a paperclip? Is a paperclip a
13 filament?
14 **A. If it were extended into its full length, and**
15 **if it were flexible, it could be considered a filament.**
16 Q. Okay. What about a soft plastic, like a spool
17 of 3D printer ink; is that a filament?
18 **A. I'm not sure what -- what your meaning is.**
19 Q. Have you ever dealt with a 3D printer?
20 **A. I've 3D printed some parts, yes.**
21 Q. And so the material that's used to 3D print,
22 that's a soft plastic, correct?
23 **A. It starts out --**
24 Q. Okay.
25 **A. -- that way.**

124

1 Q. And while it's still soft -- right, it hardens
2 eventually, correct?
3 And so if I took a strand of that 3D printer
4 material, while it was still soft, is that a filament?
5 MR. BELAIR: Objection, vague.
6 THE WITNESS: For the purposes of this, '21, I
7 would probably say no.
8 BY MR. KEESE:
9 Q. And why?
10 **A. For the purposes of this patent, the filament**
11 **would need some axial -- minimal axial elongation.**
12 Q. Okay. And, certainly, if you took some of
13 that 3D printer material and formed it into an arc and
14 let it cure and harden, that wouldn't be a filament,
15 correct?
16 MR. BELAIR: Objection, vague.
17 THE WITNESS: Yeah, I don't know.
18 BY MR. KEESE:
19 Q. And why do you not know whether it would be a
20 filament?
21 **A. I think it would be important to know the**
22 **mechanical characteristics of the -- of the finished**
23 **part.**
24 Q. What mechanical characteristics would you need
25 to know about the finished part to determine whether

125

1 that hardened U of plastic was a filament or not?
2 MR. BELAIR: Objection, vague.
3 THE WITNESS: Can you repeat the question?
4 BY MR. KEESE:
5 Q. Yeah. So, we were talking about a 3D-printed
6 part, where the plastic has now hardened, right? It's
7 formed an arc, and now it's hardened, right?
8 **A. Okay.**
9 Q. And I asked whether that would be a filament,
10 and you said you would need to know the mechanical
11 characteristics of the finished part.
12 And so now my question is, what mechanical
13 characteristics would you need to know about that
14 finished part to determine whether that hardened plastic
15 was a filament or not?
16 **A. I think, really, the -- the rigidity.**
17 Q. Uh-huh. So, if it was quite rigid, it
18 wouldn't be a filament?
19 MR. BELAIR: Objection, vague.
20 THE WITNESS: It would be a range.
21 BY MR. KEESE:
22 Q. Okay.
23 **A. Yeah, it depends on the definition of**
24 **rigidity, but I think the -- some level of flexibility**
25 **would be the common definition of a filament.**

126

1 Q. If I could have you look at paragraph 18 and
2 19 of your declaration?
3 **A. Did you say page 18?**
4 Q. Paragraph 18 and 19.
5 **A. Yes.**
6 Q. Okay. And in paragraph 18 and 19, you set
7 forth your understanding of the law regarding claims of
8 obstruction; is that correct?
9 **A. Yes.**
10 Q. And where did you get that understanding?
11 MR. BELAIR: I'll just caution the witness not
12 to reveal the contents of any communications that he had
13 with counsel.
14 THE WITNESS: These were my understandings
15 from counsel.
16 BY MR. KEESE:
17 Q. Okay. So, counsel provided you with that
18 legal framework, correct, without revealing their
19 specific communication?
20 **A. Yes.**
21 Q. Okay.
22 **A. I didn't write it.**
23 Q. Yeah. So, you don't know whether that
24 recitation of the law of claim construction is complete,
25 correct?

127

1 **A. I don't.**
2 Q. Okay, yeah.
3 You don't mention a doctrine called claim
4 differentiation in this section, correct?
5 **A. Correct.**
6 Q. Do you know what claim differentiation is?
7 MR. BELAIR: Calls for a legal conclusion.
8 THE WITNESS: No.
9 BY MR. KEESE:
10 Q. Okay. Do you know that -- okay.
11 Do you know whether a court in construing
12 patent claims assumes that each claim has a different
13 scope?
14 MR. BELAIR: Asks for a legal conclusion.
15 THE WITNESS: Yeah, I don't know.
16 BY MR. KEESE:
17 Q. And it's fair to say if you didn't know what
18 the doctrine of claim differentiation is, you didn't
19 apply it in your analysis of the meaning of the '910 and
20 '921 patents, correct?
21 **A. That is correct.**
22 Q. Okay. And Mr. Thornton, you have the '921
23 patent in front of you. I believe it's Deposition
24 Exhibit 16.
25 **A. Yes.**

128

1 Q. If you go to column 4, lines 3 to 7, have you
2 had a chance to look at that?
3 **A. I'm reading the paragraph --**
4 Q. Yeah.
5 **A. -- and the one before it.**
6 Q. Okay. Just let me know when you have had a
7 chance.
8 **A. Okay.**
9 Q. And so in column 4, lines 3 to 7, it discusses
10 certain embodiments of a filament for the '921 patent,
11 correct?
12 **A. Yes, it states that the filament can be a**
13 **monofilament. In some embodiments, a filament can be at**
14 **least one of a polymer filament or a metallic filament.**
15 Q. So this provides some non-limiting examples
16 for filaments, including a monofilament, a polymer
17 filament, or a metallic filament; is that right?
18 **A. Yes.**
19 Q. Okay. And a monofilament, it's formed of a
20 single solid strand of material, correct?
21 **A. That's my understanding.**
22 Q. So, like we were discussing, like a fishing
23 line?
24 **A. Yes.**
25 Q. Okay. And in terms of a polymer filament, is

129

1 that a line that's formed from different pieces of
2 material?
3 **A. I wouldn't necessarily assume that.**
4 Q. Okay.
5 **A. I think they're just getting -- they're being**
6 **more specific from a materials standpoint --**
7 Q. Okay.
8 **A. -- not a construction.**
9 Q. Okay. So you could have a monofilament formed
10 of polymer?
11 **A. Yes.**
12 Q. Okay. And in your declaration, you point to
13 column 9, lines 7 to 17; is that correct?
14 **A. Where in my declaration does it say that?**
15 Q. Well, do you point to column 9, lines 7 to 17?
16 **A. I don't recall.**
17 Q. Okay. Did you take a look at column 9, lines
18 7 to 17 in the '921 patent?
19 **A. Yes.**
20 Q. Okay.
21 **A. Yeah.**
22 Q. And this again describes some examples of
23 filaments, correct?
24 **A. First of all, it describes a material -- the**
25 **variety of materials, including, for example, a polymer,**

130

1 **a synthetic, and/or a metal.**
2 Q. Okay. And so the filament can be a polymer,
3 it can be a synthetic, it can be a metal, and it can be
4 a variety of other materials, correct?
5 **A. The following sentence says it could be nylon,**
6 **stainless steel, nitinol, silicon, or the like.**
7 Q. Okay. And the sentence after that says you
8 could have a single-strand filament, i.e., a
9 monofilament; is that correct?
10 **A. Yes.**
11 Q. Okay. And then the following sentence says
12 you could actually have a filament formed from a
13 plurality of strands that are twisted, woven, grouped,
14 or fused to form a filament, correct?
15 **A. That's what it says.**
16 Q. Okay. So you can form a long, thin filament
17 from multiple strands; is that correct?
18 MR. BELAIR: Objection, misstates the
19 document.
20 THE WITNESS: A plurality of strands can be
21 twisted to form a filament, so...
22 I think the ordinary meaning of that is clear.
23 BY MR. KEESE:
24 Q. Okay. And then, at lines 15 to 17, that is
25 where you point to where the '921 patent says that the

131

1 filament can comprise one or more -- one or several
2 threads, lines, cords, rope, ribbon, flat wire, sheet or
3 tape, correct?
4 **A. Yes.**
5 Q. And that's where you got your proposed
6 construction from?
7 **A. Yes.**
8 Q. And do you see that the sentence there starts
9 with, "In some embodiments"?
10 **A. Yes.**
11 Q. And so do you understand that to mean that
12 that is a non limiting list of what filaments can be?
13 Or is that what filaments are limited to?
14 **A. That's what was stated here, so I used that**
15 **segment as the definition --**
16 Q. Okay.
17 **A. -- of the construction for that, the term**
18 **filament.**
19 Q. Okay. And when you say -- okay. I -- and I
20 apologize. I think your -- your answer, we used an
21 indefinite article that wasn't super clear, so I
22 apologize for going back.
23 But you said "what was stated here, so I used
24 that segment as a definition of the construction for
25 that, the term filament." When you say "that segment as

132

1 the definition," are you referring to column 9, lines 15
2 through 17?
3 **A. The section that says "the filament can**
4 **comprise one or several threads, lines, cords, rope,**
5 **ribbon, flat wire, sheet or tape."**
6 Q. Okay, great.
7 If I could have you turn to paragraph 21 of
8 your declaration. There, you discuss a principle called
9 inherency; is that correct?
10 **A. Yes.**
11 Q. Did you apply the apply of inherency in
12 forming any of your opinions in this declaration?
13 **A. I don't believe so.**
14 Q. Okay. And I just want to make sure I give you
15 the '910 patent. That's Deposition Exhibit 7 [sic],
16 Mr. Thornton?
17 **A. Earlier one?**
18 Q. I think so. I just want to make sure.
19 **A. No, I don't have 7 -- oh, the bottom number,**
20 **sorry.**
21 Q. Yeah, sorry.
22 **A. The small number. I have Exhibit 7.**
23 MR. BELAIR: And 7 is Garrison, is that what
24 you're talking about?
25 MR. KEESE: Deposition Exhibit 7, that's the

133

1 '910 patent.
2 MR. BELAIR: That's Garrison.
3 MR. KEESE: Ah.
4 MR. BELAIR: I don't think we have the '910
5 yet.
6 MR. KEESE: Ah, okay. Well, let's -- let's
7 get on that. That's why I ask.
8 MR. BELAIR: I was going to say, while
9 we're -- while we're doing that, are we sure Garrison --
10 MR. KEESE: Yeah, I mismarked --
11 MR. BELAIR: Are we sure Garrison is 7?
12 MR. KEESE: Yeah, Garrison should be 12.
13 MR. BELAIR: Yeah. Let's clean that up right
14 now before we go any further.
15 MR. KEESE: Yeah.
16 MS. TESSAR: This one says 7 too.
17 MR. KEESE: Yeah, that's my bad.
18 MS. TESSAR: Okay. There you go.
19 In case you don't have enough of that.
20 MR. KEESE: All right. So, I'm going to state
21 on the record that the Garrison reference, which is
22 Exhibit 29, and document number filed as 24-36, that
23 actually was Deposition Exhibit 12. I apologize for
24 mislabeling it. We referred to it as Deposition
25 Exhibit 7.

134

1 (Whereupon, previously marked Deposition
2 Exhibit 7 was introduced.)
3 BY MR. KEESE:
4 Q. I have now handed you what should be
5 Deposition Exhibit 7, Mr. Thornton.
6 **A. Yes.**
7 Q. Can you identify what Deposition Exhibit 7 is?
8 **A. It's US Patent Number 11,974,910 B2.**
9 Q. And that is the '910 patent that you discuss
10 in your declaration; is that correct?
11 **A. Yes.**
12 Q. And if you could flip to the front page -- it
13 looks like you've already done it.
14 Does it say Exhibit 1 on the front and it has
15 a document stamp of Document Number 24-8?
16 **A. Yes.**
17 Q. Okay, great. And we had discussed earlier
18 that you did not provide any express constructions for
19 the '910 patent; is that correct?
20 **A. Correct.**
21 Q. And so you did not provide an opinion
22 regarding whether the first pressure source and the
23 second pressure source of claim 1 have to be separate
24 devices, correct?
25 **A. I didn't specifically talk about that, I don't**

135

1 **believe.**
2 Q. Okay. Did you apply any interpretation of the
3 claim language that recites a first pressure source and
4 second pressure source in your declaration?
5 MR. BELAIR: Objection, vague.
6 THE WITNESS: Can you ask that again?
7 BY MR. KEESE:
8 Q. Yeah. Did you apply any interpretation of the
9 claim language that recites a first pressure source and
10 a second pressure source in your declaration?
11 MR. BELAIR: Same objection.
12 THE WITNESS: I used the common and ordinary
13 definitions for those things.
14 BY MR. KEESE:
15 Q. And is it your understanding that under the
16 common and ordinary definitions, based upon the '910
17 patent, that the first pressure source and the second
18 pressure source can be the same device?
19 MR. BELAIR: Sorry. Did you say can or can't?
20 MR. KEESE: Can.
21 MR. BELAIR: C-A-N.
22 THE WITNESS: Let's see. Let me look at the
23 claim. Claim 1...
24 MR. BELAIR: Let me just add an objection that
25 that's vague as well. Sorry.

136

1 THE WITNESS: Sorry. Can you re-ask the
2 question?
3 MR. KEESE: Yeah, can you read back the last
4 question?
5 THE REPORTER: "Question: And is it your
6 understanding that under the common and ordinary
7 definitions, based upon the '910 patent, that the first
8 pressure source and the second pressure source can be
9 the same device?"
10 THE WITNESS: I certainly don't read claim 1
11 as being the same pressure source device. It seems
12 clear to me that there are separate catheter assemblies,
13 and each have their own pressure source.
14 BY MR. KEESE:
15 Q. Okay. Have you considered claim 4 of the '910
16 patent?
17 **A. That's a dependent claim on -- it depends on**
18 **claim 1.**
19 Q. And what does it mean that it's a dependent
20 claim?
21 **A. That it has to have all of the requirements of**
22 **the parent claim.**
23 Q. And, conversely, the parent claim has to cover
24 what is recited in the dependent claim, correct?
25 **A. I'm not sure what you mean by "has to cover."**

137

1 Q. So, anything that's recited in a dependent
2 claim has to be included in the independent claim from
3 which it depends, correct?
4 MR. BELAIR: That's vague, and I think you
5 misstated the law on that one.
6 MR. KEESE: I'll restate it.
7 BY MR. KEESE:
8 Q. Any dependent claim recites additional
9 narrowing from what is recited in the independent claim;
10 is that correct?
11 MR. BELAIR: Vague and -- excuse me, object,
12 it's vague, and it calls for a legal conclusion.
13 THE WITNESS: My nonlegal understanding is
14 dependent claims typically narrow --
15 BY MR. KEESE:
16 Q. Okay.
17 **A. -- the parent claim.**
18 Q. Okay. And what does claim 4 recite?
19 **A. "The clot treatment system of claim 1 wherein**
20 **the first pressure source is the same as the second**
21 **pressure source."**
22 Q. So, claim 4 indicates that the first and the
23 second pressure source can be the same, correct?
24 **A. Claim 4 says that.**
25 Q. Okay. So, it would be logical to interpret

138

1 the first and the second pressure source as potentially
2 being the same, correct?
3 MR. BELAIR: Object, calling for a legal
4 conclusion, and this is outside the scope of the claims
5 asserted for purposes of the preliminary injunction.
6 THE REPORTER: I'm sorry, "claims asserted
7 for"...?
8 MR. BELAIR: Claim 4 is outside the scope of
9 the claims asserted in the preliminary injunction, and
10 this deposition is limited to the arguments made in the
11 preliminary injunction motion.
12 You can answer.
13 THE WITNESS: Sorry, can you re-ask?
14 BY MR. KEESE:
15 Q. Yeah.
16 So, based on claim 4 -- which narrows claim 1,
17 correct?
18 **A. Yes.**
19 Q. Does it make sense to interpret the first
20 pressure source and the second pressure source as
21 potentially being the same, given that claim 4 says that
22 the first pressure source and the second pressure source
23 are the same?
24 MR. BELAIR: Object, vague and calls for a
25 legal conclusion, and it's outside the scope of the

139

1 declaration.
2 THE WITNESS: Yeah, I don't know. I see
3 claim 1 is what's at issue here. Claim 4 adds another
4 option in the design, it seems to me.
5 BY MR. KEESE:
6 Q. Okay. So, earlier, you said that you thought
7 that claim 1 required two separate pressure sources; is
8 that correct?
9 **A. That's how I -- that's my opinion of what that**
10 **claim -- how that claim reads.**
11 Q. Okay. And did you take claim 4 into account
12 when you stated that during your previous testimony?
13 MR. BELAIR: Vague.
14 THE WITNESS: Claim 1 stands on its own. I
15 took it as its own.
16 BY MR. KEESE:
17 Q. Do you think that claim 1 should not be
18 interpreted based upon the dependent claims that also
19 narrow it?
20 MR. BELAIR: Calls for a legal conclusion.
21 THE WITNESS: Yeah, I don't know.
22 BY MR. KEESE:
23 Q. Okay. And when we previously were talking
24 about the doctrine of claim differentiation, is it fair
25 to say that you didn't take the doctrine of claim

140

1 differentiation into account in interpreting claim 1 as
2 requiring two separate pressure sources?
3 **A. Yeah, I'm not familiar with that doctrine --**
4 Q. Okay.
5 **A. -- and did not apply it.**
6 Q. Okay. If I could have you turn to column 15,
7 starting at line 65, of the '910 patent.
8 MR. BELAIR: What line was that? Sorry.
9 MR. KEESE: 65.
10 THE WITNESS: Column 15?
11 BY MR. KEESE:
12 Q. Yeah. And so this column 15, line 65, to
13 column 16 line 5, this indicates that multiple pressure
14 sources can be the same and can be coupled to the
15 catheter subsystem via a single fluid control device; is
16 that correct?
17 MR. BELAIR: Object, misstates the document.
18 THE WITNESS: Maybe looking at the figures
19 that it -- is it referring to figures 5 through 7?
20 Well, I can read it. "In some embodiments,
21 multiple pressure sources can be coupled to the catheter
22 via the tubing subsystem 120 and/or via the valve 106.
23 Moreover, the individual pressure sources can be the
24 same or different and can be coupled to the catheter
25 subsystem 100 via a single system fluid control device,

141

1 such as the fluid control device 126, or can be coupled
2 to the catheter subsystem via separate fluid control
3 devices."
4 That's what it says.
5 BY MR. KEESE:
6 Q. Do you understand that to mean that the same
7 pressure source can provide multiple individual pressure
8 sources?
9 MR. BELAIR: Objection, vague.
10 THE WITNESS: Yeah, I understand it to mean
11 that there could be one or two separate pressure
12 sources.
13 BY MR. KEESE:
14 Q. Okay. If I could have you turn to column 21,
15 starting at line 50, going on to line 61.
16 **A. Okay.**
17 Q. And so the first sentence of this says that,
18 "In some embodiments, the first and second pressure
19 sources are separate sources, each configured to
20 generate and store a vacuum for subsequent application
21 to the first and second catheter subsystems,
22 respectively, as described in detail above with the
23 first -- with reference to Figures 1 to 10B; is that
24 correct?
25 **A. Yes.**

142

1 Q. And so that's for some embodiments but not
2 all, the first and second pressure source are separate
3 sources; is that how you interpret that disclosure?
4 **A. Yes.**
5 Q. And then it goes on at claim -- or line 55,
6 "In other embodiments, one or both of the pressure
7 sources can be configured to provide sustained negative
8 pressure, rather than a charge or a burst of a stored
9 vacuum pressure, and yet, in other embodiments, one of
10 the pressure sources can be omitted or the pressure
11 sources can be fluidly coupled and/or integrally
12 formed."
13 That last sentence says that multiple pressure
14 sources can be formed together as a single source; is
15 that correct?
16 **A. One of the pressure sources can be omitted, or**
17 **the pressure sources 1040, 1140 can be fluidly coupled**
18 **and are integrally formed.**
19 Q. And so, what does it mean if one of the
20 pressure sources is omitted? That means that a single
21 pressure source is providing both the first and the
22 second pressure source, correct?
23 MR. BELAIR: Misstates the document.
24 THE WITNESS: Not sure exactly what it means.
25 ///

143

1 BY MR. KEESE:
2 Q. Okay. Did you consider this passage in
3 interpreting the claims of the '910 patent?
4 **A. Well, I considered this whole patent, so I**
5 **certainly read these lines and considered them.**
6 Q. Okay. And if the pressure sources are
7 integrally formed, they are formed together in a single
8 device; is that correct?
9 **A. I would interpret it that way.**
10 Q. Okay, great.
11 If I could have you look at paragraph 58 of
12 your declaration.
13 MR. BELAIR: Are we going now to the '921
14 patent?
15 MR. KEESE: I believe that's back to the '921
16 patent.
17 MR. BELAIR: I just want to make sure that we
18 don't confuse ourselves.
19 MS. TESSAR: We will.
20 MR. KEESE: I was going to say, I have got
21 enough hours, it's going to happen.
22 BY MR. KEESE:
23 Q. Are you at paragraph 58, Mr. Thornton?
24 **A. Yes.**
25 Q. And if you look at the last two sentences of

144

1 paragraph 58, do you contend that the preamble of
2 claim 1 is limiting?
3 **A. Well, I'm not completely sure what that means**
4 **from a legal standpoint.**
5 Q. Okay. So, you don't know what it means if a
6 preamble is limiting or not?
7 **A. I usually think of "limiting" as in the**
8 **claims.**
9 Q. Uh-huh. I guess let me ask you this: What is
10 the preamble of a claim?
11 MR. BELAIR: Calls for a legal conclusion.
12 THE WITNESS: In this example, "a valve,
13 comma, comprising," is the preamble, I believe.
14 BY MR. KEESE:
15 Q. And so do you understand that language, "a
16 valve, comprising," to be one of the required
17 limitations for claim 1?
18 MR. BELAIR: Calls for a legal conclusion.
19 THE WITNESS: All of the claims relate to "the
20 valve."
21 BY MR. KEESE:
22 Q. Okay. And I just want to be clear, are you
23 contending that Schaffer and Hartley together disclosed
24 the valve, or does Schaffer alone disclose the valve?
25 **A. Well, they both disclose -- disclose a valve.**

145

1 Q. Okay. And Hartley discloses a
2 rotational-style valve; is that correct?
3 **A. Yes.**
4 Q. And -- okay.
5 **A. Well, let me clarify.**
6 Q. Yeah.
7 **A. The doctor would need to rotate the actuator**
8 **in order to control the valve.**
9 Q. Okay. Okay, great.
10 MR. KEESE: We have been on for over an hour,
11 as I am sure you have noticed, so let's take a short
12 break.
13 THE VIDEOGRAPHER: All right. We're going off
14 the record at 14:14.
15 (Whereupon, a recess was taken.)
16 THE VIDEOGRAPHER: We are back on at 14:24.
17 BY MR. KEESE:
18 Q. Okay. Welcome back, Mr. Thornton.
19 Earlier in the day, we were looking at
20 paragraph 56 of your declaration, and you made a
21 correction to that paragraph.
22 Do you remember that?
23 **A. Yes.**
24 Q. And you said that we should remove "or Eller"
25 from paragraph 56; is that correct?

146

1 **A. Yes.**
2 Q. And if you go to paragraph 63 of your
3 declaration --
4 **A. Also remove it there, from line 22.**
5 Q. Okay, great.
6 And if you could go to paragraph 78 of your
7 declaration.
8 Are you there?
9 **A. Yes.**
10 Q. The final sentence of this paragraph discusses
11 the Eller reference. Are you saying we should remove
12 that as well?
13 **A. I don't think that would need to be removed.**
14 **It's just making specific comments on potential silicon**
15 **materials.**
16 Q. So, are you relying on the Eller reference as
17 part of your combination for invalidity here?
18 **A. No.**
19 Q. Okay. So, what are you relying on Eller for
20 in this sentence in paragraph 78?
21 **A. I'm just providing another example of the**
22 **types of materials used for sleeves, is what they call**
23 **them.**
24 Q. And so, these are examples of the material
25 that can be used to form the lumen for a hemostasis

147

1 valve; is that correct?
2 **A. The compressible member -- different patents**
3 **call it different things -- but the tube that gets**
4 **compressed in the center of the valve.**
5 Q. Okay. And within that compressible member,
6 there is an opening that can be compressed and collapsed
7 to close the valve and can be opened to allow the valve
8 to open; is that correct?
9 **A. Yeah, the lumen.**
10 Q. Okay. And so that compressible member forms
11 the structure within the -- sorry.
12 That compressible member forms the structure
13 that the lumen is formed within; is that correct?
14 MR. BELAIR: Objection, vague.
15 THE WITNESS: Yeah, I believe that's true,
16 in --
17 BY MR. KEESE:
18 Q. Okay.
19 **A. -- in the '921 patent and in Schaffer.**
20 Q. Okay. And these --
21 **A. And in Hartley.**
22 Q. Okay.
23 **A. Sorry.**
24 Q. And in Eller?
25 **A. And in Eller.**

148

1 Q. Okay. These materials from Eller, what are
2 those materials?
3 **A. These are different silicon materials.**
4 Q. And why did you want to include these
5 different silicon materials as example materials?
6 **A. I don't remember --**
7 Q. Okay.
8 **A. -- why it was important.**
9 Q. Are these materials softer than the materials
10 Schaffer discloses as forming a lumen?
11 MR. BELAIR: Objection, vague.
12 THE WITNESS: I don't know, but it's more
13 specific than what Schaffer disclosed. He discloses
14 silicon, and Eller describes more specific types of
15 silicons.
16 BY MR. KEESE:
17 Q. Okay. And if you go to -- up a couple of
18 sentences, you say, "If the resiliency of Schaffer's
19 lumen required an adjustment to function with Hartley's
20 string, a person of ordinary skill in the art would have
21 possessed the skills and knowledge to select an
22 appropriate material (e.g. plastic) with the proper
23 resiliency."
24 Do you see that?
25 **A. Yes.**

149

1 Q. So, are you saying there that the materials
2 Schaffer discloses to form the lumen may not have the
3 proper resiliency to be closed with the string that
4 Hartley discloses?
5 **A. Not necessarily.**
6 Q. Okay.
7 **A. I'm just explaining how an engineer would**
8 **function to change materials, wall thickness, et cetera,**
9 **to finalize a design or optimize a design.**
10 Q. Do you think the resiliency of Schaffer's
11 lumen would require adjustment to function with
12 Hartley's string?
13 **A. I don't know.**
14 Q. Okay. So, you don't know whether the suture
15 Hartley discloses could adequately constrict the seal
16 module disclosed in Schaffer; is that correct?
17 **A. Can you say that again?**
18 Q. Yeah. So you don't know whether the suture
19 that Hartley discloses could adequately constrict the
20 seal module disclosed in Schaffer; is that correct?
21 MR. BELAIR: Objection, misstates the
22 document.
23 THE WITNESS: From an engineering standpoint,
24 there aren't sufficient details to determine that from a
25 piece of paper.

150

1 BY MR. KEESE:
2 Q. Okay.
3 **A. And what I'm explaining is that it would be**
4 **obvious for an engineer to make adjustments to these**
5 **things as needed for the different designs.**
6 Q. So, that's another modification an engineer
7 might have to make in order to allow Schaffer to be
8 modified to include Hartley's string?
9 MR. BELAIR: Objection, vague and misstates.
10 BY MR. KEESE:
11 Q. Is that correct?
12 **A. What I said was if -- if it was required, if**
13 **Schaffer's lumen required adjustment, a person of**
14 **ordinary skill in the art would have possessed the**
15 **skills and knowledge to select the more appropriate**
16 **material.**
17 Q. But it's accurate to say that it's not clear
18 to you based upon the disclosure whether Schaffer's
19 lumen would require an adjustment to function with
20 Hartley's string; is that correct?
21 **A. That's correct.**
22 Q. Okay.
23 (Quiet discussion off the record.)
24 MR. KEESE: All new ones from here, so we
25 hopefully won't have another numbering snafu.

151

1 BY MR. KEESE:
2 Q. Mr. Thornton, I've handed you what's been
3 marked as exhibit -- Deposition Exhibit 17.
4 (Whereupon, Exhibit 17 was marked for
5 identification.)
6 BY MR. KEESE:
7 Q. Do you recognize it?
8 **A. Yes, we've been calling it the Schaffer**
9 **application -- or the Schaffer patent.**
10 Q. And on the front, it's also stamped with
11 Exhibit 32 and document filing number 24-39; is that
12 correct?
13 **A. Yes.**
14 Q. Okay. And in Schaffer, the portions you rely
15 on have a U-shaped actuating member to close the valve's
16 lumen; is that correct?
17 **A. Let me get the terminology -- confirm the**
18 **terminology here.**
19 **Yes, as I am showing on my declaration**
20 **page 18, Figure 32 includes a U-shaped actuating member**
21 **in Schaffer.**
22 Q. And Figure 32 and Figure 31 of Schaffer both
23 show the valve in a closed position, correct?
24 **A. Figure 32 definitely does.**
25 **For 31, I need to look at the description in**

152

1 **the patent to make sure.**
2 Q. Okay. Go ahead.
3 And it might help you to compare Figures 31
4 and 32 with Figures 33 and 34.
5 **A. Yes, I believe 32 is just a cutaway view of**
6 **Figure 31.**
7 Q. Okay.
8 **A. So, they're both in the compressed position.**
9 Q. Compressed position. And in that compressed
10 position, those U-shaped members of Schaffer pinch the
11 lumen and compress it to seal it; is that correct?
12 **A. Well, they're compressing the central lumen**
13 **to -- to include the central lumen, yes.**
14 Q. Okay. So it's a compressive force?
15 **A. Yes, from each side.**
16 Q. Okay. And in the next two figures in
17 Schaffer, Figures 33 and 34, which I don't know that
18 those are in your declaration, I'll warn you --
19 **A. Okay. So, I believe we have better images of**
20 **these two photographic images.**
21 **Is that available to look at?**
22 Q. Indeed, it is.
23 Mr. Thornton, I've just handed you what's been
24 marked as Deposition Exhibit 18.
25 ///

153

1 (Whereupon, Exhibit 18 was marked for
2 identification.)
3 BY MR. KEESE:
4 Q. Can you identify what that is?
5 **A. Each page says Exhibit 10-25. These -- these**
6 **are the drawings from Schaffer, et al.**
7 Q. Okay. And these were the drawings that you
8 were asking to see if you could see them?
9 **A. Thirty -- right, yes, these are the better**
10 **quality --**
11 Q. Okay.
12 **A. -- images for Figure 32 and 33.**
13 Q. And on the front, it's marked Exhibit 10-25
14 and stamped with document 36-20 from the filing; is that
15 correct?
16 **A. Yes.**
17 Q. Okay. And so, in Figures 33 and 34 of
18 Schaffer, there the buttons have been pushed in to
19 release the compression on the lumen; is that correct?
20 **A. Yes.**
21 Q. And if you look at Figure 33, and I think you
22 definitely want to look at Deposition Exhibit 18 for
23 this one, this is in the uncompressed position, correct?
24 MR. BELAIR: Sorry, which one are we looking
25 at?

154

1 MR. KEESE: Figure 33.
2 MR. BELAIR: We just -- Figure 33 just was the
3 compressed figure, right?
4 MR. KEESE: No, I think 31 and 32 are the
5 compressed figures.
6 MR. BELAIR: Oh, sorry, sorry.
7 MR. KEESE: Yeah.
8 MR. BELAIR: I'm getting my terminology
9 confused. Ignore me.
10 BY MR. KEESE:
11 Q. So, we can clear that up, though.
12 So, Figures 31 and 32 show the valve in the
13 compressed position, correct?
14 **A. Yes.**
15 Q. Yeah, and Figures 33 and 34 show the valve
16 with the buttons depressed in the uncompressed position,
17 correct?
18 **A. That opens the lumen, yes.**
19 Q. Okay.
20 **A. Yes.**
21 Q. And if you look at Figure 33, there is a gap
22 between the outer material of the member forming the
23 lumen and the U-shaped actuating member that's connected
24 to button 261; is that correct?
25 MR. BELAIR: Objection, vague.

155

1 THE WITNESS: I'm not sure of the gap you're
2 referring to.
3 BY MR. KEESE:
4 Q. So, do you see whether there is a gap between
5 the outer portion of the member forming the lumen and
6 the U-shaped member in that figure?
7 **A. No.**
8 **Is it labeled with a number?**
9 Q. I don't think that the gap itself is labeled
10 with a number.
11 So, you're -- you're saying that you don't see
12 a gap?
13 **A. Yeah, I don't -- I don't.**
14 Q. Okay. What --
15 **A. You can highlight it for me, what you're**
16 **talking about.**
17 Q. So, I've marked in red there, where at least I
18 think that it shows a gap between the U-shaped member
19 and the outer surface of the member forming the lumen.
20 MR. BELAIR: I'm just going to object to the
21 marking that you've done.
22 Where you've marked, I'm just comparing your
23 Figure 31 to 33. I see the same marking on both
24 figures, it appears, to me at least. So, I don't know
25 that we're going to be talking about any meaningful

156

1 distinction here.
2 And if we need to introduce this as a new
3 exhibit, we should probably do that, with the marking.
4 BY MR. KEESE:
5 Q. In -- in the depressed, uncompressed position,
6 does the U-shaped member disengage from the outer
7 surface of the member forming the lumen?
8 MR. BELAIR: Objection, vague.
9 THE WITNESS: I'm not sure.
10 BY MR. KEESE:
11 Q. Okay.
12 **A. It's not clear in the drawings if that's the**
13 **case or not the case.**
14 Q. If I could have you go to paragraph 80 of the
15 Schaffer reference.
16 So, paragraph 80 is discussing the situation
17 when the actuator button 261 is depressed; is that
18 correct?
19 **A. Yeah, that's how it starts.**
20 Q. Okay. And in that situation, it allows the
21 engaged actuating member 55 -- that's the U-shaped
22 member; is that correct?
23 **A. Yes.**
24 Q. -- to forcibly disengage the outer wall of the
25 seal module 100, allowing the portion one way of

157

1 containment structure to retract through an uncollapsed
2 configuration where gases and fluids can pass there
3 through.
4 Do you see that?
5 **A. Yes.**
6 Q. What is your understanding of what it means
7 for the actuating member to be engaged with the outer
8 wall 27 of the seal module?
9 **A. To be in contact with it --**
10 Q. Okay.
11 **A. -- in order to compress it.**
12 Q. And so when that actuating member is forcibly
13 disengaged from the outer wall, does that mean that it's
14 no longer in contact with it?
15 **A. Not necessarily. The lumen could have the**
16 **resiliency to expand up to its full dimension and stay**
17 **in some level of contact.**
18 Q. Okay. If I could have you go to paragraph 83
19 of Schaffer. And I just -- just so that we're clear,
20 your view is that the forcible disengagement described
21 in paragraph 80 does not mean that the U-shaped member
22 is no longer directly in contact with the outer wall of
23 the seal module?
24 **A. I think it could still be in contact --**
25 Q. Okay.

158

1 **A. -- with the seal module. The seal module has**
2 **expanded to the desired inside diameter.**
3 Q. But forcibly disengaging could be having no --
4 no forcible contact with the outer wall; is that
5 correct?
6 **A. Well, I read forcible disengaging as**
7 **compressing of the buttons.**
8 Q. Okay.
9 **A. You're forcibly compressing the spring,**
10 **pushing the buttons to compress the spring --**
11 Q. Okay.
12 **A. -- is how I would think of that term.**
13 Q. Okay. In paragraph 83 of Schaffer, have you
14 had a chance to look at that?
15 **A. Not yet.**
16 **Yes.**
17 Q. So, paragraph 83 describes a method of
18 assembling a valve in Schaffer with two actuators; is
19 that correct?
20 **A. Yes.**
21 Q. And in that assembly process, the actuators
22 are seated first; is that correct?
23 **A. First, as compared to what?**
24 Q. Yeah, so, well, let me ask it -- fair enough.
25 In that assembly process, the actuators are

159

1 seated, and then the seal module is threaded through a
2 gap formed in the middle of those actuators by fully
3 depressing the actuators; is that correct?
4 **A. That's how I read that paragraph, yes.**
5 Q. So, there has to be a gap between the seal
6 module and the U-shaped members in the fully compressed
7 position in order for that seal module to be threaded
8 through, correct?
9 **A. Or the engineer, the manufacturing engineer**
10 **might have -- you know, be compressing the tubing in**
11 **another manner to insert it.**
12 Q. Okay.
13 **A. There are many ways to assemble it.**
14 Q. The sentence, "Each actuator button 261
15 completely compressed and held while seal module is
16 inserted through housing and between each actuator"; so,
17 in your opinion, that doesn't require a gap between the
18 seal module and the space that's formed between the two
19 actuators?
20 **A. Are you saying the gap could be created by a**
21 **fixture which compresses the -- what do they call --**
22 **seal module --**
23 Q. Okay.
24 **A. -- to a smaller dimension in order to be able**
25 **to insert it?**

160

1 Q. Okay. But something that would compress the
2 seal module in order to insert it isn't described in
3 that paragraph, right?
4 **A. I don't see that.**
5 Q. Okay.
6 The U-shaped actuating members in Schaffer can
7 either be plastic or metal, such as aluminum; is that
8 correct?
9 **A. I believe they gave those two examples.**
10 Q. Okay. Mr. Thornton, you've been handed what's
11 been marked as Deposition Exhibit 19.
12 (Whereupon, Exhibit 19 was marked for
13 identification.)
14 BY MR. KEESE:
15 Q. Can you identify that for me?
16 **A. Yes. The Hartley patent.**
17 Q. Okay.
18 **A. US 2003/0116731 A1.**
19 Q. Okay. And on the front page, it also says
20 Exhibit 31, and it has a document stamp of document
21 number 24-38 from the filing?
22 **A. Yes.**
23 Q. Okay, great. You rely on the combination of
24 Schaffer, as modified by Hartley, as part of your
25 invalidity analysis for the '921 patent; is that

161

1 correct?
2 MR. BELAIR: Let me object to the extent it
3 misstates the contents of the declaration.
4 THE WITNESS: So, the -- yes, my invalidity
5 argument relies on Schaffer, with the addition of
6 Hartley.
7 BY MR. KEESE:
8 Q. Okay. And the way that you are adding Hartley
9 to Schaffer is by modifying Schaffer; is that correct?
10 **A. Let me look through the -- the right place in**
11 **the declaration.**
12 Q. Actually, let -- let me ask it this way.
13 **A. Yeah.**
14 Q. How -- how do you understand that you are
15 using Hartley in the combination of Schaffer and
16 Hartley?
17 **A. Only if the Court uses a different**
18 **construction language for the claims.**
19 Q. Okay. What construction language do you
20 understand the Court would apply, such that you would
21 want to use Hartley?
22 **A. I don't know for sure.**
23 Q. Okay. But in that situation, how are you
24 using Hartley in combination with Schaffer?
25 **A. If the actuating members are not considered a**

162

1 **filament --**
2 Q. Okay.
3 **A. -- then Hartley has a filament very similar to**
4 **the patent.**
5 Q. Okay. And so the filament suture in Hartley
6 is more similar to the filament in the '921 patent than
7 the actuating members of Schaffer; is that fair to say?
8 MR. BELAIR: Objection to the extent it
9 mischaracterizes the contents of the declaration.
10 THE WITNESS: My opinion is that the Schaffer
11 patent covers really everything in the '921 patent. And
12 only if the claims are construed differently than what
13 I've construed them myself might Hartley be needed.
14 BY MR. KEESE:
15 Q. If the Court were to adopt the construction
16 that Mr. Brown offered of the '921 patent, do you
17 understand that Schaffer would not disclose every
18 limitation of the '921 claims?
19 MR. BELAIR: Lacks foundation and calls for a
20 legal conclusion.
21 THE WITNESS: I don't recall his claim
22 construction proposal.
23 BY MR. KEESE:
24 Q. Okay.
25 **A. I would have to look at it.**

163

1 Q. Okay. So, if the Court construed the claims
2 of the '921 patent as requiring a filament that is long
3 and thin and flexible, is that the situation where you
4 think Hartley would need to be added to Schaffer?
5 **A. No, because I think the Schaffer actuating**
6 **elements are long and thin and flexible in order to**
7 **function.**
8 Q. Does Schaffer say that those actuating members
9 are flexible?
10 **A. They certainly talk about them being made of a**
11 **polymer.**
12 Q. Where does Schaffer say that the actuating
13 members are made of a polymer?
14 I think we had discussed earlier that Schaffer
15 discloses plastic and aluminum as the materials from
16 which the actuating members could be constructed; is
17 that correct?
18 **A. I believe they start out with the word**
19 **"metal" --**
20 Q. Okay.
21 **A. -- and add "aluminum" as a more specific**
22 **option.**
23 Q. Okay. That's -- that's fair. So, Schaffer
24 discloses that the U-shaped actuating members can be
25 formed from plastic or metal, including aluminum; is

164

1 that how you would read Schaffer?
2 **A. Can you point to the line in Schaffer? I'm**
3 **having a hard time finding it.**
4 Q. Okay.
5 **A. These are just the -- this is just the --**
6 Q. Figures.
7 **A. -- figures. 17 is Schaffer?**
8 **Well, it's easier with word search function --**
9 Q. Okay.
10 **A. Control F.**
11 Q. I'll ask it this way, then.
12 **A. Okay.**
13 Q. Are you aware of Schaffer disclosing that the
14 actuating members, the U-shaped actuating members, can
15 be formed of a material other than plastic or a metal,
16 including aluminum?
17 **A. I don't remember exactly how it was stated.**
18 **They gave those examples.**
19 Q. Okay. And is it possible that it's the '921
20 patent that discloses that a filament can be formed from
21 polymer?
22 **A. Well, that one does too, right?**
23 **So, I'll just state what's in the declaration.**
24 Q. Uh-huh.
25 **A. Page 26, starting with line 23, "A person of**

165

1 **ordinary skill in the art would have understood that**
2 **Schaffer's U-shaped actuating members would have**
3 **preferably been formed from a thin flexible material.**
4 **Such a material would have permitted the actuating**
5 **members to conform as much as possible to the outer**
6 **surface of the seal module and the tool inserted through**
7 **the valve. A thin metallic or plastic flat wire, sheet,**
8 **ribbon or tape would have provided that flexibility."**
9 Q. And if you look at Figure 31 of Schaffer --
10 **A. Uh-huh.**
11 Q. -- is it your position that those U-shaped
12 actuating members are sufficiently thin that they would
13 be flexible?
14 **A. For the device to work, I think it would need**
15 **flexibility in order to conform to different diameters**
16 **going through the device, and yet close down the seal**
17 **member when nothing is inside.**
18 Q. Would you agree that the lines, like the
19 sutures in Hartley or the lines disclosed in the '921
20 patent are more flexible than the U-shaped members in
21 Schaffer, such as in figure 31?
22 MR. BELAIR: That's vague.
23 THE WITNESS: I think the U-shaped members
24 would need to have similar flexibility to function
25 simply, and that can be achieved with different

166

1 dimensions of materials, including flat wire, for
2 instance.
3 BY MR. KEESE:
4 Q. Does Schaffer disclose that the U-shaped
5 members are a flat wire?
6 **A. That's what it appears to me in the -- in the**
7 **drawings, it appears to be a rectangularly shaped thin**
8 **member. It could be a metal or a plastic.**
9 Q. A flat wire would be significantly thinner
10 than those U-shaped members, correct?
11 MR. BELAIR: Vague.
12 THE WITNESS: Dimensions are not given.
13 BY MR. KEESE:
14 Q. Okay.
15 **A. It's not to scale, I'm sure.**
16 Q. Okay. To your knowledge, Schaffer doesn't
17 disclose a flat wire, correct?
18 MR. BELAIR: Vague. Misstates the testimony.
19 THE WITNESS: I think the drawings in Schaffer
20 show a rectangular cross-sectional material that could
21 be a wire, could be a polymer, based on their own
22 description of potential materials.
23 BY MR. KEESE:
24 Q. Does Schaffer disclose a polymer to form that
25 U-shaped actuating member?

167

1 **A. I believe they used the word "plastic" and**
2 **"metal."**
3 Q. Okay.
4 **A. It's not in quotes in line 20.**
5 Q. Okay.
6 **A. I could find it in the patent if you'd like.**
7 Q. Well, if you -- if it says polymer, certainly,
8 please do point it out in the patent.
9 **A. Polymers are a plastic.**
10 Q. You would agree that some polymers are rigid,
11 correct?
12 **A. Rigidity has a wide range. How rigid? Are we**
13 **talking I-beams? Or --**
14 Q. So, some plastics are more rigid than you
15 would consider a filament, correct?
16 MR. BELAIR: Vague.
17 THE WITNESS: There are hard plastics used for
18 machining, machining plastics, that wouldn't probably be
19 appropriate as a filament, depending on the size and the
20 rigidity of the material.
21 BY MR. KEESE:
22 Q. Such as a 3D-printed filament when it hardens?
23 MR. BELAIR: Vague.
24 THE WITNESS: Yeah, I don't know.
25 ///

168

1 BY MR. KEESE:
2 Q. And you said that plastic that would be
3 machined would be rigid, correct?
4 **A. I think that's a fair statement.**
5 Q. Do you know whether Schaffer discloses that
6 the U-shaped actuated members are machined from plastic?
7 **A. I don't remember that.**
8 Q. Okay. All right. I think we already marked
9 Garrison; is that correct?
10 MR. BELAIR: Yeah.
11 MR. KEESE: So, I think we accidentally
12 previously marked it as Deposition Exhibit 7, but it
13 should be Deposition Exhibit 12, and I think it says
14 Exhibit 29 on the front.
15 And, Nick, if you don't mind, can I adulterate
16 that one to say Deposition Exhibit 12 on the front?
17 MR. BELAIR: Yeah, let's make it correct.
18 THE WITNESS: Garrison, 3782 --
19 MR. BELAIR: This is why we should just use
20 the Exhibit Numbers that you originally assigned to
21 everything.
22 29, it's right there.
23 MR. KEESE: Okay.
24 BY MR. KEESE:
25 Q. So, Mr. Thornton, I've now handed you what has

169

1 been marked as Deposition Exhibit 12, which we
2 previously looked at, which is Garrison. And can you
3 verify for the record that on the front, it says
4 Exhibit 29, and it has document filing number -- it
5 should be 24-36.
6 **A. Yes, 24-36.**
7 Q. Yeah. Okay, great. And, obviously, you
8 discussed this Garrison reference in your declaration;
9 is that correct?
10 **A. Yes.**
11 Q. When did you learn about this Garrison
12 reference?
13 **A. At the beginning of the process, working with**
14 **counsel.**
15 Q. Okay. So, you received it from counsel,
16 without revealing any particular communications?
17 **A. Yes.**
18 Q. Okay. And we previously discussed that you
19 don't opine that Garrison anticipates the claims of the
20 '910 patent; is that correct?
21 **A. That Garrison and Laub together render the**
22 **claims invalid.**
23 Q. Okay. So, you've offered an obviousness
24 opinion involving Garrison and Laub but not an
25 anticipation opinion based upon Garrison?

170

1 **A. Yeah.**
2 Q. Okay. And do you agree that Garrison doesn't
3 disclose any aspiration catheters above 6 French?
4 **A. No. I believe they have reference to maybe up**
5 **to 10 French.**
6 Q. Okay.
7 **A. I would have to do a search to be sure.**
8 Q. So, I had a question about that. So, yeah, if
9 you could point me to where you think there's a
10 disclosure of a 10 French aspiration catheter, it likely
11 is in your declaration --
12 **A. Uh-huh.**
13 Q. -- potentially paragraph 131.
14 **A. So, my declaration page 63, lines 12 and**
15 **beyond, "Garrison discloses a range of possible sheath**
16 **and catheter sizes" --**
17 THE REPORTER: I'm sorry, "Garrison"...?
18 THE WITNESS: "Garrison discloses a range of
19 possible sheath and catheter sizes for its system and
20 presumes that a person of ordinary skill in the art
21 would have possessed the necessary knowledge to select
22 the correct size."
23 Q. And --
24 **A. Line 70 -- well, line 63 -- or paragraph 63**
25 **describes 6 and 8 French sizes. Paragraph 70 describes**

171

1 **a 10 French size sheath.**
2 Q. So, let's go to paragraph 70 of Garrison.
3 **A. Yeah. So, in paragraph 70, they talk about an**
4 **inner diameter of the remaining proximal region can**
5 **typically be in the range of .110 inch to .135 inches,**
6 **and I believe .135 inches is approximately equal to**
7 **10 French.**
8 Q. Right. And so paragraph 70 is talking about
9 an access sheath, an arterial access sheath device; is
10 that correct?
11 **A. It starts with "In some procedures, it may be**
12 **desirable to incorporate features on the arterial access**
13 **sheath to minimize flow resistance through the**
14 **insertable portion of the access sheath."**
15 Q. And then it discusses how that access sheath
16 can be stepped in size; is that correct?
17 **A. Yes.**
18 Q. And so that access sheath is used to introduce
19 a catheter through the sheath that's then advanced
20 farther to get to a clot material; is that correct?
21 **A. Yes, if that's talking about the access**
22 **sheath.**
23 Q. Okay. And so that access sheath is different
24 than a -- than the aspiration catheter, correct?
25 **A. In this description, I think that's true.**

172

1 Q. Okay. And so in this description of this
2 stepped sheath, the proximal region of the sheath has a
3 size up to 10 French; is that correct?
4 **A. That's what I'm understanding.**
5 Q. Okay. And so that proximal region is the
6 region closer to the introduction point; is that
7 correct?
8 **A. Closer to the doctor is how I would**
9 **characterize it.**
10 Q. Okay.
11 **A. And that's the size that the vessel -- that's**
12 **where the bleeding happens at that diameter, the**
13 **biggest -- wherever the biggest diameter is in the**
14 **vessel, that's the bleeding risk.**
15 Q. Right, but you couldn't introduce a 10 French
16 catheter through this sheath, correct?
17 **A. Correct, the sheath size is listed as up to**
18 **10 French.**
19 Q. Okay.
20 **A. Up to .135 inches.**
21 Q. But that's only at one end. At the distal
22 end, it narrows; is that correct?
23 **A. I believe so.**
24 Q. And it narrows down to .115-inch maximum; is
25 that correct?

173

1 **A. I would have to look at it in more detail.**
2 Q. Okay.
3 **A. There's a lot of dimensions and lengths given**
4 **here in this paragraph.**
5 Q. So, do you see the sentence, "The inner
6 diameter of the distal region 705 can be in the range
7 from .065 inch to .115 inch, with the remaining proximal
8 region of the sheath having larger outside and luminal
9 diameters"?
10 **A. Yes.**
11 Q. And so do you understand that to mean that the
12 inner diameter of the distal region of this sheath has a
13 maximum diameter of .115 inches?
14 **A. I believe that's what it says.**
15 Q. And .115 inches is approximately 8 French,
16 correct?
17 **A. I would have to do the math.**
18 Q. Okay. But it's smaller than 10 French,
19 certainly, correct?
20 **A. Yes.**
21 Q. Okay. If I could have you go to paragraph 63
22 of Garrison. This is where you say there's a disclosure
23 of a 6 French sheath size, correct?
24 **A. For paragraph 63, which figure is it relating**
25 **to?**

174

1 Q. Well, does paragraph 63 discuss a 6 French
2 sheath size?
3 **A. It talks about a sheath body, 222, can have an**
4 **inner diameter of about .078 inches and an outer**
5 **diameter of about 0.104 inches corresponding to a**
6 **6 French sheath size.**
7 Q. Okay.
8 THE REPORTER: You said "an outer diameter
9 of"...?
10 THE WITNESS: Outer diameter of about
11 0.104 inches.
12 BY MR. KEESE:
13 Q. And then it goes on to disclose another
14 embodiment, correct?
15 **A. With larger dimensions, corresponding to an**
16 **8 French sheath size.**
17 Q. And that 8 French sheath size has an inner
18 diameter of about .113 inches, correct?
19 **A. Yes.**
20 Q. So, .115 inches is approximately 8 French,
21 correct?
22 **A. Approximately.**
23 Q. And, again, this discussion here of 6 French
24 and 8 French sheaths is talking about arterial access
25 sheaths rather than aspiration catheters, correct?

175

1 **A. Starting with paragraph 62, it talks about**
2 **arterial access sheath systems, and it looks like that**
3 **continues into paragraph 63, yes.**
4 Q. Okay. Are you aware of any discussion in
5 Garrison of even an 8 French size aspiration catheter,
6 rather than an access sheath?
7 **A. I don't know.**
8 Q. And if I could have you look at Figure 54 and
9 55, what are those figures?
10 **A. What are these figures?**
11 Q. Yeah.
12 **A. It's a table.**
13 Q. And so it discloses various sheaths and
14 catheters, correct?
15 **A. Discloses dimensions, lengths -- lengths,**
16 **inside dimensions, proximal inside dimensions, proximal**
17 **length, theoretical resistance, and percent improvement**
18 **over Navien 058.**
19 Q. And for instance, there is a Navien 058 listed
20 here, correct?
21 **A. Table -- Figure 54 on the second table has --**
22 **the last column to the right is a percent improvement**
23 **over Navien 072.**
24 Q. Okay. So, in Figure 54, there's a Navien 058
25 disclosed, right?

176

1 **A. That's the first one listed on the table.**
2 Q. What is a Navien 058?
3 **A. I'm not sure.**
4 Q. Okay. And then the next two lines are
5 Penumbra 5MAX and Penumbra 5MAX ACE, right?
6 **A. Yes.**
7 Q. Are those aspiration catheter numbers?
8 **A. I assume so, because I know Penumbra has**
9 **aspiration catheters, but I'm not familiar with those**
10 **products.**
11 Q. And those are 5 French aspiration catheters?
12 **A. I don't know.**
13 Q. Okay. And the next column -- and these are
14 all 5 French in size, correct?
15 **A. I see the word "5 French sheath" listed on the**
16 **bottom two. I don't see "5 French" on the other -- the**
17 **other products being tested here.**
18 Q. Well, they list a distal ID in inches; is that
19 correct?
20 **A. Yes.**
21 Q. And that's the distal inner diameter in
22 inches; is that how you understand that?
23 **A. Yes.**
24 Q. And so .058 inches is approximately 5 French,
25 correct?

177

1 **A. I would have to do the math.**
2 Q. Okay.
3 **A. Divide by .01312, I believe is the -- is the**
4 **math, if you want me to do it.**
5 Q. I think at paragraph -- sure, you can go ahead
6 and do the math. I'm sorry, I'm not finding it quickly.
7 **A. I'm getting 4.4 French, so, my math may be**
8 **wrong.**
9 Q. Okay.
10 **A. I'm not --**
11 Q. Okay.
12 **A. And I don't know what the labeling would say**
13 **on these devices.**
14 Q. Okay.
15 **A. That's a different story.**
16 Q. Okay. And then the next table, the devices
17 have a distal inner diameter of approximately
18 .072 inches, correct?
19 **A. Yes.**
20 Q. And so, that's, again, less than 10 French by
21 a significant amount, correct?
22 **A. Yes.**
23 Q. Okay. And so the largest catheters that
24 Garrison deals with are less than 10 French, correct?
25 **A. The aspiration catheters?**

178

1 Q. Yeah.
2 **A. That appears to be true.**
3 Q. And because Garrison is focused on treating
4 ischemic stroke or cerebral clots -- or, let me -- we
5 talked earlier about Garrison being directed to treating
6 ischemic stroke; is that correct?
7 **A. Yes.**
8 Q. And so in order to treat a stroke in the
9 cerebral vasculature, is it correct that you cannot use
10 a catheter as large as 16 French?
11 **A. Yes. I don't think it would fit.**
12 Q. Right?
13 **A. It wouldn't make sense.**
14 Q. The cerebral arteries --
15 **A. Yes.**
16 Q. -- are too small for a 16 French catheter to
17 get into the brain?
18 **A. Yes.**
19 Q. So, modifying Garrison to have a 16 French
20 catheter or a larger than 16 French catheter would mean
21 that it could not work to treat stroke, correct?
22 MR. BELAIR: Objection, vague and lacks
23 foundation.
24 THE WITNESS: If the size were 16 French, it
25 would not be used for cerebral applications.

179

1 BY MR. KEESE:
2 Q. Because you couldn't advance that catheter
3 through the vasculature to get to a clot in the cerebral
4 vasculature?
5 **A. It wouldn't make sense because of the size of**
6 **the vessels and the access vessels.**
7 Q. Okay. All right. Well, I have kept you for
8 over an hour again.
9 MR. KEESE: Let's take a short break.
10 THE WITNESS: Okay.
11 THE VIDEOGRAPHER: Okay. We're going off the
12 record at 15:28.
13 (Whereupon, a recess was taken.)
14 THE VIDEOGRAPHER: And we are back on at
15 15:40.
16 BY MR. KEESE:
17 Q. Welcome back, Mr. Thornton. We were talking
18 about the Garrison reference; is that correct?
19 **A. Yes.**
20 Q. You're not aware of any commercial systems
21 that implemented Garrison, correct?
22 MR. BELAIR: Vague.
23 THE WITNESS: Yeah, I -- I don't know if it
24 was commercialized or not.
25 ///

180

1 BY MR. KEESE:
2 Q. Okay. So you're not aware?
3 **A. I'm not aware if it was commercialized or not**
4 **or something similar to it.**
5 Q. Okay. In terms of switching from a 6 French
6 or an 8 French catheter design to a 16 French or a
7 24 French catheter design, could you do that without
8 redesigning the properties of the catheter?
9 **A. I think someone skilled in the art could**
10 **certainly upsize a device. Dimensions, properties,**
11 **thicknesses, multiple things may need changing to do**
12 **that.**
13 Q. Okay. So, it isn't simply embiggening it. It
14 would require some redesign?
15 MR. BELAIR: Vague, misstates the prior
16 testimony.
17 THE WITNESS: I think you would most likely
18 have to make changes to the -- to different
19 characteristics in different portions of the catheters,
20 and that would be relatively easy to do, certainly
21 easier to make something bigger rather than make
22 something smaller, in my experience.
23 BY MR. KEESE:
24 Q. Do you agree that cerebral clots and pulmonary
25 embolisms tend to be different in their size, shape, and

181

1 structure?
2 MR. BELAIR: Vague.
3 THE WITNESS: Yeah, I'm not sure if they are.
4 I think there's lots of similarities. No matter where
5 the clot resides.
6 BY MR. KEESE:
7 Q. Are pulmonary embolisms more fibrous, on
8 average, than cerebral clots?
9 **A. I don't know.**
10 MR. BELAIR: Vague, yeah.
11 BY MR. KEESE:
12 Q. So, you can't say that pulmonary embolisms
13 generally are not more fibrous?
14 MR. BELAIR: Vague.
15 THE WITNESS: I -- I haven't studied that, no.
16 BY MR. KEESE:
17 Q. So, you don't know the comparative fibrousness
18 of pulmonary embolism clots and cerebral clots, correct?
19 **A. I'm not a histologist. I couldn't**
20 **characterize them for you today.**
21 Q. Okay. Deep vein thromboses and pulmonary
22 embolisms are significantly larger on average than
23 cerebral clots, correct?
24 MR. BELAIR: Lacks foundation.
25 THE WITNESS: They're certainly larger

182

1 vessels.
2 BY MR. KEESE:
3 Q. So, in order to clog a vessel that's
4 significantly larger, they have to be larger, correct?
5 MR. BELAIR: Vague.
6 THE WITNESS: I think they typically are
7 larger.
8 BY MR. KEESE:
9 Q. Okay.
10 **A. Deep vein thrombosis, in my experience,**
11 **doesn't have to be completely occlusive to be**
12 **symptomatic.**
13 Q. Okay. And what is your experience with --
14 **A. I had a DVT once.**
15 Q. Okay.
16 **A. Nonocclusive, still had -- painful.**
17 Q. Okay. Did you get a look at the DVT after
18 they removed it?
19 **A. It was not treated mechanically. It was**
20 **treated with oral anticoagulants.**
21 Q. Okay. And is it your understanding that DVT
22 and PE clots tend to be in place longer than cerebral
23 clots before they become symptomatic?
24 MR. BELAIR: Vague, lacks foundation.
25 THE WITNESS: In my experience, it's an

183

1 acute -- I have experienced an acute DVT. I'm aware of
2 others that have acute PE. So, I don't think that they
3 are necessarily -- what was the word you used, older,
4 or --
5 BY MR. KEESE:
6 Q. Yeah, older.
7 **A. Not necessarily. That's my personal**
8 **understanding.**
9 Q. Okay.
10 **A. I'm not a doctor.**
11 Q. Okay. But you don't have any expert
12 understanding of how long a DVT or PE tends to be
13 formed, versus a cerebral clot, correct?
14 **A. I don't know, and I didn't address that in the**
15 **disclosure.**
16 Q. Okay.
17 **A. Or the deposition -- sorry, disclosure.**
18 Q. Are you maybe referring to your declaration?
19 **A. I didn't put it in the declaration.**
20 Q. Fair enough.
21 MR. BELAIR: It's getting late.
22 BY MR. KEESE:
23 Q. You would agree that the diameter of a
24 pulmonary artery is much larger than the diameter of
25 cerebral arteries, correct?

184

1 **A. Certainly, the proximal larger vessels are.**
2 **They also get small as they turn into capillaries.**
3 Q. Okay. But at least the larger pulmonary
4 arteries, the larger branches are significantly larger
5 than the cerebral arteries, correct?
6 **A. Significantly.**
7 Q. Yeah. And the diameter of the deep leg veins
8 tends to be much larger than the cerebral arteries as
9 well, correct?
10 **A. I'm not so sure about that. I believe there's**
11 **some overlap in the deep veins in the calf, can get**
12 **quite small --**
13 Q. Okay.
14 **A. -- versus the more proximal cerebral arteries**
15 **might -- they would be in about the same range, is my**
16 **understanding.**
17 Q. So, the smallest of the deep leg veins might
18 be approximately the same range as the largest of the
19 cerebral arteries?
20 **A. I think it's fair to say.**
21 Q. Okay. Are there challenges -- if you are
22 trying to aspirate a clot that is much larger in
23 diameter than the aspiration catheter you're using, does
24 that pose certain challenges?
25 **A. My understanding would be that it may take**

185

1 **multiple attempts if the clot is substantial and the**
2 **catheter is smaller.**
3 Q. Okay. Is it easier to aspirate a clot with a
4 catheter that is larger in diameter than the clot or the
5 same diameter as the clot, than it is to aspirate a clot
6 with an aspiration catheter that is significantly
7 smaller than the diameter of the clot?
8 MR. BELAIR: Vague.
9 THE WITNESS: Can you read that back? I'm
10 sorry.
11 BY MR. KEESE:
12 Q. Yeah. Is it easier to aspirate a clot with a
13 catheter that is larger in diameter than a clot or the
14 same diameter as the clot, than it is to aspirate a clot
15 using an aspiration catheter that is significantly
16 smaller than the diameter of the clot?
17 MR. BELAIR: Same objection.
18 THE WITNESS: I'm not sure, especially
19 "easier"; is it easier for the physician, is it easier
20 from a pressure -- vacuum standpoint? I'm not clear on
21 what "easier" means.
22 BY MR. KEESE:
23 Q. Yeah. So, let's start from a system design
24 standpoint.
25 Is it easier to get sufficient pressure to

186

1 aspirate a clot with a catheter that is as large or
2 larger than the clot?
3 **A. I don't know.**
4 Q. So, you don't have an opinion on whether a
5 system that has to use an aspiration catheter smaller in
6 diameter than a clot has -- has specific challenges, as
7 opposed to a system where the catheter can be the same
8 size as the clot?
9 MR. BELAIR: Vague.
10 THE WITNESS: I mean, I don't address it in
11 the declaration, but it would seem obvious to an
12 engineer that a larger catheter may be more effective
13 against a larger clot. It may not require as many
14 attempts and passes through the clot to remove it.
15 BY MR. KEESE:
16 Q. And why would that seem obvious to an
17 engineer?
18 **A. You know, matching up the size would seem to**
19 **make more sense regarding the number of passes it might**
20 **take and number of attempts it might take, so it's more**
21 **about multiple attempts to cross the lesion and to**
22 **remove the thrombus.**
23 Q. When you say it seems obvious to an engineer,
24 you're not an engineer who designed these types of
25 aspiration thrombectomy systems, correct?

187

1 **A. Correct.**
2 Q. Okay. And we discussed earlier that the risk
3 of blood loss with a larger catheter is much greater; is
4 that correct?
5 **A. Well, I was talking about access sheath sizes**
6 **and complications, blood loss due to access sheath**
7 **complications.**
8 Q. Do you agree that the risk of blood loss from
9 a larger diameter catheter is greater than the risk of
10 blood loss from a smaller diameter catheter?
11 **A. From an insertion site complication? Yes.**
12 Q. What about other than an insertion site
13 complication?
14 MR. BELAIR: Vague.
15 THE WITNESS: That's the only blood loss I can
16 think of.
17 BY MR. KEESE:
18 Q. You're not aware that an aspiration catheter
19 removing a thrombectomy also removes blood during the
20 procedure?
21 MR. BELAIR: Vague, misstates the testimony.
22 THE WITNESS: Yes.
23 BY MR. KEESE:
24 Q. Okay.
25 **A. Yes. I thought we were talking about**

188

1 **complications. That's part of the procedure; it's not a**
2 **complication of the procedure. It's a known part of the**
3 **procedure.**
4 Q. In terms of the known part of the procedure
5 using aspiration catheters, is there a greater risk of
6 blood loss using a larger diameter catheter than there
7 is with a smaller diameter catheter?
8 **A. If you remove more blood and don't give it**
9 **back to the patient, yes, that's a negative.**
10 Q. So, one of the ways that you could mitigate
11 blood loss is by reintroducing it to the patient; is
12 that what you're saying?
13 **A. That's my understanding.**
14 Q. Are you aware that Imperative Care has alleged
15 Inari's chief medical officer misled the patent examiner
16 in order to secure allowance of the '910 patent?
17 MR. BELAIR: Lacks foundation.
18 THE WITNESS: I don't know.
19 BY MR. KEESE:
20 Q. Okay. So you're not aware that they made that
21 accusation in their brief?
22 MR. BELAIR: Lacks foundation.
23 THE WITNESS: Yeah, I don't believe that I saw
24 that brief.
25 ///

189

1 BY MR. KEESE:
2 Q. Okay.
3 **A. -- that you're referring to. I would be happy**
4 **to review it if you have it.**
5 Q. You are certainly not making that accusation
6 in your declaration, correct?
7 **A. What was the accusation, again?**
8 Q. You're not accusing Imper- -- or, Inari's
9 chief medical officer of misleading the patent examiner
10 in order to secure allowance of the '910 patent?
11 THE REPORTER: I'm sorry, can you repeat that,
12 slowing down?
13 MR. KEESE: Certainly.
14 BY MR. KEESE:
15 Q. You are certainly not making the accusation in
16 your declaration that Inari's chief medical officer
17 misled the patent examiner to secure allowance of the
18 '910 patent, correct?
19 **A. Correct. I don't have anything in here about**
20 **their CMO.**
21 Q. And you reviewed the history -- file history
22 of the '910 patent, correct?
23 **A. At least the appropriate parts, maybe not the**
24 **full file history.**
25 Q. Is it accurate that you have not reviewed the

190

1 entire file history of the '910 patent?
2 MR. BELAIR: Misstates the testimony.
3 THE WITNESS: I'm not sure which -- how much
4 of it I reviewed at this point.
5 BY MR. KEESE:
6 Q. So, I'll represent to you that the file
7 history is over a thousand pages.
8 **A. Right. I saw that.**
9 Q. Did you review the entire file history?
10 **A. No.**
11 Q. Okay. Did you receive the entire file
12 history?
13 **A. I don't believe so.**
14 Q. Okay. Which portions of the file history did
15 you review?
16 **A. I don't know which portions.**
17 Q. Did you review any portions of the file
18 history other than the portions that are cited in your
19 declaration?
20 **A. Can you point me to where they're cited in the**
21 **declaration?**
22 Q. Well, do you address the file history of the
23 '910 patent in your declaration?
24 **A. I believe so.**
25 Q. Okay.

191

1 **A. Page 43, Section C, is prosecution history.**
2 **So, I examined -- I reviewed portions of it**
3 **that were most appropriate to what I included here on**
4 **page 43.**
5 Q. So, on page 43, you cite an excerpt of the
6 '910 prosecution history, Exhibit 1022; is that correct?
7 **A. 1022.**
8 **Yes.**
9 Q. Is Exhibit 1022 the only portion of the '910
10 file history that you reviewed in preparing your
11 declaration?
12 **A. I don't recall if I may have reviewed a bit**
13 **more, but that's what we included in the declaration.**
14 Q. So, as you sit here today, you can't state
15 that you reviewed any more of the file history than
16 Exhibit 1022; is that correct?
17 **A. I'm not sure how much more I have reviewed**
18 **beyond the exhibit.**
19 Q. Are you testifying here today that you did
20 review any more of the file history than is in
21 Exhibit 1022?
22 MR. BELAIR: Asked and answered.
23 THE WITNESS: I'm not sure if I reserve --
24 reviewed more or not. I may have.
25 ///

192

1 BY MR. KEESE:
2 Q. Is it accurate to say that you're not relying
3 on any portion of the file history other than what you
4 cite in Exhibit 1022?
5 **A. Yes.**
6 Q. Okay. If you look at the '910 patent, the
7 Garrison reference was disclosed to the patent office
8 during prosecution, correct?
9 MR. BELAIR: Trying to pull up -- that's Depo
10 Exhibit 7. It's the one with Exhibit 1 on the cover
11 sheet. There you go.
12 THE WITNESS: Was it referenced on the
13 reference -- was it added to the references cited,
14 you're asking? There's four pages of references cited,
15 not in alphabetical order.
16 MR. BELAIR: They should, however, be in
17 numerical order.
18 THE WITNESS: Numerical order, I'm not sure
19 that helps.
20 Well, we know the patent examiner had it and
21 used it.
22 BY MR. KEESE:
23 Q. Because the examiner at Inari discussed
24 Garrison during prosecution, correct?
25 **A. I don't...**

193

1 MR. BELAIR: Object as vague.
2 THE WITNESS: Yeah, I'm not sure.
3 BY MR. KEESE:
4 Q. How do you know that the examiner had
5 Garrison?
6 **A. Because this is a quote from the examiner --**
7 **from the prosecution history talking about Garrison.**
8 Q. And that quote -- in that quote, the examiner
9 says that the claims that were pending at that point
10 were allowable over Garrison, correct?
11 MR. BELAIR: Vague, misstates the contents of
12 the document.
13 THE WITNESS: Well, he certainly allowed the
14 claims. I'm not sure what his statement was.
15 "Examiner allowed then pending claim 1 but
16 note that Garrison teaches all of the limitations
17 discussed above, except for teaching a second catheter
18 advanceable through the first catheter."
19 Q. So, the examiner allowed then pending claim 1
20 because Garrison did not teach the concept of
21 telescoping aspiration catheters, correct?
22 MR. BELAIR: Misstates the testimony.
23 THE WITNESS: He doesn't use the term
24 "telescoping." He talks about a second catheter
25 advanceable through the first catheter.

194

1 BY MR. KEESE:
2 Q. Okay. And so the examiner concluded that
3 Garrison does not teach a first -- or a second
4 aspiration catheter advanceable through the second
5 aspiration catheter, correct?
6 **A. That's what the event examiner concluded.**
7 Q. And the examiner also concluded that it would
8 be not reasonable to modify Garrison to treat pulmonary
9 embolism, correct?
10 MR. BELAIR: Misstates the contents of the
11 document.
12 THE WITNESS: Examiner stated it would be
13 unreasonable to modify the clot treatment device of
14 Garrison to be used for pulmonary embolisms.
15 BY MR. KEESE:
16 Q. Okay. So, you agree that the examiner
17 concluded that Garrison would not be modified to treat
18 pulmonary embolism, correct?
19 **A. No, I don't agree with that.**
20 Q. You don't think that the examiner was saying
21 it would be unreasonable to modify Garrison to be used
22 for pulmonary embolism?
23 **A. I'm not sure why the examiner said that,**
24 **unless he was talking about this flow lines -- the flow**
25 **lines 2025 and 2045, modifying it in order to advance**

195

1 **the inner catheter through the outer catheter, but it**
2 **seems very clear that the examiner was incorrect in his**
3 **understanding of those flow lines and of the fact that**
4 **the second catheter is shown in multiple figures**
5 **advancing through the first catheter.**
6 Q. Does Garrison teach a first -- or a second
7 aspiration catheter advanceable through a first
8 aspiration catheter?
9 **A. I believe so.**
10 Q. Well, let's go to Figure 33 of Garrison.
11 **A. Uh-huh.**
12 Q. What you have marked as the first catheter is
13 the access sheath, correct?
14 **A. I'm not sure if Garrison uses the term first**
15 **catheter or access sheath.**
16 Q. Well, let's look at Garrison.
17 **A. 2010?**
18 Q. 2010, element 2010.
19 MR. BELAIR: It's the one that says Exhibit 29
20 on the cover. That's Garrison.
21 THE WITNESS: On Exhibit...
22 MR. BELAIR: Yeah, 29.
23 BY MR. KEESE:
24 Q. So, let's start at paragraph 59.
25 **A. Paragraph 59 -- oh. In the Garrison patent?**

196

1 Q. Actually, let's start in paragraph 58 of the
2 Garrison patent -- Garrison reference, I should say.
3 **A. Arterial access sheath 2010.**
4 Q. So, you've pointed to that arterial access
5 sheath 2010 as the first catheter, correct?
6 **A. Yes. It's inserted without the use of a**
7 **separate introducer sheet.**
8 Q. Okay. And it is not inserted to the clot
9 location, correct? It only goes into the carotid
10 artery?
11 MR. BELAIR: Assumes facts.
12 THE WITNESS: In Figure 33, it looks like it's
13 advanced and shown as located in the internal carotid
14 artery.
15 BY MR. KEESE:
16 Q. Okay. And in Figure 34, again, it's shown as
17 being advanced to the internal carotid artery --
18 **A. Yes.**
19 Q. -- while the catheter 2030 is advanced into
20 the cerebral artery, correct?
21 **A. Yeah. Yeah.**
22 Q. And so the clot location here is in the
23 cerebral arteries, correct?
24 **A. Presumably. They show it in one of the**
25 **figures, Figure 33, I believe. That's -- it's not**

197

1 **labeled. I'm not sure what they're showing in Figure 33**
2 **at the distal end of the device.**
3 Q. Do you agree that Garrison refers to 2030 as a
4 catheter while it refers to 2010 as an access sheath or
5 arterial access device?
6 **A. 2030?**
7 Q. Correct.
8 **A. In paragraph 54, it refers to Figures 1, 2,**
9 **and 3, may also include one or more catheters, 2030, to**
10 **provide distal access for additional devices, local**
11 **fluid, or contrast delivery, or a localized aspiration**
12 **at a location distal to the distal-most end of the**
13 **arterial access device.**
14 Q. So, Garrison refers to what you called the
15 second catheter, 2030, as a catheter, correct?
16 **A. Yes.**
17 Q. And it talks about that being used as an
18 aspiration catheter, correct?
19 **A. Or to deliver local fluid or other devices.**
20 Q. Okay. And it refers to 2010 as something
21 different, right, an arterial access device?
22 **A. That's how it refers to it, yes.**
23 Q. And do you agree that an aspiration catheter
24 is different than an arterial access device?
25 MR. BELAIR: Vague.

198

1 THE WITNESS: In this case, it looks like
2 they're using it for the same thing, access, and for
3 aspiration.
4 BY MR. KEESE:
5 Q. What is the device 2010 aspirating?
6 **A. It's aspirating any clot that might be**
7 **disrupted while doing a procedure in a more distal**
8 **vascular bed.**
9 Q. In an artery, the blood would flow in the
10 direction that the catheters are being advanced,
11 correct?
12 **A. Generally.**
13 Q. So, the blood would flow from the carotid
14 artery, and it would branch and go into the cerebral
15 arteries, correct?
16 **A. That's the direction of blood flow, yes.**
17 Q. And so if a clot was disrupted in the cerebral
18 arteries, it would tend to flow deeper into the cerebral
19 arteries, right, not back towards the carotid artery?
20 **A. Well, you're trying to prevent that from going**
21 **distal by aspirating through the second catheter, is my**
22 **understanding.**
23 Q. It's not located anywhere near the clot,
24 correct?
25 **A. Dimensions aren't given, lengths aren't given.**

199

1 **It could be very near. Small amount of blood in between**
2 **those two points.**
3 Q. So, it's your testimony that the cerebral
4 arteries are very near the carotid artery?
5 **A. I'm saying the clot could be very near the tip**
6 **of the first catheter inserted.**
7 Q. Which is inserted into the cerebral arteries,
8 correct?
9 **A. Yes.**
10 Q. And in that case, the clot is located distally
11 from the most distal end of the arterial access device,
12 correct?
13 **A. It's more distal, yes.**
14 Q. So, the distal end of the access device is not
15 at the location of the clot, correct?
16 **A. Well, there are clots in the -- in the more**
17 **proximal regions also, not just the MCA.**
18 Q. Where does Garrison disclose that there are
19 clots in the more proximal regions, such as the carotid
20 artery?
21 **A. I don't know, but I believe that clots can**
22 **occur in multiple locations in the cerebral vasculature.**
23 Q. Does Garrison teach that you're treating a
24 clot in the carotid artery?
25 **A. I don't know. I would have to look at it in**

200

1 **detail.**
2 Q. So, you can't, as you sit here today, say that
3 Garrison teaches to remove a clot in the carotid artery
4 with the arterial access device?
5 MR. BELAIR: Misstates the testimony.
6 THE WITNESS: Yeah, I would have to look at it
7 in more detail, so --
8 BY MR. KEESE:
9 Q. As you sit here today, you cannot identify a
10 part of Garrison that teaches using the arterial access
11 device to aspirate a clot in the carotid artery,
12 correct?
13 MR. BELAIR: Misstates the testimony. He said
14 he'd review the document to confirm.
15 THE WITNESS: Yeah, I can review the document
16 more, if you would like.
17 BY MR. KEESE:
18 Q. Without further reviewing the document, you
19 can't identify a portion of Garrison -- or if there's a
20 portion of Garrison, that teaches using the arterial
21 access device to aspirate a clot in the carotid artery;
22 is that correct?
23 MR. BELAIR: Misstates the testimony, asked
24 and answered.
25 THE WITNESS: Well, it's also my understanding

201

1 that there can be clots in multiple locations, so I
2 don't think it's limiting to the internal carotid, what
3 they're showing here in these figures.
4 BY MR. KEESE:
5 Q. As you sit here today, you can't identify a
6 portion of Garrison that discusses clots being in
7 multiple locations, correct?
8 MR. BELAIR: Misstates the testimony, asked
9 and answered.
10 THE WITNESS: I don't think I included that in
11 the declaration.
12 BY MR. KEESE:
13 Q. Okay. So that's not a part of the declaration
14 that you provided?
15 **A. I don't believe so.**
16 Q. Okay. Can you pick up the Laub reference,
17 which we marked as exhibit -- oh, no, you can't. Here
18 you are. I'm going to hand it to you.
19 You can pick it up now.
20 (Whereupon, Exhibit 20 was marked for
21 identification.)
22 BY MR. KEESE:
23 Q. Can you identify Exhibit 20 -- Deposition
24 Exhibit 20 for me, Mr. Thornton?
25 **A. Yeah, it's the Laub, L-a-u-b, patent,**

202

1 **US 2017/0043066A1.**
2 Q. And just for clarity on the record, you've
3 been referring to many things as patents that weren't
4 issued patents, correct?
5 **A. This one specifically is a patent publication.**
6 Q. So, you've been using the term "patent" to
7 generically refer to issued patents and publications
8 throughout your testimony today?
9 **A. I can't remember what I said before --**
10 Q. Okay.
11 **A. -- for each one.**
12 Q. For instance, the Garrison reference you rely
13 on is a patent publication, not an issued patent,
14 correct?
15 **A. Garrison is a publication, not an issued**
16 **patent.**
17 Q. And the same thing is true of Schaffer?
18 **A. Schaffer is a publication, not a patent.**
19 Q. Okay. And is the same thing true of Hartley?
20 **A. Hartley is a publication.**
21 Q. Okay. And turning back to Laub, Laub does not
22 disclose a system of telescoping catheters, correct?
23 **A. Yes, I believe Laub is focused on a single**
24 **aspiration catheter --**
25 Q. Okay.

203

1 **A. -- inserted through an access sheath.**
2 Q. Okay. And Laub lists several different types
3 of tools that can be inserted through the aspiration
4 catheter, correct?
5 **A. Yes.**
6 Q. So, things like wires, balloon catheters,
7 diagnostic catheters, baskets, optical fibers,
8 thrombolysis tools, needles, cutters, biopsy devices,
9 surgical implements? Does that sound correct?
10 **A. Sounds familiar.**
11 **What section is that? What paragraph is that?**
12 Q. I think your declaration says it.
13 **A. Uh-huh.**
14 Q. But it would be paragraph 35 of Laub.
15 **A. Yes. It says, "Other devices not shown which**
16 **may be inserted through aspiration catheter 200 via**
17 **working port 230 include but are not limited to other**
18 **wires, balloon catheters, diagnostic catheters, baskets,**
19 **optical fibers, thrombolysis tools, needles, cutters,**
20 **biopsy devices or other surgical implements known in the**
21 **art.**
22 Q. So, is it fair to say that --
23 THE REPORTER: You said "cutters, biopsy
24 devices"...?
25 THE WITNESS: And other surgical implements

204

1 known in the art.
2 BY MR. KEESE:
3 Q. Okay. So, it's fair to say that Laub has a
4 whole list of things that could be inserted through that
5 aspiration catheter?
6 **A. Yes.**
7 Q. But none of those are aspiration catheters,
8 correct?
9 **A. Assuming a thrombolysis device, I would**
10 **consider an aspiration catheter.**
11 Q. You would consider a thrombolysis device an
12 aspiration catheter?
13 **A. Yeah, my understanding is it's used to break**
14 **up thrombus and aspirate from the patient.**
15 Q. Is it your understanding that a thrombolysis
16 device introduces thrombolytic drugs?
17 **A. Some do.**
18 Q. Okay.
19 **A. And some are injecting fluid to break up the**
20 **clot and aspirate out. I can't remember the name of the**
21 **product I'm thinking of though.**
22 Q. Do you know what company made that product?
23 **A. Not at this moment.**
24 Q. Okay. And so it's your understanding that
25 that company referred to a catheter that injected fluid

205

1 to disrupt a clot and then aspirate, called it a
2 thrombolysis device?
3 **A. I believe so.**
4 Q. So, you don't think a thrombolysis device is
5 limited to using thrombolytics?
6 **A. That's my understanding.**
7 Q. Is it your understanding that a device that
8 provides thrombolytics is not an aspiration catheter?
9 MR. BELAIR: Vague.
10 THE WITNESS: My understanding is a
11 thrombolysis drug delivery catheter would typically have
12 a number of side holes near the tip to disperse the
13 drug.
14 BY MR. KEESE:
15 Q. Okay. And not to suck the clot back through,
16 correct?
17 **A. Correct.**
18 Q. Okay. And just for the record, when you're --
19 when you identified what you believed to be a
20 thrombolysis device that you said used aspiration, that
21 was not a device that introduced thrombolytics, correct?
22 **A. Correct. I don't think they're applying**
23 **thrombolytics.**
24 Q. Okay. And you cannot identify, as you sit
25 here today, that device that you think was referred to

206

1 as a thrombolysis device that also included aspiration?
2 **A. Not yet. It might come to me.**
3 Q. Well, let me know if it does.
4 Mr. Thornton, in preparing your declaration,
5 did you review any Inari confidential information?
6 **A. I don't believe so.**
7 Q. Okay. And if I could have you go to
8 paragraphs 86 to 91 of your declaration.
9 In this section, you're discussing the
10 Symphony product and comparing it to the Schaffer
11 reference; is that correct?
12 MR. BELAIR: I'll just object to the extent it
13 misstates the contents of the document.
14 THE WITNESS: So, on paragraph 88, I'm
15 comparing some -- showing some differences between the
16 Symphony handle and the valve described in the '921
17 patent and in Schaffer.
18 BY MR. KEESE:
19 Q. You understand, the infringement analysis
20 compares an accused product to the asserted patent,
21 correct?
22 MR. BELAIR: I'll just object to the extent
23 that it calls for a legal conclusion.
24 THE WITNESS: Yeah, I'm simply pointing out
25 the differences -- some differences between the Symphony

207

1 handle and the '921 patent and explaining that the '921
2 patent and the Schaffer handle are much closer to each
3 other in design and function than is the Symphony
4 handle.
5 BY MR. KEESE:
6 Q. Is it your understanding that a proper
7 infringement analysis compares an accused product to the
8 asserted patent claims?
9 MR. BELAIR: Same objection.
10 THE WITNESS: Yeah, I've not done a full
11 infringement analysis for this or for prior projects
12 either.
13 BY MR. KEESE:
14 Q. You provided no infringement or
15 noninfringement analysis in this declaration, correct?
16 **A. That's correct.**
17 Q. But you understand that if you had provided an
18 infringement or noninfringement analysis, the proper way
19 to conduct that would be to compare the accused product
20 to the patent claims, correct?
21 MR. BELAIR: That's an incomplete hypothetical
22 and calls for a legal conclusion.
23 THE WITNESS: Yeah, as I said, I have not done
24 an infringement analysis. I'm not familiar with the
25 full scope of what that would entail.

208

1 BY MR. KEESE:
2 Q. So, why are you comparing the Symphony product
3 to the Schaffer prior art reference?
4 **A. I'm simply comparing that -- I'm going to**
5 **share that the '921 patent and the Schaffer patent or**
6 **patent application are much more similar to each other**
7 **than they would be to the Symphony hemostasis valve**
8 **design.**
9 Q. Why is that relevant?
10 MR. BELAIR: Vague.
11 THE WITNESS: I just wanted to show the
12 differences and similarities within the valve design.
13 BY MR. KEESE:
14 Q. Is that relevant to the invalidity opinions
15 that you've offered?
16 **A. I don't think it enters the invalidity**
17 **discussion.**
18 Q. Mr. Thornton, I believe you said that you had
19 reviewed enough to know how this Symphony product
20 functioned; is that correct?
21 **A. The valve portion is what I reviewed here.**
22 Q. Have you reviewed any other part of the
23 Symphony product to determine how it functioned?
24 **A. Not really.**
25 Q. So, you don't know how the Symphony product

209

1 functions, other than aspects of the hemostasis valve,
2 correct?
3 **A. This is focused on the hemostasis valve.**
4 Q. Do you know how the Symphony product
5 functions, other than the hemostasis valve?
6 **A. Not in detail.**
7 Q. I'll hand you what was previously marked as
8 Exhibit 3.
9 (Whereupon, previously marked Deposition
10 Exhibit 3 was introduced.)
11 MR. BELAIR: That's Depo Exhibit 3.
12 MR. KEESE: Depo Exhibit 3.
13 BY MR. KEESE:
14 Q. And if you look at the first page of this,
15 Mr. Thornton, which has been marked as Depo Exhibit 3,
16 is it marked with the legend Exhibit 7 and the document
17 filing number 24-14?
18 **A. Yes.**
19 Q. And what does this appear to be?
20 **A. It appears to be a marketing type brochure**
21 **relating to the Truvic device, the Symphony thrombectomy**
22 **system.**
23 Q. Okay. And the hemostasis valve that you've
24 discovered -- that you discussed in your declaration,
25 it's located in the plastic housing that forms part of

210

1 the BigShot controller, correct?
2 **A. Oh, BigShot controller, yeah, the hemostasis**
3 **valve is housed within -- it's located within this**
4 **housing.**
5 Q. And you're looking, for the record, at page 7
6 of 13; is that correct?
7 **A. Yes, page 7.**
8 Q. And at the left bottom end of this HotShot
9 controller is where the aspiration catheter exits the
10 controller, correct?
11 **A. Catheter appears to be exiting from the left**
12 **side, yes.**
13 Q. Okay. And there's also a dual-action vacuum
14 control lever on this handle, correct?
15 **A. I see that labeled, yes.**
16 Q. And do you understand that that controls a
17 valve that turns -- or that connects and disconnects
18 vacuum to the catheter?
19 **A. That's my understanding.**
20 Q. When that lever is in the off position, the
21 catheter is disconnected from the vacuum, correct?
22 MR. BELAIR: Lacks foundation.
23 THE WITNESS: The distal end of the catheter
24 would not be applying vacuum in the off position, is my
25 understanding.

211

1 BY MR. KEESE:
2 Q. Because the vacuum is not connected to the
3 catheter in that position, correct?
4 MR. BELAIR: Lacks foundation.
5 THE WITNESS: The vacuum tubes are connected
6 to the handle, which the valve separates toward the
7 distal end to apply the vacuum or not apply the vacuum
8 to the distal end of the aspiration catheter.
9 BY MR. KEESE:
10 Q. When that vacuum control lever is in the off
11 position and the vacuum control valve is closed, the
12 system builds a negative pressure throughout the system,
13 up until that valve that is closed, correct?
14 MR. BELAIR: Lacks foundation. It's outside
15 the scope of his declaration.
16 THE WITNESS: That would be my understanding,
17 based on how aspiration catheters generally work.
18 BY MR. KEESE:
19 Q. So, the system stores a vacuum up to that
20 valve, correct?
21 MR. BELAIR: Lacks foundation, outside the
22 scope of his declaration.
23 THE WITNESS: I assume so, based on how
24 aspiration catheters typically work.
25 ///

212

1 BY MR. KEESE:
2 Q. If I could have you go to the next page, page
3 8 of 13.
4 Is it your understanding that the flow rate at
5 the distal tip of the aspiration catheter when the
6 vacuum control lever is first switched from off to on
7 will be greater than the flow rate after the respiration
8 catheter has been connected to the vacuum for a period
9 of time?
10 MR. BELAIR: Vague, lacks foundation, outside
11 the scope of his declaration.
12 THE WITNESS: I'm not sure what the question
13 was exactly.
14 BY MR. KEESE:
15 Q. So, if I have got the controller with the
16 vacuum control lever in the off position, and that
17 vacuum control valve closed -- with me so far?
18 **A. Yes.**
19 Q. And then I move and switch the lever from the
20 off position to the on position -- with me so far?
21 **A. Yes.**
22 Q. When I first move that lever from the off
23 position to the on position, do you agree that the flow
24 rate at the distal tip of the catheter is greater than
25 the flow rate will be after that lever has been in the

213

1 on position for a few seconds?
2 MR. BELAIR: Lacks foundation, beyond the
3 scope of his declaration.
4 THE WITNESS: Yeah, I -- I really don't know.
5 BY MR. KEESE:
6 Q. How do you understand this diagram works with
7 the showing of this differential flow?
8 MR. BELAIR: Lacks foundation.
9 THE WITNESS: Yeah, I've not seen this before.
10 I'm not sure what it's trying to show.
11 BY MR. KEESE:
12 Q. Okay. Have you had any experience converting
13 physicians from one treatment mode, and keeping with
14 prevailing medical guidelines, to a new system that you
15 had worked on?
16 MR. BELAIR: That's vague.
17 THE WITNESS: Not really.
18 BY MR. KEESE:
19 Q. Okay.
20 **A. That's in the field of people marketing more**
21 **so than I.**
22 Q. So, when you helped to introduce the MitraClip
23 to the market, was that a different treatment mode than
24 the prevailing -- or prevailing medical guidelines for
25 treating mitral valve repairs?

214

1 **A. Yes, very different, the earlier -- the**
2 **only -- there were no other devices approved for**
3 **percutaneous treatment of mitral valves. Surgery was**
4 **the only option.**
5 Q. Okay.
6 **A. So, a very different customer; a surgeon**
7 **versus an interventional cardiologist. And certainly**
8 **there was adoption challenges, depending on how strong**
9 **the surgeons were at a given hospital and how they**
10 **worked together or didn't work together.**
11 Q. Okay.
12 **A. That's --**
13 Q. So, what were the adoption challenges that
14 could occur?
15 **A. It's a brand-new procedure, recently**
16 **FDA-approved device. Patients could be hesitant to try**
17 **something new. Cardiologists were generally very**
18 **supportive of the procedure.**
19 **It wasn't necessarily -- we didn't have**
20 **necessarily challenges converting -- converting --**
21 **convincing cardiologists to participate and use the**
22 **device, but this was a brand-new field with a brand-new**
23 **device, so there were definitely obstacles with certain**
24 **sites, with the surgeons at certain sites.**
25 Q. So, it was difficult to get adoption, at least

215

1 at first, because it was a different treatment mode than
2 the prevailing guidelines?
3 **A. Completely different treatment mode, because**
4 **you're not cracking the chest and stopping the heart, as**
5 **open heart surgery would be. But patients were the ones**
6 **who really wanted a less invasive procedure, and**
7 **cardiologists were more than happy to adopt, but it**
8 **takes time for any new technology to be adopted.**
9 Q. Was it expensive to encourage that adoption?
10 **A. I don't know.**
11 Q. Is it your understanding that the prevailing
12 medical guidelines for treatment of pulmonary embolism
13 is oral anticoagulants or thrombolytics?
14 MR. BELAIR: Lacks foundation.
15 THE WITNESS: I don't know.
16 BY MR. KEESE:
17 Q. You don't know what the prevailing medical
18 guidelines are for treating pulmonary embolism?
19 **A. I don't -- I haven't reviewed that.**
20 Q. Okay. Do you think it would be challenging to
21 convince doctors to start using aspiration thrombectomy,
22 rather than thrombolytics?
23 MR. BELAIR: Vague.
24 THE WITNESS: In my experience -- experience,
25 doctors are generally open to trying new technologies,

216

1 especially if they believe it's going to be beneficial
2 for patients.
3 BY MR. KEESE:
4 Q. You would agree that thrombolytics are a
5 different treatment mode than aspiration thrombectomy,
6 correct?
7 MR. BELAIR: Vague, lacks foundation.
8 THE WITNESS: It would seem to be a different
9 procedure, for sure.
10 MR. KEESE: All right. We have been on for a
11 little over an hour again, so let's take a short five-
12 to ten-minute break, and I'll collect my thoughts.
13 MR. BELAIR: Okay.
14 THE VIDEOGRAPHER: All right. We're going off
15 the record at 16:44.
16 (Whereupon, a recess was taken.)
17 THE VIDEOGRAPHER: Okay. We're back on at
18 16:51.
19 BY MR. KEESE:
20 Q. Welcome back, Mr. Thornton.
21 Before we left, we were discussing the
22 traditionally indicated treatments for PE, and you said
23 you didn't know what those were, correct?
24 **A. I'm not aware of the medical guidelines around**
25 **treating PE, that's correct.**

217

1 Q. And you're not aware of the medical guidelines
2 around treating DVT either, correct?
3 **A. Not in detail.**
4 Q. What are you aware about the medical lines for
5 treating DVT?
6 **A. Only very little based on my own DVT.**
7 Q. The time that you were treated?
8 **A. Yeah.**
9 Q. Okay.
10 **A. Not -- not the guideline, not the medical**
11 **guidelines.**
12 Q. Okay.
13 **A. I am aware of the treatment options that are**
14 **available.**
15 Q. Okay. Mr. Thornton, you've answered a number
16 of my questions today; is that correct?
17 **A. I hope so.**
18 Q. Have you given your testimony to the best of
19 your ability honestly?
20 **A. Yes.**
21 Q. Is there anything you want to go back and
22 correct?
23 **A. I don't believe so.**
24 Q. Okay.
25 MR. KEESE: Great. So, I have no further

218

1 questions. I don't know if you have any questions,
2 Nick?
3 MR. BELAIR: I have just a quick redirect.
4 MR. KEESE: Okay. Sure.
5 MR. BELAIR: All right.
6 MR. KEESE: And then after you're done, I'll
7 have a couple of statements for the record, and we can
8 talk about it.
9 MR. BELAIR: Do you want to do that now, or is
10 this --
11 MR. KEESE: Sure.
12 MR. BELAIR: Yeah, let's just --
13 MR. KEESE: There were a couple of questions
14 regarding market share that I would like to mark
15 confidential. The rest of the transcript, I don't have
16 any confidentiality designations. I don't think we got
17 into any Imperative Care confidential information today?
18 MR. BELAIR: I don't think so.
19 MR. KEESE: Okay. So...
20 MR. BELAIR: Yeah, I think we're good. Those
21 were the couple of lines --
22 MR. KEESE: Yeah.
23 MR. BELAIR: -- and I think it's pretty
24 discrete, so we can identify that.
25 MR. KEESE: Okay.

219

1 MR. BELAIR: Yeah.
2 MR. KEESE: So, we'll mark that as
3 confidential and everything else is --
4 MR. BELAIR: Yeah.
5 MR. KEESE: -- is not. Okay.
6 MR. BELAIR: Makes sense.
7 EXAMINATION
8 BY MR. BELAIR:
9 Q. Okay. Almost done, Mr. Thornton. I have a
10 couple of questions, hopefully just a couple of
11 questions for you.
12 But not too long ago during the deposition, do
13 you recall being asked some questions relating to the
14 disclosures in Garrison, the reference we were looking
15 at, and more specifically relating to the disclosures
16 relating to the access device, I believe is the name it
17 used, item 2010 in Garrison?
18 Do you remember that?
19 **A. Yes.**
20 Q. Okay. And I believe there's a series of
21 questions where you were unable to identify particular
22 locations in Garrison about particular disclosures, but
23 you didn't really have an opportunity to take a look at
24 Garrison for those disclosures.
25 Do you recall that?

220

1 **A. Yes.**
2 Q. Okay. To try to --
3 MR. KEESE: Objection, vague.
4 BY MR. BELAIR:
5 Q. To try to clarify one portion of your
6 testimony, I would like to direct you to the Garrison
7 reference, and, again, that's Depo Exhibit 12. On the
8 cover sheet, it's marked as Exhibit 29.
9 Do you have that in front of you?
10 **A. Yes.**
11 Q. Could you turn to page 16 of Garrison for me?
12 It's kind of toward the end of what is a long document.
13 And specifically, I'm going to be looking down
14 at the bottom right of that page at paragraph 130. Let
15 me know when you get there.
16 MR. KEESE: Outside the scope of direct.
17 BY MR. BELAIR:
18 Q. Did you find paragraph 130?
19 **A. Yes, I'm reading it.**
20 Q. Okay. Let me know when you've finished
21 reading paragraph 130.
22 **A. Okay.**
23 Q. Okay. If you want to turn back to page 16
24 real quick, what's the title of the section heading
25 directly above paragraph 130?

221

1 **A. Exemplary embodiments of aspiration and flow**
2 **control.**
3 Q. Okay. And based on the disclosures that you
4 just read in paragraph 130 of Garrison, do you
5 understand Garrison to disclose that the arterial access
6 device 2010 and the catheter 2030 may be connected to
7 sources of passive or active aspiration?
8 MR. KEESE: Leading, vague, outside the scope.
9 THE WITNESS: Yes, they disclose that the
10 arterial access device 2010 and the catheter 2030 may be
11 connected to sources of passive or active aspiration via
12 flow lines on the device.
13 BY MR. BELAIR:
14 Q. And why, in your opinion, would the arterial
15 access device 2010 be connected to a source of active
16 aspiration?
17 MR. KEESE: Leading, vague, outside the scope.
18 THE WITNESS: In order to aspirate particles
19 or portions of a clot that may be disrupted during
20 aspiration with the inner catheter or second catheter.
21 BY MR. BELAIR:
22 Q. And is that dependent in any way on the
23 location of the clot that's being treated in the system
24 as described in Garrison?
25 MR. KEESE: Same objections.

222

1 THE WITNESS: Can you say that again?
2 BY MR. BELAIR:
3 Q. Yeah. You had just mentioned that it might
4 include the aspiration -- excuse me. Let me use your
5 words, the arterial access device -- sorry, I lost my
6 place. One second.
7 I'll just repeat the question.
8 In utilizing that aspiration, does it matter
9 where the clot is located in the system, as reflected in
10 Figure 33 of Garrison?
11 MR. KEESE: Same objections.
12 THE WITNESS: Well, any clot that's disrupted
13 and is between the distal end of the second catheter, as
14 shown in Figure 33 in my -- my declaration would be in
15 between the arterial access sheath and its -- what
16 appears to be a balloon inflated around it, to be able
17 to aspirate any additional clot.
18 BY MR. BELAIR:
19 Q. And in that situation, is it the first
20 catheter that access device 2010 that would be
21 accomplishing that aspiration?
22 MR. KEESE: Objection, vague, leading, outside
23 the scope.
24 THE WITNESS: Yeah, that's what it shows in
25 Figure 33, that the first catheter or the arterial

223

1 access catheter is occluding the vessel and is attached
2 to a second aspiration source to remove any unwanted
3 debris before it could go more distal.
4 MR. BELAIR: Okay. Thanks for that
5 clarification. That's all I have.
6 MR. KEESE: I have just a couple of follow-ups
7 on that. I'll keep it very tight, I promise.
8 EXAMINATION
9 BY MR. KEESE:
10 Q. In Figure 33, when the first catheter --
11 sorry, the second catheter is a balloon catheter, is the
12 arterial access device 2010 the same type of aspiration
13 catheter as the second catheter?
14 MR. BELAIR: Vague.
15 THE WITNESS: So, on the second catheter, if
16 the balloon is inflated? Is that what you're --
17 BY MR. KEESE:
18 Q. Correct.
19 **A. -- asking?**
20 Q. If -- in this -- if the second catheter, if
21 the balloon is inflated, is it performing aspiration?
22 **A. I think the second catheter is defined as**
23 **aspirating but also able to pass other devices through**
24 **to remove the clot, other retriever devices to remove**
25 **the clot.**

224

1 Q. And so it's your testimony that the balloon
2 catheter is the same type of aspiration catheter as you
3 would have allegedly for arterial access device 2010?
4 MR. BELAIR: Misstates the testimony and is
5 vague.
6 THE WITNESS: Well, I believe there's a
7 balloon on each of the catheters, as shown in Figure 33,
8 as -- and I believe described as optional in the
9 specification.
10 BY MR. KEESE:
11 Q. Is it your understanding that there's a
12 balloon on the arterial access device?
13 **A. Some type of occlusion device is shown in**
14 **Figure 34 and 33. I can't remember how they**
15 **characterize it exactly, but it appears to be a balloon**
16 **to block -- to seal against the artery.**
17 MR. KEESE: I have no further questions.
18 THE VIDEOGRAPHER: Okay. This marks the end
19 of the deposition of Troy Thornton. We're going off the
20 record at 17:02.
21 ///
22 ///
23 ///
24 ///
25 ///

225

(Thereupon, the deposition concluded at 5:02 p.m. [PDT])

Signed under penalty of perjury:

TROY THORNTON

_____
Date

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226

I, MICHAEL C. ROWELL, a Certified Shorthand Reporter of the State of California, duly authorized to administer oaths, do hereby certify:

That the foregoing proceedings were taken before me at the time and place herein set forth; that any witnesses in the foregoing proceedings, prior to testifying, were duly sworn; that a record of the proceedings was made by me using machine shorthand which was thereafter transcribed under my direction; that the foregoing transcript is a true record of the testimony given.

Further, that if the foregoing pertains to the original transcript of a deposition in a Federal Case, before completion of the proceedings, review of the transcript was requested.

I further certify I am neither financially interested in the action nor a relative or employee of any attorney or party to this action.

WITNESS WHEREOF, I have this date subscribed my name.

Dated: October 3, 2024

MICHAEL ROWELL, RDR, CRR, CSR NO. 13494

227

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I, TROY THORNTON, make the following changes to my deposition taken in the matter of, INARI MEDICAL, INC., Plaintiff, vs. IMPERATIVE CARE, INC., Defendant, Case No. 4:24-cv-03117-EKL

_____ _____
Date TROY THORNTON

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