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

MEDTRONIC, INC., and
MEDTRONIC VASCULAR, INC.,

Petitioners,

vs. Case No. IPR2020-00126
U.S. Patent No. 8,048,032

TELEFLEX INNOVATIONS
S.A.R.L.,

Patent Owner.

IPR2020-00126 (Patent 8,048,032 B2)
IPR2020-00127 (Patent 8,048,032 B2)
IPR2020-00128 (Patent RE45,380 E)
IPR2020-00129 (Patent RE45,380 E)
IPR2020-00130 (Patent RE45,380 E)
IPR2020-00132 (Patent RE45,760 E)
IPR2020-00135 (Patent RE45,776 E)
IPR2020-00136 (Patent RE45,776 E)
IPR2020-00137 (Patent RE47,379 E)
IPR2020-00138 (Patent RE47,379 E)

VIDEOCONFERENCE VIDEOTAPED
DEPOSITION OF
CRAIG A. THOMPSON, M.D.

DATE: December 7, 2020
TIME: 8:00 a.m.
PLACE: New York, New York
(via videoconference)
JOB NO.: MW 4338343

REPORTED BY: Dawn Workman Bounds, CSR

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ALSO PRESENT:

Greg Smock, Teleflex

Chris Buller, Teleflex

Adam Wallin, Videographer

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PROCEEDINGS

THE VIDEOGRAPHER: Good morning. We are going on the record at 8:00 a.m. Central Time, on December 7, 2020. This is media unit 1 of the video-recorded deposition of Dr. Craig A. Thompson being taken via Zoom, and taken by counsel for the Petitioner in the matter of Medtronic, Incorporated, and Medtronic Vascular, Incorporated, versus Teleflex Innovations S.A.R.L., in the United States Patent and Trademark Office before the Patent Trial and Appeal Board, Case Number IPR2020-00126.

My name is Adam Wallin from the firm of Veritext, and I'm the videographer. The court reporter is Dawn Bounds from the firm Veritext.

Will counsel please identify themselves for the record.

MR. MORTON: This is Cyrus Morton of the Robins Kaplan firm on behalf of Petitioner Medtronic. With me also from Robins Kaplan is Will Manske.

MR. WINKELS: And this is Joe Winkels on behalf of patent owner. With me with the -- and I'm with Carlson Caspers. With me is Derek Vandenburgh and Alex Rinn from my firm, as well as Greg Smock and Chris Buller from Teleflex.

THE VIDEOGRAPHER: Will the court reporter

please swear in the witness.

THE REPORTER: Due to the need for this deposition to take place remotely because of the government's order for physical distancing, the parties will stipulate that the court reporter may swear in the witness over the videoconference and the witness has verified that he is in fact Dr. Craig Thompson.

Agreed, counsel?

MR. MORTON: Agreed.

MR. WINKELS: Agreed.

CRAIG A. THOMPSON, M.D.,

duly sworn via videoconference as stipulated by counsel was examined and testified as follows:

EXAMINATION

BY MR. MORTON:

Q. Good morning, Dr. Thompson.

A. Good morning, Mr. Morton.

Q. Have you had your deposition taken before?

A. Yes.

Q. Okay. And did you have a chance to prepare for this deposition with counsel?

A. Yes.

Q. How much time would you say you spent preparing for this deposition?

A. I've read by declaration, spoke with the

attorneys. Couple of hours, maybe.
Q. All right. Do you have any trouble hearing my questions today over Zoom?
A. No, sir, I hear you very well.
Q. Is there any reason why you can't give complete, truthful, and accurate answers to my questions today?
A. No.
Q. So let's take a look at your declaration, starting paragraph 1.
You say you spent 17 years practicing; is that right?
A. Correct.
Q. So that means you started in 2003?
A. Yes. That's my first independent job out of training. My -- I started medical school in 1991. Started my inter -- my residency training in 1995, my cardiology in 1998, which is where I was really clinically engaged in cardiovascular medicine primarily and started catheterizing then.
Interventional cardiology and vascular medicine in 2000 through effectively 2003. And then first independent job out of training was in 2003, which is where I arrived at that figure.
Q. Okay. I want to focus on the time period prior

to 2006, May 2006, when the patents in this case were filed. Okay?
A. Okay.
Q. How many interventional cardiology or PCI procedures would you say you were involved in before 2006?
A. Oh, gosh. Let me think.
From 1998 to 2006, my -- probably my average overall procedure rate for overall catheterizations, including diagnostics, were about 500 a year. So that would be three -- six years, several thousand. And if we said 60 percent of those were PCIs, then it would -- it would be somewhere between 1,500 and 2,000, I would suppose. Maybe more. The interventional fellowship was a little bit more heavy on interventional procedures. So let's say 2,000 as an estimate.
Q. Okay. And out of those, what -- how many or what percentage were -- would you consider complex PCI procedures?
A. 60 to 70 percent.
Q. Okay. And when you encountered a complex PCI situation, how often did you try to -- let me just -- let me start over.
When you have a complex PCI situation, you might have the guide catheter back out of the ostium; is

that fair?
A. Yes.
Q. Okay. And so how often did that happen when you have these complex PCI procedures? Was that common? Is that what defined it as complex to you? How would you describe that?
A. I would say it happened commonly, but it does not -- that in and of itself does not define complex.
Complexity can be the -- require different devices for different aspects of coronary anatomy. So it wasn't all about the guide support, but quite frequently it travels in packs, so it's not mutually exclusive that you have complex anatomy and have guide catheter problems. They go hand-in-hand.
Q. So you have maybe 2,000 procedures.
And I think -- did you say 60 percent were complex PCI?
And then how much of those did you have issues with guide catheter back-out?
A. In complex -- at that point in time it was 2,000 procedures. Now it's a lot more higher, to be clear. And I would say it would be the majority of the cases that you have complexity. There are challenges with guide catheter issues at that point in time.
Q. Okay. And I understand you've done more

procedures post 2006. I'm just trying to kind of break down your work prior to 2006.
A. Sure.
Q. So if you have a complex PCI procedure and if a lot of the time you experience back-out, how often would you try using a different guide catheter?
A. In this we're -- to clarify your question, we're still speaking prior to 2006?
Q. Yep.
A. Frequently. Frequently that is -- one of the countermeasures is either a larger or more supportive guide catheter at that point in time, depending on the circumstances. Oftentimes if a guide catheter is in position, you try different countermeasures; but oftentimes it's not as good as changing the guide catheter at that point in time.
Q. Okay. When you say frequently, can you put any more precise number on that?
A. Not really. I mean I would -- I would -- if I had to guesstimate, I would put it roughly half the time that it's a guide catheter issue.
Q. Okay.
A. And the issue would be guide catheter. The challenge at that point in time would be if you didn't have countermeasures once you had some of your equipment

in place. So switching out the guide catheter became a major impediment, although oftentimes the primary barrier probably two-thirds of the time would have been a guide catheter problem. Wrong selection or just insufficient guide support even with a good selection.

Q. Okay. And so when you did switch out and use a different guide catheter, I assume you were able to have successful procedures with that?

A. Much of the time, yes, with a different guide catheter and countermeasures. But not all of the time, no.

Q. All right. So same question.

You're doing complex PCI prior to 2006 and you experience a back-out problem with the guide catheter.

How often would you respond to that by attempting to deep-seat the guide catheter?

A. Seating the guide catheter more aggressively is -- which is deep-seating -- is one of the initial countermeasures before you start doing others.

And I would say that trying to get the -- that would be the first thing to do, to maybe try to seat the guide a little bit more deeply, a little bit more aggressively to see if that can help solve the problem.

So that would be the great majority of the

time. Once a wire is down the coronary artery, before you -- because at that point it's very difficult to switch the guide catheters without losing a position and risking patient safety.

Q. All right. Same question.

How often would you use a buddy wire?

A. In positions where a guide catheter was backing out, at that point in time, that would be a majority -- after positioning the guide catheter more deeply, that would be one of the earlier secondary maneuvers, so it would be a large minority of the time.

And I would say if you polled people worldwide, that would be the great majority of the time. I'd just employ different countermeasures rather than buddy wire at that stage in my career.

Q. All right. And then finally, same question, that stage in your career, did you experience back-out of the guide catheter.

How many times did you ever attempt the mother-and-child technique?

A. Low single digits. And that would be after my fellowship. I tried to experiment with modified mother-and-child techniques, which was of a -- good idea but of limited success.

Q. All right. Did you -- and did you perform

successful complex PCI procedures with the mother-and-child technique?

A. Yes.

Q. And can you explain, where was that again?

A. Where?

Q. Yeah.

A. Largely at -- if we're speaking of pre-2006, it would have been when I was an independent operator at Dartmouth. We did not do this -- we did not utilize that particular technique when I was at Harvard in training.

Q. And how many successful complex PCI procedures with the mother-and-child technique would you say you did?

A. Hundreds. Oh, with mother-and-child, no. I'm sorry. Complex PCI would be hundreds.

With mother-and-child, maybe couple of dozen, something along those lines, prior to 2006. We just simply didn't have the technology.

Q. Okay. So then after -- how about after 2006, did you do any additional mother-and-child procedures?

A. Yes.

Q. And can you tell me when -- when and where that was and how many you did?

A. Dartmouth, Yale, as a traveling operator in five continents, and ultimately at NYU; and thousands.

Q. Okay. And how many?

A. Thousands.

Q. You did thousands of mother-and-child techniques?

A. I do it nearly every day that I'm in the cath lab these days, yes.

Q. Okay. So when you say you did thousands, are you equating using rapid exchange versions?

A. Yes.

Q. Of mother-and-child?

A. Yes.

Q. Okay. I guess I should clarify that then?

So when you did the two dozen at Dartmouth prior to 2006, was that with a full-length child catheter or with a rapid exchange version?

A. A full-length child catheter, and it was a modification using a standard short guide catheter with a long standard guide catheter, which aren't, you know, as it turns out, aren't appropriately shaped to atraumatically and successfully do this in the coronaries. More in the peripheral vasculature.

But we're speaking about coronaries today, and it was a -- it was a little bit of a boutique attempt to try to counteract a very difficult problem that we had at the time.

Q. Okay. And other than those two dozen, have you performed any other mother-and-child technique complex PCI procedures with a full-length child catheter?
A. In the coronary circulation?
Q. Yeah.
A. Since -- what time frame are we speaking of now?
Q. Any time. Setting aside those couple of dozen you did at Dartmouth prior to '06, have you done any other using a full-length child catheter?
A. Oh, no.
Q. Okay. And so all of the mother-and-child techniques that you've done after that - I think you said thousands - those were all with a rapid exchange version of the child catheter?
A. That's correct.
Q. All right. Let's jump to paragraph 6 of your declaration.
A. I'm sorry. Could you repeat that, please?
Q. Sure. Paragraph 6 of your declaration.
A. Okay. Got it. I'm there.
Q. So here you're talking about when you start a procedure, you don't know if it's going to be -- necessarily if it's going to be complex at first, right?
A. Not entirely, no.

Q. You don't know, for instance, if the guide catheter is going to back out?
A. That's correct. Sometimes -- there are times where you can anticipate this and prepare up front, and there are times where it's unanticipated.
Q. Okay. So if you anticipated it, would you plan from the get-go, if you will, to do something to address that?
A. Are we talk -- are we speaking current -- current era?
Q. Sure. Just in general, in your practice, trying to understand how these procedures go.
A. Yes. Yes, if I anticipated it being difficult, I would start thinking about countermeasures proactively rather than reactively.
Q. All right. So let's -- let's focus first on the situation where you don't know if you're going to have back-out, and you get into the procedure and you do have a guide catheter back-out problem. Okay?
A. Yes.
Q. So if the guide catheter backs out of the ostium, what's the -- what's the first thing you have to do? Do you have to get it back in?
A. Yeah. Yes, if it starts backing out, you naturally would re-engage the ostium of the coronary

artery.
Q. Then how you would you decide if you need to -- I think the first thing you said you'd consider is -- is whether you need to deep-seat the guide catheter?
A. Current era, I wouldn't deep-seat it down the coronaries. I'd pull a guide extension.
Q. Okay. Well, maybe we should focus back to when you would consider these options we talked about earlier, then go through your list of options.
A. We're -- I just want to be clear. We're back to pre-2006?
Q. Yes.
A. Okay.
Q. I think that will work better.
A. Yes. So in that circumstance I would reseat the guide catheter, realize that we're going to have a device delivery challenge, and consider what my next options would be.
Q. Okay. And what would you do -- what would your first option be?
A. From prior to 2003, it would be putting a second wire in. It's called a buddy wire, but try to put -- to essentially get more coaxial support down a coronary artery, sometimes a third wire even.
After 2003, when I was a little bit more

independent and more developed, it would be a second guidewire, not down the vessel that we were going to deliver the therapy, balloons and stents and so forth, but into a branch, a different artery, and put a balloon -- an angioplasty balloon in that artery. It's a technique called an "anchoring" technique.
And when you inflate that particular balloon, it gives security in the other branch of the artery, but it keeps the guide more engaged and offers more support at the coronary ostium for device delivery down the index coronary artery, the one that you're trying to deliver therapy to.
And there's various ways that you can do this anchoring technique. There's side-branch anchoring, so you're in a different part of the vessel altogether with a balloon. And there were times in that era we were also delivering big bulky stents, that you could do it over a second wire, down the artery that you're delivering treatment, and anchor in that particular vessel with a balloon.
But the premise is essentially the same, is you've got a second wire, you've got a second system in, you're inflating a balloon, and this gives a little bit of grip, if you will, within the coronary artery that keeps the guide more supported to be able to deliver the

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