

1 UNITED STATES PATENT AND TRADEMARK OFFICE

2
3 BEFORE THE PATENT TRIAL AND APPEAL BOARD

4
5 JEISYS MEDICAL INC.,

6 Petitioner,

7 v.

8 SERENDIA, LLC

9 Patent Owner.

10
11 Case IPR2024-00386

12 U.S. Patent No. 9,480,836

13
14
15
16 REMOTE DEPOSITION of R. JAMES KOCH, M.D.

17 Saturday, October 19, 2024

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22 Reported By: Michelle M. Yohler, CSR, RMR, CRR

1 The deposition of R. JAMES KOCH, M.D., held
2 remotely pursuant to notice before Michelle M.
3 Yohler, CSR, RMR, CRR, a certified shorthand
4 reporter, CSR No. 84-4531.

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1 A P P E A R A N C E S

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18 ALSO PRESENT:

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1 P R O C E E D I N G S

2 (Technician read-on.)

3 MS. REPORTER: Before I swear the witness
4 in, can I please have all attorneys identify
5 themselves and who they represent for the record.

6 MR. SANDERS: This is Charles Sanders of
7 Latham & Watkins on behalf of patent owner,
8 Serendia.

9 MR. MUELLER: It's Wes Mueller from
10 Leydig, Voit & Mayer in Chicago on behalf of
11 petitioner, Jeisys Medical.

12 (WHEREUPON, the witness was duly sworn.)

13 R. JAMES KOCH, M.D.,
14 called as a witness herein, having been first duly
15 sworn, was examined and testified as follows:

16 EXAMINATION

17 BY MR. SANDERS:

18 Q Good morning, Dr. Koch.

19 A Morning.

20 Q You understand that this is a deposition
21 in an inter partes review proceeding involving the
22 '836 patent?

1 A Yes.

2 Q Is there any reason you cannot testify
3 truthfully and accurately today?

4 A No.

5 Q Where are you today?

6 A I'm in the Leydig Chicago office.

7 Q Is there anyone else with you there?

8 A Yes, Mr. Mueller's there.

9 Q Anyone else?

10 A No.

11 Q Other than through the Zoom that we're on
12 together here, are you communicating with anyone
13 else in any other way?

14 A No.

15 Q Because this deposition is occurring over
16 Zoom, it's important for us not to speak over one
17 another because Zoom can only record one active
18 speaker at a time. So I'd ask that -- I'll try to
19 do my best to stop speaking when you're speaking,
20 and I'd ask you to do the same. All right?

21 A Yes.

22 Q Who did you speak to in the process of

1 preparing your declaration in this matter?

2 A For the process of preparing my
3 declaration, I spoke with James Sanner, an
4 attorney here at Leydig.

5 Q Anyone else?

6 A No.

7 Q And can you describe the process of
8 preparing your declaration?

9 MR. MUELLER: I'll caution the witness not
10 to reveal any attorney-client or work product
11 communications.

12 BY THE WITNESS:

13 A Well, he asked me to review the
14 disclosures between the '836 patent and also the
15 Ganz patent, and I sent him my thoughts after
16 reviewing both. And then he formatted it for the
17 attorney purposes.

18 BY MR. SANDERS:

19 Q And did you speak with anyone to prepare
20 for your deposition today?

21 A Not really to prepare. I did meet
22 yesterday to go over the process for what we're

1 doing today.

2 Q Who did you meet with?

3 A I met with Mr. Mueller and Leonard. I --
4 who I just met yesterday. He was here. And those
5 were the people that I met with.

6 Q Have you spoken with Dr. Woloszko?

7 A No.

8 Q Have you ever been deposed before?

9 A Yes.

10 Q How many times?

11 A I would say probably about 30 times.

12 Q And what type of cases were those in?

13 A They're mostly medical malpractice, served
14 as an expert. And then I also worked on patent --
15 product liability cases with representing
16 CoolSculpting, Allergan/AbbVie.

17 And then I did do -- sorry to interrupt.
18 I did do a deposition, I testified in front of the
19 ITC in 2019 and did a deposition for that.

20 Q Other than your testimony in the ITC in
21 2019, have there been any other proceedings when
22 you've provided testimony regarding patents?

1 A I don't believe so.

2 Q And in the ITC proceeding in 2019, you
3 testified for Lumenis and Pollogen; is that
4 correct?

5 A Yes.

6 Q And there you testified that a Syneron
7 patent was invalid; is that correct?

8 A Actually, it was -- I was the
9 noninfringement expert, and the petitioner was
10 Syneron, and we were the respondents. So I guess
11 you could say I was working -- helping to defend
12 Lumenis Pollogen, their VoluDerm device -- Legend,
13 which composed of VoluDerm.

14 Q Got it.

15 Do you have any patents of your own?

16 A No.

17 Q Did Leydig reach out to you about working
18 on this proceeding?

19 A Yes.

20 Q When did that happen?

21 A For the proceeding, I believe that was --
22 well, not for -- can you clarify that?

1 Q What's unclear about my question?

2 A Well, for this -- what's unclear is when
3 did they first contact me versus whether they --
4 when they contacted me for my declaration.

5 Q Got it. All right. I'm focused on the
6 declaration. When did they contact you for your
7 declaration in this proceeding?

8 A I believe it was -- I can't give you the
9 exact date. I can look when I signed it, but it
10 was several months ago about.

11 Q Did they contact you shortly before you
12 prepared the declaration?

13 A No, I wouldn't say that. I don't recall
14 that being shortly.

15 Q And you're a medical doctor, correct?

16 A Yes, sir.

17 Q You have degrees in biology and natural
18 sciences and immunology; is that right?

19 A Yeah, that's a master's degree.

20 Q You are not an engineer, correct?

21 A That's correct.

22 Q You do not have a degree in physics,

1 correct?

2 A No, but I did well in physics. No, but --
3 sorry about that. No, but I am a -- you'll
4 probably get to this, but I would be considered a
5 POSITA for that time period.

6 Q Yeah, understood about the POSITA. I just
7 want to be clear, you do not have a degree in
8 physics, correct?

9 A That is true.

10 Q And you are offering testimony from the
11 perspective of a medical doctor, correct?

12 A I would say a POSITA including a medical
13 doctor.

14 Q You're not --

15 A It's -- I'm sorry. I'm sorry.

16 Q Please go ahead.

17 A Okay. Including someone who's been
18 working with these devices from the very beginning
19 of radiofrequency for skin rejuvenation. And I
20 was involved with the first commercially available
21 device -- or one of the first, Thermage, which was
22 monopolar. It was pre-needle, and it used cooling

1 to protect the epidermis.

2 So I've been -- I was on their scientific
3 advisory board. I was their main clinical
4 investigator. So I've been involved with
5 radiofrequency really from the commercial start.

6 Q Understood.

7 You are not offering testimony from the
8 perspective of an engineer, correct?

9 A That is correct.

10 Q And you're not offering testimony from the
11 perspective of a physics expert, correct?

12 A No, a POSITA.

13 Q Have you ever designed a medical device?

14 A Well, that's a good question. I worked
15 very closely with the engineers at Thermage. In
16 fact, they didn't even have a box when they
17 approached me; it was still in the circuit phase.
18 And if you -- can I give you a little background
19 on that?

20 Q Sure.

21 A So you might have seen the patents because
22 you're probably involved with all that. So Edward

1 Knowlton was the founder, and he was a plastic
2 surgeon. He's -- I don't know if he's still
3 practicing, but he wanted to tighten the dermis
4 and not affect the epidermis.

5 So they came to me -- I think I was --
6 they were -- I was the first person. I was at
7 Stanford. They came to me, and I told them to
8 come back when they had something I could roll
9 around in the clinic.

10 So that's the background.

11 Q And you've used RF microneedling, right?

12 A Yes, I currently do.

13 Q It's correct that the device you use most
14 often is the Pollogen Legend?

15 A Yes.

16 Q And you mentioned earlier VoluDerm. Is
17 VoluDerm the applicator that has the needles for
18 the Pollogen Legend?

19 A Yes. Yes.

20 Q And you state in your declaration that you
21 have no financial interest in Jeisys, right?

22 A Yes, none that I'm aware of at all.

1 Q But this proceeding is not the first
2 proceeding where you've worked with Jeisys,
3 correct?

4 A I have been -- I have been a consultant
5 since 2019. To be honest with you, I'd have to
6 look at my CV. I might help them with certain
7 parts, the law firm, you know, skin anatomy, skin
8 physiology. So I have served as a consultant, not
9 an expert for them in any -- in that capacity.

10 Q Did you serve as a consultant for Jeisys
11 in a matter adverse to InMode?

12 A I was a -- I had a contract. I was a
13 consultant. I don't know how that went. Again,
14 it would be the attorney would ask me my opinion
15 about certain things. And I'm not sure how far
16 that went in the process.

17 Q And is it correct that for purposes of
18 your declaration, you reviewed the '836 patent,
19 its prosecution history, and the Ganz reference?

20 A I did not review the prosecution history.

21 Q Okay.

22 A Okay? And, yes, what I -- I did review

1 the '836, that was my assignment, and compare it
2 to Ganz. And those were -- that was my
3 assignment.

4 Q Was there any other material that you
5 reviewed for purposes of your declaration?

6 A Not for the purposes of declaration.

7 Q Since preparing the declaration, are there
8 other materials relating to this proceeding that
9 you've reviewed?

10 A I did -- I briefly read the IPR decision.
11 And I did briefly look at Dr. Goldberg's response,
12 just those areas, but they were not part of my
13 declaration.

14 Q Any other materials that you reviewed
15 since preparing your declaration related to this
16 proceeding?

17 A No.

18 Q Do you know Dr. Goldberg?

19 A I mean, I'm familiar with him over the
20 years.

21 Q Have you ever worked together with him?

22 A I probably have at some meeting. I just

1 don't -- it's been a long time for both of us, but
2 I'm familiar with him.

3 Q I'd like to ask you some questions about
4 statements in your declaration. Do you have any
5 materials in the room with you today?

6 A Just the three items that we just
7 discussed.

8 Can you see that (indicating)?

9 Q Now I can. So it looks like the
10 declaration, Ganz, and the '836 patent, correct?

11 A Yes, sir.

12 Q So it's up to you what's most convenient
13 for you. I have a copy of your declaration, you
14 have a copy. If you'd like, we can put it on the
15 screen as well, we can download -- you can
16 download it so you can have it on the computer
17 screen. What do you prefer to look at your
18 declaration?

19 A Well, if it -- maybe it will be -- if we
20 just look at it, we can see how that goes. If
21 that's okay with you? Look at the paper copy.

22 Q With the paper copy?

1 A Yeah, instead of doing the...

2 Q That's fine by me.

3 A All right. Thank you.

4 Q So let's take a look at your declaration,
5 Exhibit 1035.

6 (WHEREUPON, Exhibit No. 1035 was presented
7 to the witness.)

8 BY MR. SANDERS:

9 Q And specifically at Paragraph 24, which is
10 on Page 9 of your declaration.

11 A Yes, I have it.

12 Q And you state, "The '836 patent is
13 directed to use in skin, reciting 'a skin
14 improvement device' and a method to 'apply energy
15 to achieve coagulation' in skin tissue (especially
16 in the dermis)."

17 Do you see that?

18 A Yes.

19 Q What is your understanding of
20 "coagulation" in the context of the '836 patent?

21 A It is to heat the tissue and to help
22 promote a more -- a robust healing response with

1 increased collagen and elastin. That's my
2 interpretation of that.

3 Q What temperature range would the tissue be
4 heated to to provide that assistance in promoting
5 a robust healing response?

6 MR. MUELLER: Objection to form.

7 BY THE WITNESS:

8 A It would typically be about 60 degrees
9 centigrade.

10 BY MR. SANDERS:

11 Q And then going to the next paragraph,
12 Paragraph 25 of your declaration, you state, "The
13 '836 patent states that some embodiments use
14 bipolar needles" -- and the sentence continues.

15 What is your understanding of bipolar
16 needles?

17 A Well, bipolar needles, I think there's two
18 general configurations that most people are
19 familiar with, and that would be a needle that has
20 both polarity, positive and negative, on it. And
21 then you can have -- or you have a pair that is
22 positive -- one is positive and the other is

1 negative.

2 So usually that's -- those are the
3 configurations of needles if they're considered
4 bipolar.

5 Q And do you have a view as to which of
6 those two the '836 patent means in referring to
7 bipolar needles?

8 A I can't remember if it's mentioned in the
9 patent. I just can't remember, sitting here.

10 Q If it's helpful to take a look at the
11 patent, please feel free to do so. I think you
12 have it there, too.

13 A Yeah, I have it -- yes, sir, I have it
14 here.

15 Actually, I recall now so -- that they
16 talk about both types. Na talks about both types,
17 '836. So both types I just mentioned.

18 Q And where do you, in the '836 patent, do
19 you believe that Na talks about the type where a
20 single needle has both polarities?

21 And just for clarity, the '836 patent is
22 1001?

1 (WHEREUPON, Exhibit No. 1001 was presented
2 to the witness.)

3 BY THE WITNESS:

4 A So I have here, under 4, "In an
5 embodiment, adjacent or neighboring needles may be
6 configured to have opposite polarities plus and
7 minus such as shown in Figure 6."

8 And -- I wish I had the search function
9 here.

10 BY MR. SANDERS:

11 Q Well, if you'd like, I'm happy to -- the
12 technician can bring up the electronic version and
13 perform any search you'd like.

14 A Okay. It's up to you.

15 Q Well, I --

16 A I mean, I could look all day so...

17 Q Whatever's easiest for you, Dr. Koch. I'm
18 just looking for the answer to my question; how
19 you go about answering it is your prerogative.

20 I just want to understand where in the
21 '836 patent you believe it discloses bipolar
22 needles, with the first possibility you mentioned,

1 a needle that has both polarities.

2 A Well, maybe we should do that, the search
3 function.

4 Q Sure.

5 MR. SANDERS: Could the technician please
6 bring up Exhibit 1001.

7 BY MR. SANDERS:

8 Q And what search would you like the
9 technician to run, Dr. Koch?

10 A "Bipolar," please.

11 Q And feel free, Dr. Koch, to tell the
12 technician when you're ready to move to the next
13 one.

14 A All right.

15 (Exhibit management discussions were had
16 off the stenographic record.)

17 BY THE WITNESS:

18 A Well, I'm not seeing that. I did think
19 that the bipolar with the -- with -- that it was
20 with both poles was described, but I'm not finding
21 it.

22

1 BY MR. SANDERS:

2 Q So let me just ask the question again so
3 we have it clearly on the record.

4 Do you believe that the '836 patent
5 discloses bipolar needles where a single needle
6 has both polarities?

7 A Not at this point, no.

8 Q Okay. Do you believe the '836 patent
9 discloses bipolar needles where one needle is
10 positive and the other needle is negative and
11 vice-versa?

12 A Yes.

13 Q In that bipolar configuration, current
14 flows between the bipolar needles, right?

15 A Yes.

16 Q Have you used an RF microneedling device
17 with bipolar electrodes?

18 A Yes, the Syneron Profound.

19 Q And does that device have bipolar
20 electrodes where one electrode is positive and the
21 other is negative and vice-versa?

22 MR. MUELLER: Objection. Beyond the

1 scope.

2 BY THE WITNESS:

3 A I really don't remember. That was several
4 years ago, but I remember it was bipolar.

5 BY MR. SANDERS:

6 Q When did you start using the Syneron
7 Profound?

8 A Probably about -- I used it as a
9 demonstration. As mentioned, the -- my main
10 microneedling device is the Pollogen Legend
11 VoluDerm component. So I think I said it was
12 about 2020.

13 Q When did you start using RF microneedling
14 devices with bipolar electrodes?

15 A The VoluDerm has bipolar electrodes, so
16 I've been doing that since, I would say, 2018.

17 Q Prior to 2011, did you use any RF
18 microneedling devices with bipolar electrodes?

19 A I don't believe so.

20 Q Going back to your declaration,
21 Exhibit 1035, same paragraph we were on,
22 Paragraph 25, you point out that the '836 patent

1 also references a monopole needle, right?

2 A Yes.

3 Q The way a monopolar needle works is that
4 current flows from the needle to something else
5 that serves as a ground, such as a grounding pad,
6 correct?

7 A That's correct.

8 Q And have you used an RF microneedling
9 device with monopolar electrodes?

10 A Not a microneedling device, but the
11 Thermage device was obviously monopolar.

12 Q Just to be clear, the Thermage device was
13 a monopolar device, but it was not a needling
14 device, correct?

15 A That is correct, yeah.

16 Q You have a website where you market your
17 expert witness services, right?

18 A Yes.

19 Q Let's take a look at that website.

20 MR. SANDERS: This is document "Website 1"
21 is the file name.

22 THE TECHNICIAN: One moment.

1 (WHEREUPON, Koch Exhibit No. 1 was
2 presented to the witness.)

3 BY MR. SANDERS:

4 Q And we've dropped the document into the
5 chat, too, Dr. Koch, so if you want to open it up
6 yourself, if that's easier, feel free to do so.

7 A Okay.

8 Q This document shows the home page of your
9 website where you market your expert witness
10 services, right?

11 A Yes.

12 Q If we go down to the fourth page -- yes,
13 fourth page.

14 A Okay.

15 Q At the upper right, you see a U.S. Patent
16 Number 9,510,899, right?

17 A Yes.

18 Q And you have below that on your web page
19 Figure 3 from that patent, right?

20 A Yes.

21 Q And this is the patent that you opined on
22 in the 2019 ITC case, correct?

1 A You know, I honestly don't remember. I
2 think I pulled this off of Google. That's my
3 recollection.

4 It looks like something I -- that might be
5 familiar to me, but I don't remember pulling it
6 from any case that I worked on.

7 Q Why did you pick this particular patent
8 figure to use on your expert witness website?

9 A Nothing nefarious. I just wanted to have
10 something that looked like a microneedling device,
11 to be honest with you. I mean, I'm being honest
12 the whole time, but to be really honest with you,
13 it looks like something I would be able to
14 describe. But I don't think I took it from a
15 case, and, if I did, it would be a case that has
16 been done so...

17 Q Let's take a look at this patent,
18 U.S. 9,510,899.

19 And just for recordkeeping purposes today,
20 we'll assign your website that we just looked at
21 as Koch 1 and the patent we're now going to look
22 at as Koch 2.

1 (WHEREUPON, Koch Exhibit No. 2 was
2 presented to the witness.)

3 BY MR. SANDERS:

4 Q You see this is the patent that was on
5 your website, U.S. 9,510,899, right?

6 A Yes.

7 Q And on the front page of the patent is the
8 same figure you had on your website, right?

9 A It appears to be, yes.

10 Q And if we actually go up and zoom in on
11 the upper left portion, you can see that the
12 inventor's name is Dieter Manstein?

13 A Yes.

14 Q Did you address a Manstein patent in the
15 2019 case?

16 A I did, but I still believe I didn't -- I
17 still believe that I downloaded it from Google,
18 and maybe it looked familiar to me but...

19 Q And do you know Dr. Manstein?

20 A I mean, I know -- I met him. I know some
21 of the things that he's done, you know.

22 Q So let's focus in on Figure 3 of the

1 patent, the one that you've got on the website.

2 It's on Page 6 of the PDF.

3 And you see this shows an RF microneedling
4 device, right?

5 A Yes.

6 Q And in this device, the electrodes are in
7 a monopolar configuration, correct?

8 A Yeah, it's -- I believe so. Like, this
9 was not what I was tasked to do in the current
10 case. My memory of this is not really good,
11 but...

12 Q Let me help then. We can go to the
13 description on Figure 3, which is on PDF 10 at
14 6-34 to 38.

15 If you'll look, you'll see at lines -- the
16 sentence that starts at line 39 here confirms that
17 the apparatus is in a monopolar configuration,
18 right?

19 A Yes.

20 Q And the item 370 that's shown in Figure 3
21 are the thermal damage regions around the tip of
22 each monopolar electrode, right?

1 A That's what it appears to show, yes.

2 Q In Figure 3, those thermal damage regions
3 do not extend into the regions between the
4 electrodes, right?

5 A That's what it shows in the diagram, yes.

6 Q Let's take a look at Figure 4 in this
7 patent.

8 Figure 4 shows electrodes 410 and 415,
9 right?

10 MR. MUELLER: Objection. Outside the
11 scope.

12 BY THE WITNESS:

13 A Yes.

14 BY MR. SANDERS:

15 Q And this patent describes those electrodes
16 as operating in a bipolar configuration, right?

17 MR. MUELLER: Objection. Outside the
18 scope.

19 BY THE WITNESS:

20 A Well, I'd like to see the description like
21 you just showed me before.

22

1 BY MR. SANDERS:

2 Q Of course.

3 MR. SANDERS: If we could go to Page 11 of
4 the PDF, starting column 7 at line 27.

5 Perfect.

6 BY MR. SANDERS:

7 Q If you look at the sentence that's at
8 line 27 to 28, confirms that the needles 410 and
9 415 are shown operating a bipolar mode, right?

10 A That's what it states, yes.

11 Q And Figure 4 shows the thermal damage
12 regions 425 around and between the tips of the two
13 needles, right?

14 MR. MUELLER: Objection. Outside the
15 scope.

16 BY THE WITNESS:

17 A Yes.

18 BY MR. SANDERS:

19 Q So you agree this Manstein patent shows
20 different thermal damage for monopolar and bipolar
21 configurations?

22 MR. MUELLER: Objection. Outside the

1 scope.

2 BY THE WITNESS:

3 A That's what the schematics show, but I
4 don't recall this patent -- I don't recall this
5 patent having any histology associated with it.

6 BY MR. SANDERS:

7 Q And you -- do you review histology?

8 A Oh, yes.

9 Q Okay. We'll take --

10 A If you don't mind me saying, Mr. Sanders,
11 I actually have done a lot of clinical research
12 with lasers and skin samples and also had a wound
13 healing lab at Stanford where I worked with
14 fibroblasts -- different types of fibroblasts and
15 trying to generate favorable collagen for healing.

16 Q Can you describe what you mean by "working
17 with fibroblast to generate favorable collagen for
18 healing"?

19 A Yeah, so what I was doing in my wound
20 healing lab was I was getting specimens, all
21 approved by the IRB, from normal skin, irradiated
22 skin, and keloid-forming tissue.

1 Also, I had a fetal cell line that I was
2 using, and I was taking various -- doing different
3 manipulations to try to get favorable growth
4 factor production to generate collagen -- to
5 improve collagen and elastin. And that included
6 RF.

7 I did do -- and I think it's in my
8 declaration, I did -- we did present that using RF
9 on fibroblast. Not full skin, but the fibroblast
10 part.

11 Q So you -- were you growing the collagen on
12 the fibroblast?

13 A We were measuring it when it was produced
14 after stimulating it.

15 Q Let's go back to your declaration, which
16 is Exhibit 1035, and specifically Paragraph 26,
17 the next one.

18 You state in the first sentence of that
19 paragraph, "The '836 patent distinguishes between
20 carbonization, vaporization, and coagulation and
21 states that the present invention achieves skin
22 condition by primarily using coagulation," right?

1 A Yes.

2 Q What's your understanding of
3 carbonization?

4 A My understanding of carbonization is -- as
5 a person -- a POSITA from that time period, is a
6 small zone -- a zone of thermal necrosis or tissue
7 necrosis. And that's what's left after the area
8 has been ablated.

9 Q You just used the term "ablated." What do
10 you mean by that?

11 A Well, in terms of microneedling, it's when
12 the heat is applied, the skin -- the tissue moves
13 away from -- it shrinks away from the needle.
14 It's not -- I don't look at it as removal of
15 tissue, okay?

16 And then the edge of that shows the --
17 what I think Na means is the residual tissue
18 debris and what we were talk -- what those of us
19 were talking about back then was a zone of thermal
20 necrosis.

21 Q What is your understanding of
22 vaporization?

1 A Well, that -- my understanding of
2 vaporization is heating tissue and basically
3 having the water -- targeting the water primarily,
4 and it evaporates the tissue.

5 I think "ablation" is a better word, and
6 it's more consistent with the time period. We
7 were talk -- if you don't mind me saying, we were
8 talking back then about -- we were doing fully
9 ablative lasers and peeling off layers of skin
10 leaving a little zone of thermal necrosis, which,
11 in many cases, we believed was favorable; hence
12 using CO2 over erbium YAG, okay?

13 So that was the terminology that we were
14 using going into, for example, what I believe Ganz
15 was talking about.

16 Q How does carbonization differ from
17 vaporization?

18 A I think the carbonization is the end
19 result of ablation at the edges. And if -- can I
20 say that I understand that the '836 is primarily
21 using coagulation, that's preferred, but it does
22 state that carbonization is one of the three

1 phenomena that occur, so I actually think that's
2 an agreement with Ganz.

3 Q Do you believe that the techniques of the
4 '836 patent cause carbonization?

5 A Yes.

6 Q And do you believe that the techniques of
7 the '836 patent cause vaporization?

8 A Well, I think that he -- they -- he calls
9 it vaporization. I think, at the time, "ablation"
10 is more an accurate term, consistent with what we
11 were transitioning from lasers to RF.

12 Q Do you believe that the techniques of the
13 '836 patent cause ablation?

14 A I do.

15 Q And is carbonization ablation, or do you
16 draw a distinction between them?

17 A I draw --

18 MR. MUELLER: Objection to form.

19 BY THE WITNESS:

20 A I draw a distinction between them.

21 BY MR. SANDERS:

22 Q What distinction do you draw between

1 carbonization and ablation?

2 A Carbonization is the residual carbon
3 debris after the heat treatment.

4 Q And what is the ablation?

5 A Ablation, as I think I defined it in my
6 declaration, is when the -- when the energy is
7 applied to the needle, the tissue shrinks away
8 from it. And -- so it doesn't remove the tissue,
9 but the tissue shrinks, and then there's a rim, I
10 think appropriately called thermal necrosis -- a
11 zone of thermal necrosis.

12 But that's different from the coagulation,
13 which persists. And that's not death of the
14 tissue; that's just stimulation of the tissue.

15 Q So is coagulation different from thermal
16 necrosis?

17 A Yes.

18 Q What is the distinction between
19 carbonization and vaporization?

20 MR. MUELLER: Objection. Asked and
21 answered.

22

1 BY THE WITNESS:

2 A Can you read back what I said? So I'm
3 consistent. I'm not asking you to do that,
4 Mr. Sanders; can the stenographer do that?

5 MS. REPORTER: Is there an answer you'd
6 like me to read back? I don't know specifically
7 what you're looking for.

8 BY MR. SANDERS:

9 Q Yeah, Dr. Koch, I didn't actually ask you
10 that question before. I did ask a question that
11 was similar, and you answered in terms of
12 coagulation, and that's why I'm asking again
13 because I didn't get an answer to the
14 difference --

15 A Okay.

16 Q -- between vaporization and --

17 A All right. Fair enough. I'm sorry. Go
18 ahead.

19 THE WITNESS: Is that okay with you, Wes?

20 MR. MUELLER: Sure.

21 THE WITNESS: Okay.

22

1 BY MR. SANDERS:

2 Q So I'll ask just to be clear. What's the
3 distinction between carbonization and
4 vaporization?

5 A My understanding of the '836 is that
6 carbonization is the residual product after what
7 the '836 describes as vaporization.

8 Q What do you mean by "residual product"?

9 A The -- like, in broad -- well, in broad
10 terms, the -- as I said, the tissue necrosis, the
11 zone of thermal necrosis, you could call it
12 micro-eschar if you wanted to. It's the -- I
13 guess you could say the final product where the
14 vaporization stops.

15 Q Does vaporization result in tissue
16 necrosis?

17 MR. MUELLER: Objection to form.

18 BY THE WITNESS:

19 A I believe that there's always some
20 peripheral tissue necrosis.

21 BY MR. SANDERS:

22 Q Let me ask it a different way.

1 Is tissue that has been vaporized not
2 necessarily in a necrotized state?

3 A Well, see, the point I was trying to make
4 earlier was I'm not -- I don't think
5 "vaporization" is a good term as -- I think --
6 that's why I'm talking about ablation, and it fits
7 with the terminology that we were using, POSITAs,
8 at the time.

9 But you can repeat the question if you
10 want.

11 Q I'll come back to it.

12 Why do you think "ablation" is a better
13 term?

14 A Because you're using -- one is using
15 energy heat to shrink tissue, and that's how --
16 just putting the needle in will cause a
17 micro-hole, but when you apply the energy, that
18 tissue will -- the tissue loss will expand.

19 But I don't consider it tissue removal.
20 It's not like a curette or a punch biopsy or
21 something like that; it's all heat-related, and it
22 can be controlled to some extent.

1 Q Is there a difference in your view between
2 tissue that has been subject to vaporization and
3 tissue that's been subject to coagulation?

4 A Can you repeat that, please?

5 Q Sure. I'll state it a little differently.

6 Is there a difference between vaporized
7 tissue and coagulated tissue?

8 A Yes, vaporized tissue is the term that the
9 '836 uses for, I believe, around where the needle
10 treatment occurred.

11 And then coagulation is present in the
12 area -- the tissue that's in the periphery of
13 that, that is the -- I'm sorry, the coagulated
14 tissue is -- you could say that it's damaged to
15 some extent, but it's not -- it's still there.
16 And the fibroblast don't like that, and they think
17 it's been injured, and that's when they start to,
18 you know, make new collagen.

19 So the coagulation is different from, you
20 know, the -- and, again, the '836 distinguishes
21 between three phenomena. I agree that coagulation
22 is the -- is desirable. I just think the

1 terminology is a little different with the
2 vaporization versus ablation.

3 Q So would you substitute "ablation" for
4 "vaporization"?

5 MR. MUELLER: Objection to form.

6 BY THE WITNESS:

7 A I think with RF microneedling, unless
8 there's something extremely unique about the
9 device, I think you could.

10 BY MR. SANDERS:

11 Q And at what temperature in skin does
12 carbonization occur?

13 A Well, I didn't -- just from memory, I
14 think it's above 100, maybe close to 200. So it's
15 tissue -- it's tissue death. It's the residual.

16 Q Is there a temperature range between the
17 temperature range for coagulation and the
18 temperature range for carbonization where you
19 believe ablation occurs?

20 A Yes, but I can't give you that number
21 sitting here today.

22 Q We'll move on to the '836 patent to Ganz.

1 We've been going about an hour. Let me know if
2 you're okay to proceed, or do you want to take a
3 break at this point? Since we're switching
4 topics, it's a good point.

5 MR. MUELLER: I could use a five-minute
6 break.

7 MS. REPORTER: I was going to ask for the
8 same.

9 MR. SANDERS: Let's do it.

10 (WHEREUPON, a recess was had.)

11 BY MR. SANDERS:

12 Q Doctor, before we get into Ganz, just some
13 general questions. Do you believe that RF
14 microneedling devices, by their nature, cause
15 ablation?

16 A I believe that a proper RF microneedling
17 device does cause ablation.

18 Q And how would you expect to see that
19 ablation appear in histology of tissue?

20 A It would be absence of tissue.

21 Q Outside of this case, have you reviewed
22 histology of tissue that's been subject to

1 RF microneedling?

2 A Yes, it's been a while, but the -- I did
3 review the histology with the VoluDerm device.

4 Q Did the histology of the tissue that had
5 been subject to RF microneedling with the VoluDerm
6 device show the absence of tissue that you
7 referenced a couple moments ago?

8 A Yes.

9 Q Let's turn to Ganz now.

10 Going back to your declaration,
11 Exhibit 1035, focusing on Paragraph 28. You state
12 in the second sentence in that paragraph that Ganz
13 involves creating a zone of coagulative tissue
14 surrounding each perforation, right?

15 A That's correct.

16 Q Is it your understanding that Ganz
17 discloses creating zones of coagulative tissue
18 that surround perforations?

19 A Yes.

20 Q Ganz discloses making that perforation
21 through use of energy, correct?

22 A Yes.

1 Q And Ganz discloses creating ablation
2 holes, right?

3 A Yes. And if -- these are micro-holes.

4 Q What's your understanding of an ablation
5 hole?

6 A Again, it's -- and I believe it's in my
7 declaration. The ablation hole, micro hole,
8 occurs when the heat is delivered to the needle
9 and the tissue moves away, shrinks away from the
10 needle.

11 Q Are ablation holes shown in Ganz's
12 figures?

13 A Yes.

14 Q Let's take a look at Figure 9 of Ganz,
15 which you copied in your declaration on Page 13.

16 Do you have that there?

17 A Yes.

18 Q Is what is marked as 4 an ablation hole?

19 A Yes.

20 Q Ganz also refers to area 4 as a
21 perforation, right?

22 A Yes. But it is a very tiny perforation,

1 okay? It's such -- that's such a big word. It's
2 a micro-hole, but, yes, it's -- yes, sir, it's a
3 perforation.

4 Q Is there tissue remaining in what's marked
5 as "Treated Area 4" on Figure 9?

6 A No.

7 Q What happened to that tissue?

8 A It melted away.

9 Q What word would you use to describe that
10 process of the tissue melting away?

11 A It was ablated. And this is -- again,
12 this is consistent with the -- going from ablative
13 lasers and trying to preserve -- you brought up
14 Manstein. I remember that the -- his --
15 describing his -- what he wanted to do, he was
16 interested in preserving the epidermis and heating
17 the dermis, just like the Thermage was trying to
18 preserve the epidermis, but not in a truly
19 efficient way with the cooling.

20 So we were -- at that time, the people
21 that were POSITAs, including Dr. Zelickson,
22 Dr. Rox Anderson -- who developed the Fraxel is my

1 understanding -- we were trying to minimize damage
2 to the epidermis but heat the dermis.

3 So it's the terms that kind of continue,
4 and that's really where I stand on that.

5 Q Appreciate the explanation.

6 A Okay.

7 Q Just to confirm, in Ganz, in area 4, both
8 epidermis and dermis material has been melted
9 away, right?

10 MR. MUELLER: Objection to form.

11 BY THE WITNESS:

12 A "Ablated" is the term I would use. And
13 you want me to be more specific, but I think
14 "ablation" is a better term, and it's consistent
15 with the way we were describing heat applied to
16 the skin at that time.

17 BY MR. SANDERS:

18 Q Just to be clear then, I'll ask it a
19 little different way.

20 In Ganz, in treated area 4, both epidermal
21 and dermal tissue has been ablated, correct?

22 A Yes. But I would like to point out, if I

1 may, that looking at the measurements of the
2 depth, this is -- would be above the mid-reticular
3 dermis in human facial skin. So completely safe.

4 My VoluDerm needles, they go deeper than
5 that, and never had a problem with scarring, never
6 heard of a problem with scarring or healing.

7 Q What's the scale on this image?

8 A Well, I -- it's hard to tell what the
9 scale is, but there are measurements given in the
10 example.

11 Q Is treated area 4 where the electrode was
12 inserted?

13 A Yes, most likely the center of that.

14 Q And is it correct that what we see here as
15 treated area 4 shows the tissue that was around
16 the electrode was ablated?

17 A Yes, now it's absence of tissue.

18 Q You say in the paragraph below Figure 9,
19 Paragraph 32 of your declaration, that there are
20 smaller darker areas showing limited tissue
21 necrosis?

22 A Yes.

1 Q Are those what is shown in Figure 9 as the
2 areas that have the highest contrast that appear
3 the darkest?

4 A Yes. And they're where you would expect
5 them to be, you know, on the edge.

6 Q Are those the areas that you believe show
7 coagulation?

8 A No, the coagulation is, say, lateral to
9 that, denoted by number 2.

10 Q So in this Ganz Figure 9, is the
11 coagulation shown by the areas of least contrast
12 that are in white?

13 A Yes, where the number 2 is pointing to.
14 It looks to me like it's coagulation, and it
15 should be coagulation, too, but it does look like
16 it.

17 Q If we move to the left of where arrow
18 number 2 points, is that tissue coagulated, in
19 your view?

20 A Yes.

21 Q And if we keep on moving to the left from
22 where the arrow for number 2 points, toward the

1 other area where tissue has been removed, where
2 would you say the coagulation stops?

3 A I would say that it stops when you --
4 well, I'm not sure if it goes completely all the
5 way over, but I can see it in the slide, and it's
6 consistent with the physics of these devices.

7 But it would not go all the -- it doesn't
8 go to where -- it might go to where the thermal
9 necrosis is on the other perforation.

10 Q So is it correct to say that it goes at
11 least half the distance between where the tissue
12 has been removed and may go the full distance?

13 A I can't say looking at this, but I do
14 think the 2 represents an area of coagulation, and
15 that's consistent with the way these devices work.

16 Q So is it correct that for each of the
17 areas where tissue has been removed, there's
18 coagulation that is toward the middle of the area
19 that is in between the removed tissue?

20 A Can you rephrase that, please?

21 Q Sure. So let me break it down.

22 In Figure 9, we see two areas where tissue

1 has been removed, right?

2 A Yes.

3 Q And there is coagulation between those two
4 areas, right?

5 A Yes.

6 Q Do those areas of coagulation between the
7 removed tissue areas reach each other; in other
8 words, intercept?

9 A It would depend on the power setting,
10 whether they connect.

11 Q In this figure, do you see them
12 connecting?

13 A It's difficult for me to say.

14 Q Can you tell where the coagulation ends
15 moving from the edges of the removed tissue areas?

16 A Well, I think it's going to be just
17 outside the zone of the thermal necrosis, but I
18 can't -- on this, I can't give you a definite stop
19 and start location.

20 Q So is it correct that one boundary for the
21 coagulated areas is the zone of thermal necrosis
22 that's next to the removed region?

1 A Can you repeat that?

2 Q Sure. Is it correct that one boundary of
3 the zone of coagulation is where there's thermal
4 necrosis next to the region where the tissue has
5 been removed?

6 A Yes. And that actually is probably
7 explained better than the way I was trying to
8 explain it. It is -- that would be what you would
9 expect. That's tissue that has survived, but it's
10 kind of upset because it's been heated.

11 And these devices, including now, you
12 know, ultrasound devices, they -- like the -- I
13 don't want to jump around, sorry, but, like, the
14 SoftWave uses ultrasound. It does coagulation in
15 the mid -- mid -- well, it's 1.5 millimeters in.
16 So that gives you a little zone of coagulation.
17 The tissue doesn't die, it doesn't slough, it
18 doesn't open up, but that's what stimulates the
19 collagen.

20 So it would be next to the zone of thermal
21 necrosis, but I can't say for sure that it extends
22 all the way over. That's all I'm saying.

1 Q So sort of anticipating where I'm going.
2 So for the zone of coagulation that extends -- let
3 me start again.

4 For the zone of coagulation that has one
5 boundary that is next to the tissue necrosis
6 that's at the edge of the removed region 4, where
7 is the other lateral boundary of that zone of
8 coagulation?

9 A Of 2?

10 Q Of region 2, yeah.

11 A Okay. I think I said it's hard for me to
12 tell you the exact boundary, but I do think the 2
13 is what it describes, looking at this.

14 Q Roughly what percentage of the distance
15 between the two removed areas do you believe that
16 zone of coagulation 2 extends?

17 A Can you repeat that, please?

18 Q Roughly what percentage of the distance
19 between the two removed areas do you believe that
20 the zone of coagulation 2 extends?

21 A Well, I think it's a small area of
22 coagulation, looking at the whitish or whiter area

1 that you mentioned earlier.

2 And that's also consistent with some of
3 the whiter areas on the other side of the
4 microperforation that we've been discussing.

5 I'm just trying to be really, you know,
6 covering, but I don't think it extends. It
7 wouldn't -- the other perforation is going to
8 handle its own coagulation zone.

9 Q Let me ask a little different way.

10 In looking at Figure 9, there are white
11 regions that go from the edge of one removed area
12 to the edge of another removed area; would you
13 agree with that?

14 A Well, it looks like there's -- I wouldn't
15 agree with that.

16 Q Would you agree that there are white
17 regions in the middle of the area between the two
18 regions?

19 A They're not purely white, and it wouldn't
20 be -- just -- I mean, 2 is a good example to me of
21 coagulation, and there's other examples you can
22 find, but -- and I don't think it goes all the way

1 across. It is a low resolution, you know, so...

2 But at least he's got histology.

3 Q You believe that using the approach in the
4 '836 patent you would get histology that looks
5 like what's shown in Ganz Figure 9?

6 MR. MUELLER: Objection to form.

7 BY THE WITNESS:

8 A It's hard to say because an -- well,
9 there's -- some of the figures show that as
10 coagulation across between needle sites, and then
11 other -- another figure shows it just under the
12 needle.

13 But, again, there's no histology given;
14 it's just a schematic, which doesn't -- to me,
15 doesn't prove anything.

16 So let me -- can I -- I'm sorry. You've
17 been very patient, but I don't believe that this
18 goes all the way across. I believe it surrounds
19 the zone -- the zone of -- limited thermal
20 necrosis, and that's why we -- that is with each
21 microperforation. So it doesn't extend.

22

1 BY MR. SANDERS:

2 Q Do you have a view as to whether using the
3 approach in the '836 patent that you would get
4 removed areas of tissue like is shown here
5 designated by 4 in Figure 9 of Ganz?

6 A I'm sorry. Can you repeat that?

7 Q Do you have a view as to whether using the
8 approach in the '836 patent, whether you would get
9 removed areas of tissue like is shown as
10 designated by 4 in Figure 9 of Ganz?

11 A That's what it claims.

12 Q Can you explain what you mean by "that's
13 what it claims"?

14 A Well, as I said, there are schematics that
15 show a zone of coagulation between the electrodes
16 and also just around -- I'm sorry, underneath one
17 electrode. So if what the '836 is saying is
18 actually doable and proven by histology, then I
19 would say yes.

20 Q Let's take a look at Figure 10 of Ganz,
21 which you have on the next page.

22 And in Figure 10, we see designated 4 a

1 hole through the epidermis, right?

2 A Yes, a microperforation.

3 Q Is that an ablation hole where skin was
4 removed?

5 A Where skin was ablated.

6 Q And --

7 A Or I should say this: Where epidermis has
8 been -- a microperforation where the epidermis has
9 been ablated for access to place the needle
10 electrode and then the subsequent energy that's
11 placed.

12 Q And, just to be clear, the area that's
13 shown as 4, the needle would have been inserted
14 within that area, right?

15 A Yes, most likely in the center. With a
16 needle that configuration would be most likely in
17 the center.

18 Q In your view, does Ganz teach that a
19 desirable coagulation result is zones of
20 coagulation that are around the microneedles and
21 do not extend between the microneedles?

22 A Yes.

1 Q Let's take a look at Ganz, which is
2 Exhibit 1005.

3 (WHEREUPON, Exhibit No. 1005 was presented
4 to the witness.)

5 BY MR. SANDERS:

6 Q Where do you believe Ganz teaches that a
7 desirable coagulation result is a zone of
8 coagulation that is around the microneedles but
9 does not extend between the microneedles?

10 A I'm sorry. Did I -- I don't know if I
11 used the word "desirable," did I?

12 Q Well, that was the word in my question.
13 So I'll ask the question again, and you can tell
14 me what your view is.

15 In your view, does Ganz teach that a
16 desirable coagulation result is zones of
17 coagulation that are around the microneedles and
18 do not extend between the microneedles?

19 A Well, let me -- I've got to preface that.
20 And this is related to '836, too.

21 I'm not convinced that it's desirable to
22 just have coagulation under a -- below one of the

1 needles. I can tell you that the device I use,
2 which is -- I was exposed, as you know, to 13
3 other devices, and that one has coagulation that
4 extends to the needles.

5 So I think Ganz shows that that can be
6 done by the histology, but I'm not -- I don't
7 think Ganz states that that's desirable is I think
8 clearer. But it's capable because it's proven its
9 capable.

10 Q Why are you not convinced that it's
11 desirable to have coagulation that's just around
12 the microneedles that does not extend?

13 A Well, I don't see how it prevents scarring
14 or interferes with healing in any way.

15 And, as I said, I'm currently using the
16 device after being exposed to 13 -- to a total of
17 14 in my ITC case, and I like it. And I don't get
18 complications with it.

19 And that goes -- so I'm not -- I'm not
20 convinced that that is a desirable effect. It
21 might be in some cases, but I don't think that's
22 necessarily a -- something that's desirable for

1 sure.

2 Q When you're referring to the device that
3 you like, is that the Pollogen Legend?

4 A Yes.

5 Q I'd like to direct your attention to some
6 of the disclosures in Ganz, Exhibit 1005. First,
7 Paragraph 57, which is on Page 12 of the PDF or of
8 the document.

9 A All right. I'm here.

10 Q You see Ganz discloses in Paragraph 57
11 electrodes configured to provide power in the
12 range of about 50 to about 200 watts per square
13 centimeter?

14 A Yes.

15 Q Does the amount of energy applied to
16 tissue depend on how long the RF electrodes are
17 delivering RF energy when they're in the tissue?

18 A Yes.

19 Q Does Ganz say how long the electrodes of
20 his device are inserted into the tissue?

21 MR. MUELLER: Objection to form.

22

1 BY THE WITNESS:

2 A I don't recall that.

3 BY MR. SANDERS:

4 Q Would you agree that, based on Ganz's
5 disclosure, the electrodes would be inserted into
6 the tissue long enough to use the energy to create
7 ablation holes?

8 A Yes.

9 Q At the end of Paragraph 57, Ganz states,
10 "In other cases, the electrodes are configured to
11 provide an energy of at least about 1 joules per
12 square centimeter."

13 Do you see that?

14 A Yes.

15 Q Do you have a view as to what temperature
16 the tissue would reach if 1 joule per square
17 centimeter were applied?

18 A From my review, I can't tell you that.

19 Q Is there other information you would need
20 to determine that?

21 A Well, the watts and the time would be
22 necessary.

1 Q Any other information?

2 A Probably something I'm not thinking of
3 but...

4 Q At least watts and time; is that --

5 A Yeah.

6 Q We'll now go to Paragraph 41 of Ganz.

7 I'm sorry. I misspoke. I meant
8 Paragraph 41 of your declaration.

9 A Okay.

10 All right.

11 Q You mention in Paragraph 41 of your
12 declaration that Ganz discloses perforations of 30
13 to 100 microns in diameter, right?

14 A Yes.

15 Q In millimeters, that's 0.03 to
16 0.1 millimeters, right?

17 A Yes.

18 Q And you mentioned before that the
19 perforations were quite small that Ganz creates,
20 right?

21 A Yeah, microperforations is what would
22 my -- so if I -- I'm sorry to interrupt you,

1 Charles, but -- and, just for reference, a human
2 hair width is about 70 microns. And Ganz does
3 state that these perforations are not visible to
4 the naked eye, so, yes, I think it's a very small
5 perforation.

6 Q Would you agree that larger perforations
7 would present greater risk of scarring?

8 A It would -- I can't tell you what that
9 limit is as someone who does facial plastic
10 surgery, but if there was a -- even with -- I can
11 say that, yes, you're -- yes. But I can't -- I
12 think with these devices, it could be quite --
13 relatively quite wide.

14 And the -- even with fractional
15 resurfacing, which a lot of us do now, we ablate
16 the epidermis, and those holes are visible to the
17 naked eye. Maybe -- you know, they're actually --
18 they can see the pattern. And they heal up seven
19 days.

20 So, yes, a huge hole that would require
21 stitches would be -- that might cause a healing
22 problem, but I don't think in the context of these

1 devices, that you'd probably have the
2 microperforations running into each other.

3 Q Do you review literature in peer-reviewed
4 journals?

5 A Yes.

6 Q And you publish in peer-reviewed journals,
7 right?

8 A Yes.

9 Q Have you ever published in any of the
10 "Nature" journals?

11 A No.

12 Q Are you familiar with "Nature's"
13 scientific reports?

14 A No.

15 Q Is it correct you've had no contact with
16 the inventor of the '836 patent, Dr. Na, so far as
17 you're aware?

18 A Yeah, not that I'm aware of.

19 Q Have you reviewed any publications by
20 Dr. Na?

21 A No.

22 Q Let me show you Exhibit 2032, which is

1 Dr. Na's publication in "Nature" Scientific
2 Reports.

3 (WHEREUPON, Exhibit No. 2032 was presented
4 to the witness.)

5 BY MR. SANDERS:

6 Q And we dropped it in the chat, too, so if
7 it's easier for you to download it and open it up
8 yourself, you're welcome to do that.

9 A All right.

10 Did you have a specific area you wanted me
11 to look at?

12 Q Yeah, first -- my first question is have
13 you seen this publication before?

14 A No.

15 Q I'd like to direct you to Figure 1, which
16 is on Page 3.

17 Probably have to make it smaller for you
18 to be able to see the caption, and the caption is
19 printed small. So feel free to tell the
20 technician to move if it's helpful or open it up
21 on your end on the PDF that's in the chat.
22 Whatever's easiest for you to look at it.

1 Figure 1 shows histology, correct?

2 A Yes, I'm just trying to read this real
3 quick.

4 Q Sure. Just let me know when you're ready.

5 A Okay.

6 Q You see Figure 1 shows RF-induced
7 coagulation columns indicated by broken lines?

8 A That's what it states, yes.

9 Q It states that those RF-induced
10 coagulation columns were generated separately
11 around each microneedle electrode, correct?

12 A Yes.

13 Q In the histology that's shown in Figure 1,
14 do you see a hole where the microneedle was
15 inserted?

16 A Well, I don't see a distinct hole.

17 Q Do you see ablation holes in Figure 1?

18 A No.

19 But do you -- can I ask a question since
20 this is the first time I've seen this? Do you
21 know when the samples were taken?

22 Q Sorry, Dr. Koch, it's a one-way exercise.

1 A All right. Well, then I can at least say
2 that it would depend on when the samples were
3 taken whether -- because they have to put the
4 needle in, there's going to be a hole, even if
5 it's -- one considers it a special device.

6 So I'm just saying that even when we fully
7 ablate the epidermis with rough lasers like carbon
8 dioxide, it -- I did a study where the epidermis
9 was completely healed in seven days.

10 Q And would you agree what's shown in
11 Figure 1 here is different than what's shown in
12 Ganz?

13 A You don't want me to use the apples to
14 oranges, do you? You get sick of that analogy?

15 But, no, I'm sorry, to be serious, it is
16 different. But, again, I don't know the
17 background regarding when the needles were
18 removed, when the samples were taken. There's
19 processing issues sometimes with these samples.

20 But yes is the answer.

21 MR. SANDERS: Thank you, Dr. Koch. No
22 further questions.

1 THE WITNESS: Thank you.

2 FURTHER EXAMINATION

3 BY MR. MUELLER:

4 Q I just have a couple of follow-up
5 questions, Dr. Koch. Can you direct -- or
6 directing your attention to Paragraph 19 of your
7 declaration.

8 Do you see that?

9 A Yes.

10 Q It says there that you reviewed the
11 prosecution history of the '836 patent?

12 A Yes.

13 Q Do you have any reason to believe that was
14 incorrect at the time you wrote the declaration?

15 A No, I -- I must have looked at it briefly.
16 I just didn't review it before the deposition, but
17 I must have seen it.

18 Q And then looking at Paragraph 33 of your
19 declaration where you quote from Ganz in the
20 second, third, and fourth sentences of that
21 paragraph.

22 Paragraph 33.

1 A Yes.

2 Q And, again, directing your attention to
3 the second, third, and fourth sentences of the
4 paragraph; do you see that?

5 A Yes.

6 MR. SANDERS: Objection. Beyond the
7 scope.

8 BY MR. MUELLER:

9 Q What is your understanding from that quote
10 as to what Ganz is teaching a person skilled in
11 the art with respect to the zones of coagulation
12 that are disclosed in Ganz?

13 A That they're --

14 MR. SANDERS: Objection to form.

15 BY THE WITNESS:

16 A -- surrounding the perforation.

17 BY MR. MUELLER:

18 Q Anything else?

19 A And that they extend in all directions
20 originating from the perforation site.

21 Q Anything else with respect to whether the
22 zones of coagulation are beneficial?

1 A Yes.

2 Q Can you explain that?

3 A Well, the zones of coagulation are
4 beneficial because the tissue has been heated,
5 it's been wounded, but it's still viable, and it
6 mounts a wound-healing response.

7 Q And is that according to the disclosure in
8 Ganz, to your understanding?

9 A Yes.

10 Q All right. Let me direct your attention
11 to the first page of Ganz, which is Exhibit 1005.

12 And do you see number 76 at the top where
13 it identifies the inventors? At the first page.

14 A Yes. Yes. Sorry.

15 Q You mentioned earlier a Dr. Zelickson --

16 A Yep.

17 Q -- do you recall that?

18 A Yes.

19 Q And do you see on the listing of inventors
20 a Brian D. Zelickson?

21 A Yes.

22 Q Is that the same Dr. Zelickson you were

1 referring to?

2 A Yes.

3 Q And who is he?

4 A So Dr. Zelickson is a -- I'm not sure if
5 he's still practicing, to be honest, but he was,
6 or is, a very prominent science-based
7 dermatologist, I believe M.D./Ph.D., and we both
8 served together on the Thermage advisory board.

9 And he -- so with what he's trying to do
10 here, it fits with what was -- as a POSITA, what
11 was going on at the time.

12 And, also, interestingly, Rox Anderson,
13 he -- as I mentioned earlier, I believe he was the
14 developer of the Fraxel, which is the prior art,
15 and it's true prior art in this patent.

16 That was -- we were trying to get away
17 from -- here we are, RF people at Thermage, we
18 were trying to get a way of getting better heating
19 of the dermis with minimal disruption of the
20 epidermis.

21 Q So, to your understanding, are
22 Dr. Zelickson's teachings in the Ganz reference

1 theoretical?

2 MR. SANDERS: Objection.

3 BY THE WITNESS:

4 A No.

5 BY MR. MUELLER:

6 Q They relate to a real-world device?

7 A Yes.

8 MR. MUELLER: Thank you. No more
9 questions.

10 MR. SANDERS: I have follow-up to that.

11 FURTHER EXAMINATION

12 BY MR. SANDERS:

13 Q Did Thermage introduce an RF microneedling
14 device?

15 A No, it was surface heating with cooling.

16 Q So --

17 A But that's where we all were, and that's
18 why I was saying that I know where we were
19 heading.

20 Q Okay.

21 A From a POSITA point of view.

22 Q So when you just said that the teachings

1 relate to a real-world device, did you see any
2 device from Dr. Zelickson or Thermage that
3 implemented what's described in Ganz?

4 A Well, I see the histology here from the
5 device that Ganz used, but not for Thermage.
6 They're still doing -- you probably know this,
7 they're still using pretty much the same machine.

8 Q So, just to be clear, you never saw an RF
9 microneedling device that implemented what's
10 taught in Ganz from Dr. Zelickson, right?

11 A I never saw -- have seen a commercial
12 device, but obviously he had a device.

13 Q Whatever device he had, it wasn't one that
14 you witnessed, correct?

15 A Yes, I didn't witness it.

16 MR. SANDERS: No further questions.

17 THE WITNESS: All right.

18 MR. MUELLER: Okay. Thank you.

19 THE WITNESS: Thank you. Nice to meet
20 you.

21 (WHEREUPON, the deposition was concluded
22 at 11:02 a.m. CST.)

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ACKNOWLEDGMENT OF DEPONENT

I, R. JAMES KOCH, M.D., do hereby
acknowledge that I have read and examined the
foregoing testimony and the same is a true,
correct, and complete transcription of the
testimony given by me and any corrections appear
on the attached errata sheet signed by me.

(SIGNATURE)

(DATE)

CERTIFICATE OF SHORTHAND REPORTER

I, MICHELLE M. YOHLER, Certified Certified
Shorthand Reporter within and for the State of
Illinois, do hereby certify:

That R. JAMES KOCH, M.D., the witness whose
deposition is hereinbefore set forth, was duly sworn
by me before the commencement of such deposition and
that such deposition was taken before me and is a true
record of the testimony given by such witness.

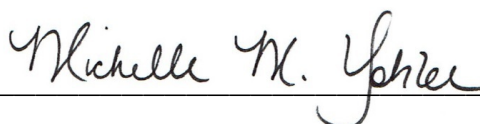
I further certify that the adverse party,
JEISYS MEDICAL INC., was represented by counsel at the
deposition.

I further certify that the deposition of
R. JAMES KOCH, M.D., was conducted virtually via Zoom,
on Saturday, October 19, 2024, commencing at 9:01 a.m.
to 11:02 a.m.

I further certify that I am not related to
any of the parties to this action by blood or
marriage, I am not employed by or an attorney to any
of the parties to this action, and that I am in no way
interested, financially or otherwise, in the outcome

1 of this matter.

2
3 IN WITNESS WHEREOF, I have hereunto set my
4 hand this 24th day of October, 2024.

5
6
7 

8 Michelle M. Yohler, CSR, RMR, CRR

9 Certified Shorthand Reporter

10 CSR No.: 84-4531

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