

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

3D DIAGNOSTIX, INC.,)
)
 Petitioner,)
)
 v.) Case PGR2024-00040
) U.S. Patent No. 11,806,209
 WATSON GUIDE IP, LLC,)
)
 Patent Owner.)

DEPOSITION OF DR. JEFFREY A. ELO

1:00 p.m.
June 26, 2025

PLANET DEPOS
File #589935

Reported By: Judy Robinson, CCR #2171

A P P E A R A N C E S

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Also Present: Charlie McGrath, Planet Depos' Technician

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I N D E X

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1 BE IT REMEMBERED that the deposition upon oral
2 examination of DR. JEFFREY A. ELO, was taken on
3 June 26, 2025, at 1:00 p.m., at 125 South 309th Street,
4 Federal Way, Washington, 98003, before Judith A.
5 Robinson, CCR, Notary Public in and for the State of
6 Washington, residing at Federal Way, Washington.

7 Whereupon, the following proceedings were had,
8 to-wit,

9 MR. MCGRATH: Thank you to everyone for
10 attending this proceeding remotely, which we anticipate
11 will run smoothly.

12 Please remember to speak slowly and do
13 your best not to talk over one another. Please be aware
14 that we are recording this proceeding for back-up
15 purposes. Any off-the-record discussions should be had
16 away from the computer. Please remember to mute your mic
17 for those conversations.

18 Please have your video enabled to help the
19 reporter identify who is speaking. If you're unable to
20 connect with video and are connecting via phone, please
21 identify yourself each time before speaking. We'll
22 provide a complimentary unedited recording of this

1 transcript with the purchase of a transcript.

2 I apologize in advance for any
3 technical-related interruptions. Thank you.

4 * * * * *

5 DR. JEFFREY ELO

6 Having been first duly sworn

7 on oath was examined

8 and testified as follows:

9 E X A M I N A T I O N

10 BY MR. FEIGELSON:

11 Q. My name is Aaron Feigelson. I'm an
12 attorney with Leydig, Voit & Mayer in Chicago. I
13 represent 3D Diagnostix, Inc., in a proceeding before the
14 Patent Trial Appeals Board, Case PGR2024-00040, and at
15 issue in that proceeding is the validity of United States
16 Patent Number 11806209.

17 Dr. Elo, thank you for your time today.

18 Are you represented by an attorney today,
19 Dr. Elo?

20 A. No.

21 Q. And Mr. Karish is not representing you in
22 this proceeding?

1 MR. KARISH: I'll acknowledge that I'm
2 representing the patent owner, and that Dr. Elo is an
3 expert that we retained.

4 BY MR. FEIGELSON:

5 Q. Dr. Elo, do you understand that you're
6 under oath today?

7 A. Yes.

8 Q. And do you understand that your oath is
9 just as binding as if you were sitting in front of a jury
10 or the Patent Trial and Appeal Board?

11 A. Yes.

12 Q. Do you understand that you need to answer
13 my questions audibly so that the court reporter can make
14 an accurate transcript of what you say?

15 A. Yes.

16 Q. Dr. Elo, is there any reason such as being
17 on medication or some other reason that you might be
18 unable to provide complete and accurate testimony today?

19 A. No.

20 Q. Do you have in -- are you currently
21 located at your home?

22 A. I am, yes.

1 Q. Is there any device, like, an Amazon Echo
2 or Google Home in the room, which capable of hearing and
3 -- and potentially recording this conversation?

4 A. No.

5 Q. Dr. Elo, have you been deposed before?

6 A. Yes.

7 Q. And when was that?

8 A. I'll pull up my list. It's been -- it's
9 been a couple of years since my most recent one, but I've
10 participated in, I would say, three to four depositions.

11 Q. Okay. Did any of those involve patent?

12 A. No.

13 Q. Malpractice cases?

14 A. Yes.

15 Q. So since you've been deposed, you may know
16 this but let me go over some of the ground rules. Okay?

17 So I -- I ask the questions, and you --
18 you answer them. And if you need a break for any reason,
19 just let me know and we'll take break. The only thing I
20 ask is that if there's a question that's outstanding,
21 that you answer the question before we take the break.
22 Does that make sense?

1 A. Yes.

2 Q. Okay. Also, please wait until I'm done
3 asking the question before you answer. That helps the
4 court reporter make an accurate transcript. Do you
5 understand?

6 A. Yes.

7 Q. Okay. Dr. Elo, you understand your oath
8 requires you to testify truthfully today, right?

9 A. Yes.

10 Q. And -- and you intend to testify
11 truthfully?

12 A. I do.

13 Q. Dr. Elo, what have you done to prepare for
14 today's deposition?

15 A. Well, I've read through all of the
16 documents that I had received. Most notably,
17 Dr. Erickson's Declaration; my report again; Mr. Banks'
18 Declaration. I've read through the 209 Patent. I've
19 read the Sichuan English translation Patent, the Yau
20 Patent.

21 (Clarification by reporter.)

22 A. As well as the Llop, L-L-O-P; and the

1 Groscurth, G-R-O-S-C-U-R-T-H. As well as I've -- I've
2 watched the video of Dr. Scherer and Dr. Bou Chah. I
3 think I can spell that one. I think it's B-O-U,
4 C-H-O-U -- C-H-A-H, I believe. But it's the Dr. Scherer
5 video. And I --

6 (Technical difficulties.)

7 BY MR. FEIGELSON:

8 Q. And -- and -- and in all of the reviewing
9 that you just recovered to of those patents and videos,
10 how recently have you reviewed those documents and the
11 videos?

12 A. Started Saturday. Read it -- read it and
13 reviewed on Sunday, and then Monday, Tuesday, and
14 Wednesday, as well as a little bit this morning.

15 Q. And have you met with anyone in
16 preparation for today?

17 A. I had a meeting with -- with Marc
18 yesterday for approximately an hour.

19 Q. Marc Karish?

20 A. Yes.

21 MR. FEIGELSON: Let's -- let's put up on
22 the screen Exhibit 2007, please.

1 MR. MCGRATH: Sorry, I was muted. Not a
2 problem.

3 (Exhibit No. 2007 was marked.)

4 BY MR. FEIGELSON:

5 Q. Dr. Elo, on the screen now is what's been
6 submitted to the Patent Trial and Appeal Board as
7 Exhibit 2007. And it's entitled, "The Declaration of
8 Jeffrey A. Elo, DDF, and FACS."

9 Do you -- do you see that cover of that
10 document in front of you?

11 A. Yes, I do.

12 MR. FEIGELSON: And if it's possible to
13 scroll up or allow the witness to scroll through to
14 confirm that this is the document that -- that he
15 prepared or submitted.

16 MR. MCGRATH: Sure.

17 Doctor, if you click on the screen, you
18 should be able to take control.

19 WITNESS: (Complies)

20 MR. MCGRATH: Also, with the hand, if you
21 just click and drag, you should be able to drag it up and
22 down.

1 WITNESS: Oh, I see. Thank you.

2 MR. MCGRATH: Not a problem.

3 BY MR. FEIGELSON:

4 Q. Dr. Elo, you're scrolling through the
5 document now. And as you do that, I'm just going to ask
6 you to confirm -- or I'll ask you if you recognize this
7 document first?

8 A. Yes, I recognize it.

9 Q. And is -- is that your signature on the
10 last page? It's page 47 of the document.

11 A. That is, yes.

12 Q. And does this -- does this appear to be
13 the document that you submitted in conjunction with this
14 PGR proceeding?

15 A. Yes.

16 Q. Dr. Elo, did you write this document?

17 A. I -- I worked on the document in conjunct
18 -- in coordination with Mr. Karish.

19 Q. Do you -- are -- are the words in here
20 your words?

21 A. A good majority of them are, yes.

22 Q. You adopt all of the words in the document

1 as your own?

2 A. I did -- I did not say that. I said a
3 good number of them are, yes.

4 Q. Is there any portion of this document that
5 you do not adopt as your own?

6 A. Can you -- can you rephrase that?

7 Q. Sure.

8 Dr. Elo, on the last page of this
9 document, you -- you signed saying that you declared
10 that, "all the statements made herein are of your
11 knowledge or are true."

12 Do you see that on the last page? Page
13 47?

14 A. Let's get there. Yes, I see it.

15 Q. Okay. And you signed that under the
16 penalty of perjury, correct?

17 A. Correct, yes.

18 Q. Great. So all the statements that are in
19 this document are -- you're adopting those as your own
20 words; is that right?

21 A. Yes, I am. Yes.

22 Q. Okay. Dr. Elo, what's -- what's your

1 current employment position?

2 A. So I'm a full-time, full-tenured professor
3 of oral and maxilla facial surgery at the College of
4 Dental Medicine at Western University of Health Sciences
5 in Pomona, California. And I'm also a part-time
6 assistant professor with the Department of Oral and
7 Maxilla Facial Surgery at Loma Linda University School of
8 Dentistry in Loma Linda, California.

9 Q. Did you engage in private practice?

10 A. I --

11 Q. Have you ever done that?

12 A. I have in the past, yeah. I -- I sold my
13 private practice in 2012.

14 Q. And that was to go into academia
15 full-time?

16 A. That's correct.

17 Q. Taking a look at paragraph 3, which is on
18 the first page of your Declaration. It says you,
19 "completed a four-year hospital based advanced dental
20 education residency training in the specialty of oral and
21 maxilla facial surgery," correct?

22 A. That's correct, yes.

1 Q. What -- what does -- what does that mean
2 to advanced dental education residency?

3 A. Well, it used to be called just residency,
4 and then the American Dental Association and then the
5 Commission on Dental Accreditation changed the use of the
6 word "residency" to "advanced dental education training."

7 Why they did that? I -- I can't speak for
8 it, but that's a common vernacular now is advanced dental
9 education training.

10 Q. In the time you were in private practice,
11 did you perform dental implant surgery?

12 A. I did, yes.

13 Q. Do you still perform dental implant
14 surgery?

15 A. Yes. I place approximately 4 to 500
16 implants a year.

17 Q. That's not 4 to 500 patients, right?

18 A. No, no.

19 Q. Yeah, right.

20 A. I don't know the number of patients, but
21 it's approximately that volume of actual implants placed.

22 Q. Have you ever used a stackable guide

1 system in performing dental implant surgery?

2 A. Yes, I have.

3 Q. Which systems do you use?

4 A. Well, there's a couple. We -- the
5 majority of the implants that I place, for example, at
6 Loma Linda, we make in-house. We have a -- a graduate
7 prosthodontic program, and they build the -- the -- the
8 surgery guides for us.

9 At Western University, we use a company
10 called Implant Concierge. I think they're in Texas. And
11 then, we also make our own. We have 3D printed guides
12 that we use to make stackable guides of our own.

13 Q. And have you ever heard of the company
14 called -- or the product called GuidedSMILE?

15 A. I have now, yes.

16 Q. Prior to this litigation, have you -- have
17 you heard of them?

18 A. I had not.

19 Q. What about National Dentex?

20 (Clarification by reporter.)

21 A. I'm not familiar.

22 BY MR. FEIGELSON:

1 Q. So National Dentex you had not heard of;
2 is that right?

3 A. That's correct.

4 Q. What about Ibur Systems, I-B-U-R?

5 A. I'm -- I'm unfamiliar.

6 Q. Have you heard of Roe Dental Laboratories,
7 R-O-E?

8 A. I had heard the name, but I have -- we
9 have not worked together.

10 Q. Dr. Elo, there's two terms I wanted to ask
11 you about. Are you familiar with the term Pterygoid?
12 That's spelled P-T-E-R-Y-G-O-I-D.

13 A. I am, yes.

14 Q. Okay. What does that mean?

15 A. Well, the Pterygoid is a bone. There's a
16 medial Pterygoid and there's a lateral pterygoid. And
17 it's the posterior portion of the maxilla. There's also
18 muscles called the medial and lateral Pterygoid that
19 attach to the medial and Pterygoid plate, respectively.
20 And those muscles help move the mandible, whether it be
21 up, down, forward, or side-to-side.

22 Q. Are you familiar -- by any -- I mean, do

1 you -- I'm sorry.

2 Do you use the term "Pterygoid plate"; is
3 that right?

4 A. Well, no. I -- I -- you asked if I was
5 familiar with the term "pterygoid," and I said, yes,
6 there's a -- there's a medial and lateral Pterygoid
7 plate. And then, there's also a medial and lateral
8 Pterygoid muscle. And so, yes.

9 Q. The -- the Pterygoid plate, is that a
10 bone? I think that's part of the -- the bone above the
11 jaw?

12 A. Well, it's behind the upper jaw. So it's
13 -- it's posterior to the maxilla. So if you think of
14 your hard pallet as being the end of your maxilla, the
15 plates are behind that and above your soft palate. But
16 they would be behind your maxilla.

17 Q. Is that actually part of the skull then?

18 A. That's part of the skull, sure.

19 Q. Are you familiar with any dental surgeries
20 that involve the Pterygoid plate?

21 A. There's -- there's surgeons that place
22 Pterygoid implants. There's also before osteotomies,

1 which I do routinely as part of orthodontic surgery where
2 we take a chisel or/and a saw, to separate the pterygoid
3 plate from the maxilla so we can move and mobilize the
4 maxilla.

5 So, yes, I'm familiar.

6 Q. What about term "Zygomatic implants"?
7 Z-Y-G-O-M-A-T-I-C.

8 Have you heard of that?

9 A. I have, yes.

10 Q. And -- and what is a Zygomatic implant?

11 A. Well, the -- the Zygomatic bone is your
12 cheekbone, and the Zygomatic implant is an implant that's
13 placed from about the -- the lateral incisor canine area
14 through your sinus to engage the bone of the Zygoma.

15 Personally, I'm not -- I'm not a fan of
16 those. I -- I remove a lot of those that people have
17 placed in southern California, but I'm not one that
18 prescribes that for my patients. But I'm aware of it.

19 Q. Okay. Is that a dental surgery?

20 A. It's an implant surgery.

21 Q. Are Pterygoid implants and Zygomatic
22 implants surgeries that are typically performed by oral

1 surgeons?

2 A. I would say Pterygoid implants are -- are
3 more likely when they're placed -- are placed by oral and
4 maxilla facial surgeons. Same thing with Zygoma
5 implants. I would imagine there are dentists who place
6 both -- I know there are dentists who placed Zygoma
7 implants.

8 I'm unaware of, in general, dentists
9 placing Pterygoid implants. But I'm playing the
10 statistics of how many people are placing them. I would
11 suspect there are some somewhere.

12 Q. Why do you suspect that dentists are not
13 placing Pterygoid implants?

14 A. Well, if you're --

15 MR. KARISH: Objection.

16 Let me -- let me just -- one second. Let
17 me -- let me just object.

18 This calls for speculation, but you can
19 answer.

20 A. So my -- my reasoning for -- for believing
21 that is the Pterygoid plates are in an area adjacent to
22 the Pterygoid plexus, which is adjacent to the Maxillary

1 Artery, which is an artery approximately the diameter of
2 your finger. And if you get into bleeding, you'll know
3 about it because your -- your office will be on the news
4 after a patient dies. And -- and that does happen.

5 And so, most of the time, if people are
6 aware of the anatomy, they would likely not enter that
7 area unless they've -- they've really accomplished a
8 significant amount of training to work in that area.

9 BY MR. FEIGELSON:

10 Q. But dentists would probably be aware of
11 that, of the Pterygoid implant and a Zygomatic implant
12 procedure?

13 A. I don't think the majority of general
14 dentists would yet training as a dental student on
15 Pterygoid or Zygomatic implants. I think those would be
16 concepts that they learn after dental school in a
17 continuing education meetings or -- or courses that are
18 maybe put on by implant companies.

19 Q. Dr. Elo, you said that prior to these
20 proceedings, this PGR, you were not familiar with
21 GuidedSMILE; is that right?

22 A. That's right. I -- I had not used their

1 product before and -- and I wasn't familiar with the
2 name.

3 Q. Do you know if CHROME GuidedSMILE is the
4 name of a single product, or do you -- or does that label
5 refer to a family product?

6 A. I -- I don't -- I don't know the answer to
7 that.

8 Q. Which GuidedSMILE products are -- are you
9 -- well, are familiar with any particular GuidedSMILE
10 product at this point right now?

11 A. I'm familiar with the one that -- that's
12 referenced by -- by Mr. Banks in his Declaration.

13 Q. Have you ever met J. Watson, the named
14 inventor on the 209 patent at issue?

15 A. I have not.

16 Q. I just want to turn to the -- sorry,
17 jumping around a little bit.

18 Let's turn to the back of paragraph 102 of
19 your Declaration, please.

20 A. (Complies)

21 Q. And you state there, Dr. Elo, that you,
22 "reviewed the Declaration of Alan Banks," right?

1 A. Yes.

2 Q. And you then say that, "The CHROME
3 GuidedSMILE product appears to attract the claim language
4 of U.S. patent number 11806209," right?

5 A. Correct.

6 Q. Okay. Did you actually review a physical
7 product, yourself, when -- when you were making that
8 statement?

9 A. I did not review a physical product, no.
10 Just the images and, I believe -- I -- I want to say I
11 saw a video, but I'm trying to think if it was on their
12 website or how at one point almost like a -- just a video
13 of it being in the news.

14 Q. So you -- you were relying on the images
15 and videos that were provided, and Mr. Banks'
16 description, to form your understanding of how the
17 GuidedSMILE product operated; is that fair?

18 A. That, and then the language of the patent
19 as well as his -- yeah, his -- his description was -- was
20 very good in his Declaration.

21 Q. Again, you -- you didn't personally
22 inspect a physical GuidedSMILE product yourself, right?

1 A. I have not, no.

2 Q. Let's jump back now to paragraph 13 of
3 your Declaration, please.

4 A. (Complies)

5 MR. FEIGELSON: To the court reporter, I
6 -- I understand this is a rough. Where you have the word
7 permanently, that should be personally in the previous
8 question or two questions up.

9 REPORTER: Uh-huh.

10 MR. FEIGELSON: Thank you.

11 REPORTER: Yep.

12 BY MR. FEIGELSON:

13 Q. Dr. Elo, you're at paragraph 13 of your
14 Declaration?

15 A. Yes.

16 Q. And paragraph 13 is in the section that
17 says, "Materials Considered," correct?

18 A. Correct.

19 Q. And you reviewed the documents that are
20 listed in this section; is that right?

21 A. That's correct.

22 Q. Were those documents provided to you by

1 Counsel?

2 A. Let me check. I believe the answer is
3 yes. The -- the video -- well, I mean, the video, I -- I
4 just used the -- the YouTube site, so I don't believe
5 they provided the videos but I was provided the address
6 and looked those up for both Scherer videos.

7 Q. Fair enough. Dr. Elo, did Counsel provide
8 you any other documents for your analysis that are not
9 listed here in paragraph 13?

10 A. No.

11 Q. Dr. Elo, I want to confirm that you did
12 not review number 11173016, which is the parent patent of
13 the 209 patent that's at issue; is that right?

14 A. That's correct.

15 Q. And you did not review provisional
16 application 62508377, to which the 209 patent claims
17 priority; is that right?

18 A. That's correct.

19 Q. Dr. Elo, are you familiar with the term
20 "file history" of a patent?

21 A. Mr. Karish brought that up to me
22 yesterday. I was not familiar with it prior to him

1 mentioning it.

2 Q. So you didn't review any file history in
3 forming the opinions that are contained in your
4 Declaration; is that right?

5 A. That's correct. I -- I had mentioned to
6 him that the only real history of it that I had seen was
7 in Dr. Erickson's Declaration. There was -- there was a
8 bit of a history, but it was -- it was a little more
9 difficult for me to make sense of that.

10 Q. So you didn't review the file history of
11 the 209 patents, right?

12 A. That's correct.

13 Q. And you didn't -- you -- you did not
14 review the file history of any other patents that are in
15 the family as the 209 patent such as the 016 patent,
16 right?

17 (Clarification by reporter.)

18 A. That is correct.

19 BY MR. FEIGELSON:

20 Q. So just to be clear, other than the
21 documents listed in paragraph 13 of your Declaration,
22 you're not aware of any other documents that you

1 specifically reviewed in forming your opinions that are
2 in your Declaration; is that right?

3 A. Yes.

4 Q. Okay. Dr. Elo, let's jump ahead to
5 paragraph 39 of your Declaration, which is on page 16.

6 A. (Complies).

7 Q. I'd like to look at the sentence that goes
8 on to the next page. It begins: "It is my opinion that
9 the term 'mouthpiece' as used in the dentistry field
10 refers to a structure similar to a mouthpiece, also
11 called a mouthguard, used to protect athletes; such as
12 boxers, football players, or basketball players, and that
13 is configured to surround the teeth of a patient"; is
14 that right?

15 A. That's correct, yes.

16 Q. And you then cite a definition from WebMD;
17 is that right?

18 A. Yes.

19 Q. And the WebMD definition says that, "A
20 mouthguard is a device that is inserted into the mouth
21 and worn over the teeth to protect them against impact or
22 injury"; is that right?

1 A. Yes.

2 Q. You then go on to say: "This definition
3 is consistent with the way a person of ordinary skill in
4 the art would understand mouthpiece as used in the 209
5 patent, as a device that is inserted into the mouth and
6 worn over the teeth," correct?

7 A. Yes.

8 Q. Dr. Elo, did you survey dentists and
9 surgeons in forming this opinion as to what -- what --
10 what a mouthpiece is?

11 A. In fact, I did. I -- you know, I work at
12 two dental schools so I -- I have a -- a readily
13 available supply of dentists, resident students, and --
14 and assistant -- dental assistants. So, in fact, I did
15 ask them that specific question.

16 Q. What was the question you asked them?

17 A. I said: "How would you define a
18 mouthpiece in dentistry?"

19 Q. Okay. Did you make a reference to the --
20 the research that you did in your Declaration?

21 A. No.

22 Q. Is there a reason that you chose to

1 exclude that information from your Declaration?

2 A. Well, as a clinician researcher, that's
3 more anecdotal. It wouldn't hold up in any of my
4 professional publications, so I couldn't necessarily use
5 that here.

6 Q. How many other people did you ask for
7 their opinion?

8 A. I would say somewhere between 20 and 30.

9 Q. And -- and do you have a copy of the exact
10 question that you phrased and formed to these other
11 people?

12 A. No. The question was just that: "How
13 would you define a mouthpiece in dentistry?"

14 Q. Can you provide us with the answers that
15 all 30 of those people provided?

16 A. I didn't write those down.

17 Q. Okay. Is there anyway for -- for me to
18 verify what those answers were?

19 A. I guess you'd have to accept my word.

20 Q. Did you cite any articles that support
21 your opinion as to what a mouthpiece is?

22 A. I cited just online dictionary

1 definitions.

2 Q. Did you provide any evidence as to your
3 opinion as to what a person of ordinary skill in the art
4 would understand a mouthpiece to be other than the
5 dictionary definition?

6 A. Are you asking if I provided the people
7 that I asked another definition?

8 Q. So I'm asking for this Declaration, I see
9 -- I see a definition from WebMD, and then there's one
10 from the American Heritage dictionary on the next page.

11 But is there any other evidence that you
12 provided that supports your opinion as to what a
13 mouthpiece is in the 209 patent?

14 A. I -- I believe it's -- if it's not listed
15 in the Declaration, then I don't -- I don't believe I
16 have referenced another source.

17 Q. So it was just those two dictionaries, the
18 WebMD and the American Heritage dictionary; is that
19 right?

20 A. I -- I believe that's correct. I know
21 there was -- there was an Oxford dictionary, a new
22 Websters. That may have been for the terms in close or

1 surround, but I -- I believe that's correct to your --
2 your question.

3 Q. Does the American Dental Association
4 define mouthpiece?

5 A. I'm not certain.

6 Q. What about Websters? You just mentioned
7 that you looked it up for something else. Did it have a
8 definition for mouthpiece?

9 A. I can't recall if I -- if I searched
10 Websters for a mouthpiece.

11 MR. FEIGELSON: Can we put up exhibit
12 1044, please?

13 (Exhibit No. 1044 was marked.)

14 MR. MCGRATH: (Complies)

15 Just to confirm, I noticed that this
16 doesn't have a sticker but you mentioned it was
17 premarked. Should I not sticker it? Is this just the
18 raw file that you were using from before?

19 MR. FEIGELSON: Correct. Please, please,
20 no sticker.

21 MR. MCGRATH: All right. Thank you.

22 BY MR. FEIGELSON:

1 Q. Dr. Elo, in front of you is Exhibit 1044,
2 which is -- is that from Websters online dictionary.

3 Oh, sorry. This might be Dictionary.com.
4 Can we Zoom in on that, not WebMD. But there's the
5 definition of "mouthpiece." Can you see that?

6 MR. FEIGELSON: Can you zoom in?

7 MR. MCGRATH: (Complies)

8 MR. FEIGELSON: Scroll down, please.

9 MR. MCGRATH: (Complies)

10 BY MR. FEIGELSON:

11 Q. Dr. Elo, do you see in front of you
12 dictionaries.com's definition of mouthpiece?

13 A. I do, yes.

14 Q. And Dictionary.com, their first definition
15 is: "A piece placed at or forming the mouth, as a
16 receptacle or tube," correct?

17 A. That's what it says, yes.

18 Q. And their second definition is: "A piece
19 or part, as of an instrument, to which the mouth is
20 applied or which is held in the mouth such as the
21 mouthpiece of a trumpet," right?

22 A. That's correct.

1 Q. There's no definition here given on
2 Dictionary.com about anything being placed over the
3 teeth, right?

4 A. I don't see one, no.

5 Q. Dr. Elo, do -- do dentists or oral
6 surgeons prefer definition from the American Heritage
7 dictionary over Dictionary.com?

8 A. I don't know that the American Dental
9 Association has taken an official position on where to
10 get definitions. I'm not aware that.

11 MR. FEIGELSON: Let's put up Exhibit 1045,
12 please.

13 (Exhibit No. 1045 was marked.)

14 MR. MCGRATH: (Complies)

15 BY MR. FEIGELSON:

16 Q. Dr. Elo, in front of you is a printout
17 from Websters.com of -- with the definition of
18 "mouthpiece."

19 Do you see that in front of you?

20 A. I see that, yes.

21 Q. And -- and what's the definition -- the
22 first definition that Websters' provides for

1 "mouthpiece"?

2 A. "Something placed at or forming a mouth."

3 Q. And what's their second definition?

4 A. "A part, as of an instrument, that goes in
5 the mouth or to which the mouth is applied."

6 Q. So, again, neither of these definitions
7 mention anything about going over the teeth, correct?

8 A. They do not, no.

9 Q. And do dentists prefer definitions from
10 American Heritage over Websters?

11 A. I suppose at least one of them did.

12 Q. Why do you suppose that?

13 A. Well, I'm -- I'm a dentist and I chose to
14 get it from WebMD and American Heritage.

15 Q. Right, and the definition that you got
16 from WebMD wasn't for "mouthpiece," it was for
17 "mouthguard," correct?

18 A. Right. Not always do you get an exact
19 match if there's nothing relevant under the "mouthpiece."

20 Q. Dr. Elo, does the 209 patent make any
21 mention that the purpose of a mouthpiece is to protect a
22 patient's teeth from injury?

1 A. No, it does not.

2 Q. Dr. Elo, are you familiar the company
3 called "Henry Schein," S-C-H-E-I-N?

4 A. I am, yes.

5 Q. And are they either kind of a seller of
6 medical and dental supplies; is that correct?

7 A. Yeah, they're a big distributor.

8 Q. Okay. Like an Amazon in the medical and
9 dental world?

10 A. Yes.

11 Q. Have you ever made purchases from Henry
12 Schein?

13 A. I think we get suture gauze and local
14 anesthesia from there. That's about all.

15 Q. In forming your opinion for your
16 Declaration, did you research that dental products sold
17 by Henry Shein are identified as mouthpieces?

18 A. I did not.

19 MR. FEIGELSON: Let's put up Exhibit 1038,
20 please.

21 (Exhibit No. 1038 was marked.)

22 MR. MCGRATH: (Complies)

1 BY MR. FEIGELSON:

2 Q. Dr. Elo, in front you is Exhibit 1038,
3 which is a printout from the Henry Schein dental website.
4 And it is a return of the keyword search "mouthpiece."

5 Do you see that in front of you?

6 A. Let's see if I can Zoom in a little bit.
7 I see it. Let's take a look at what this is.

8 Q. So you can scroll through that. I think
9 there are 29 -- 29 things returned on the search. I will
10 ask you to answer: How many of these items appear to be
11 consistent with your definition of mouthpiece?

12 A. I don't see any that are consistent with
13 my definition.

14 Q. Do any of these items go over the teeth?

15 A. I don't believe I know how a lot of these
16 are -- are used. I -- I would have to see them in use to
17 be able to answer that question.

18 Q. Well, let's just put up a couple of
19 examples.

20 MR. FEIGELSON: Can we put up Exhibit
21 1039, please?

22 (Exhibit No. 1039 was marked.)

1 MR. MCGRATH: (Complies)

2 BY MR. FEIGELSON:

3 Q. Dr. Elo, what is an isolite posterior
4 mouthpiece?

5 A. I don't know.

6 Q. Is it something that goes over the teeth?

7 A. I have never seen that before.

8 MR. FEIGELSON: Let's go to Exhibit 1040,
9 please.

10 (Exhibit No. 1040 was marked.)

11 MR. MCGRATH: (Complies)

12 BY MR. FEIGELSON:

13 Q. Dr. Elo, Exhibit 1040 is an item sold, you
14 know, found on the Henry Schein dental site called an
15 "isolite anterior mouthpiece" -- "disposable mouthpiece,"
16 and there's a ten pack, right?

17 A. That's what it says, but same thing. I've
18 never seen that, and I don't know what it's for.

19 Q. You don't know if this goes over the
20 teeth?

21 A. I have no idea.

22 MR. FEIGELSON: Let's do one more. Pull

1 up Exhibit 1043, please.

2 (Exhibit No. 1043 was marked.)

3 MR. MCGRATH: (Complies)

4 BY MR. FEIGELSON:

5 Q. How about this? This is described
6 specifically as a mouthpiece?

7 A. That, I use everyday.

8 Q. Okay. And what is that?

9 A. We call those bite blocks.

10 Q. So a bite block? What -- what does a bite
11 block do?

12 A. It helps keep the patient's mouth open, so
13 I --

14 Q. You -- you don't call it a mouthpiece?

15 A. I've -- I've -- in 23 years, I've never
16 heard it called a mouthpiece. I've called it -- I call
17 it bite blocks.

18 Q. Henry Schein calls it a mouthpiece,
19 however?

20 A. If you're able to put in a search for bite
21 block, I suspect you will see the exact same thing.

22 Q. Do any of the items that you looked at on

1 -- on the Henry Schein site that you saw in Exhibit 1038,
2 do any of those resemble a sports mouthguard that's used
3 to protect teeth from harm?

4 A. None of those resemble, but some were just
5 boxes. I couldn't -- I couldn't tell for sure.

6 Q. Let's go back to your Declaration, if we
7 can. Exhibit 2007.

8 MR. MCGRATH: (Complies)

9 BY MR. FEIGELSON:

10 Q. And -- and the next page, paragraph 39 and
11 40, going onto two pages. It states it's your opinion
12 that, "this definition of mouthpiece has a device that is
13 inserted into the mouth and worn over the teeth." You
14 state in your opinion, "that's consistent with the
15 description and drawing in the 209 patent"; is that
16 correct?

17 A. That's correct.

18 Q. Then you specifically point to "figure
19 12.C" and "12.D" in the patent, right? That's at the
20 bottom of page 17 we can see those?

21 A. Yes.

22 Q. Moving ahead in your Declaration a little

1 bit, paragraph 43. And you state here that you've,
2 "reviewed dictionary definitions of the term 'surround,'" and you stated it's your opinion that, "one of skill in
3 the art would understand that term to mean 'enclosed,'" right?
4
5

6 A. Yes.

7 Q. So does the word "surround" have a special
8 usage in dentistry?

9 A. I don't think it's special. I think it's
10 a common usage.

11 Q. Did you study any dental industry
12 glossaries or dictionaries that indicate the word
13 "surround" has a special meaning in the dental field?

14 A. I did not.

15 Q. Do you have any evidence that dental
16 surgeons have a trouble understanding the word surround?

17 A. No, I -- I'm not sure that I'm aware that
18 that's a problem in the -- in the field.

19 Q. What -- what's the difference between
20 surrounding something and enclosing something?

21 A. I think they're synonyms.

22 Q. Did you look at any dictionary definitions

1 for the word "enclosed" in forming your opinion about the
2 meaning of "surround"?

3 A. I think in the Oxford English dictionary,
4 the -- the two were almost interchangeable. If you put in
5 "surround" and come back with "enclose," you put in
6 "enclose," you come back to "surround." So those were
7 pretty similar I found.

8 Q. And you only cited in paragraph 43 the
9 dictionary entries for "surround," correct?

10 A. Let me verify here. Correct.

11 Q. You did not include any dictionary
12 definitions for the word "enclose," right?

13 A. I don't believe so, no.

14 Q. And when you wanted a definition for
15 mouthpiece, you went to a different dictionary, not one
16 of these, but the American Heritage dictionary, right?

17 A. Correct, yes.

18 Q. Why did you choose to go to a different
19 dictionary for your -- for your definition of mouthpiece?

20 A. I think I'm no different than the common
21 person who goes to Google, types in a word, and then
22 types in dictionary and the top couple of choices, you --

1 you click on those. I think it was honestly as -- as
2 simple as that.

3 Q. It's not the dental surgeons' preferred
4 some dictionaries for defining one term and other
5 dictionaries for defining another term?

6 A. That's correct, yes.

7 MR. FEIGELSON: Let's -- for reference,
8 let's put up Exhibit 1001, please.

9 (Exhibit No. 1001 was marked.)

10 MR. MCGRATH: (Complies)

11 BY MR. FEIGELSON:

12 Q. Dr. Elo, Exhibit 1001 is U.S. Patent
13 11806209. Do you have that in front of you?

14 A. I do, yes.

15 Q. And you've read this patent, right?

16 A. Yes.

17 Q. Dr. Watson, what -- or Dr. Elo, what is
18 the purpose of the mouthpiece in this patent in your
19 opinion?

20 A. To more accurately seat the fixation base.

21 Q. How does it more accurately seat the
22 fixation base? (CHECK CHECK)

1 A. Well, going back -- if you want a more
2 detailed response, going back to prior iterations of
3 surgical guides, some of the struggles have been using
4 the opposite arch to maybe push a guide that's in place.

5 Trouble with that -- there's many, but a
6 couple of illustrations of it could be this: A lot of
7 implant patients are a little bit older. And if you're
8 relying on someone -- let's say, for example, we're going
9 to place upper implants and you're using lower jaw or
10 lower teeth to push a guide up to the upper jaw, many
11 times, an older patient, they -- they develop a little
12 bit of a tremor. And that tremor's not just in their
13 hands. It's -- it's in their jaw. Particularly, if
14 they're open for a little period of time.

15 And when your placing guides, you really
16 can't tell if that mouthpiece, the bite block that we
17 talked about moments ago, to hold them in because you've
18 got devices going in and out of mouths, so the patient
19 has to be able to hold open. And then, their muscles, in
20 many cases, start to quiver. And the significance of the
21 quiver is this: If you're relying on that lower tooth to
22 push a guide up to the upper jaw, and that lower jaw is

1 quivering, can suspect that your guide is going to have a
2 little bit of movement. And then, at some point, you
3 just have to hold it or push it under their chin, and
4 then fix it in place. So your not predictably accurate
5 from patient to patient.

6 That's one issue. The other big issue
7 with prior iterations of using opposite teeth to guide a
8 stint is many of these patients are placed under
9 sedation, and we don't really close the patient's jaw.
10 It's not ideal if someone's under sedation to have them
11 closed for any period of time because then you don't have
12 access to that person's airway. So that's what becomes a
13 very big challenge when you're trying to use an older
14 version, I suppose, of seating a guide.

15 So when you have a mouthpiece attached to
16 a fixation base, the benefit is that you can have a
17 registration of the -- of the teeth in that same arch
18 that can help seat your fixation base more predictably
19 and accurately from patient to patient, not having to
20 worry about closing them under sedation, and then not
21 having to worry about if an older patient, let's say, has
22 -- has a resting tremor. And so, that's why I say it's

1 more accurate.

2 Q. I think I understand that. And to be
3 clear, Dr. Elo, the fixation base is a -- a guide that is
4 installed onto the -- the bone structure of the patient?

5 A. Correct, yes.

6 Q. So the purpose of a mouthpiece is to allow
7 for precise positioning of a guide that's installed on to
8 the bone structure of the patient?

9 A. That's correct. That -- that -- it's to
10 -- to, hopefully, achieve a more accurate and predictable
11 positioning of the fixation base on that individual
12 patient, but conceptually from patient to patient.
13 Because if you're able to use some teeth as a way to help
14 anchor your -- your -- your mouthpiece, and then at the
15 top of that mouthpiece, let's say in the case of an upper
16 -- an upper arch surgery, right up above that, if you've
17 got a stable mouthpiece in position that's not quivering
18 or moving, then, in theory, should not be moving and
19 therefore, your fixation base is going to be predictable
20 and reproducible from patient to patient.

21 Q. And a -- before this 209 patent, how did
22 surgeons more precisely position the fixation base in an

1 applicable guide system?

2 A. Well, I -- I wish I could tell you it was
3 -- it was more predictable. I -- I think that was the
4 frustration. It's exactly as -- as described. And --
5 and the reality is, it's still is an ongoing frustration
6 in cases where we can't always use something like the --
7 the -- the Watson technique.

8 But what we had to do was one of a couple
9 of things. One is more freehand where you -- you may
10 have your assistant or resident or student, whoever might
11 be working with -- with -- I'll just use myself as an
12 example. They would have to put their two fingers on an
13 -- on an upper guide and hold it in place while we would
14 drill our -- our holes through to try to keep that in
15 place.

16 The obvious potential for inaccuracy is,
17 well, what if it just rotated just a small amount?
18 10 degrees? 5 degrees? 3 degrees? Some -- some amount
19 that it was not where it should have been according to
20 our planning on the computer screen.

21 The other thing would be is if you make a
22 surgical guide formally, what we did, you would make a

1 surgical guide based on someone's gum tissue; however,
2 when you get to the procedure, you elevate up the soft
3 tissue, you place that guide on bone, and now there's a
4 little bit of space between the guide and the bone.
5 Because that -- that soft tissue may not have been
6 accounted for. So there was some challenges with the
7 prior iterations of -- of doing all on "X" type of -- of
8 implant placement. And those challenges can still be
9 ongoing if -- if the proper steps and -- and surgical
10 guides maybe are not according to this particular
11 technique.

12 So it's -- it's not done. I'm -- we're
13 not through those challenges if people don't necessarily
14 have a great fitting fixation base, and if that's not
15 seated with a good-fitting mouthpiece.

16 Q. So would -- would you say that the -- the
17 209 patent helped solve the problem that -- to allow for
18 the precision installation of a fixation base guide onto
19 a patient's bone?

20 A. I -- I believe it was a -- a fairly big
21 game changer, and -- and I'll -- I'll -- I guess I could
22 give you my experience just between the two university

1 settings that I -- I'm in. I have a faculty appointment,
2 but I'm mainly a clinician. I -- I -- I give a few hours
3 of lecture, but I'm -- I'm hands in patients all day
4 long.

5 When we switched over to a mouthpiece type
6 of a product to seat our fixation base, it was a -- it's
7 a tremendous improvement in our accuracy, our ability to
8 do same-day conversions to put on the prosthesis. And if
9 the predictability for more planning to our surgical
10 procedure helped down a significant amount of time,
11 almost in half. I -- I don't know if that's quite
12 accurate, but it was a significant change in time, 40 or
13 50 percent, probably.

14 And -- and so, I -- I do believe it was --
15 it was a game changing type of -- of an approach to
16 almost eliminate using the opposing arch, and not have to
17 worry about some of those factors of maybe fat fingers
18 getting in the mouth, you know, everybody's got different
19 sized fingers and hands and body types. And so,
20 sometimes surgeons with bigger fingers, they're -- you're
21 having to put a couple of fingers in there to hold your
22 guides in place and -- and that -- that can pose a real

1 challenge when you're doing these procedures.

2 And so, having an ability to seat your
3 fixation base reproducibly, predictably, it -- it -- it
4 was a big -- it was a big deal.

5 Q. What about if a patient is missing all of
6 her teeth on one arch? And -- and how is it possible to
7 get it precisely placed into patient A?

8 A. Well, that -- that continues to pose a --
9 a little bit of a challenge. I -- I could tell you the
10 way we do it, but there's -- there's different
11 technologies. But if I give a brief historical, the
12 older method was -- was truly eyeballing it. You would
13 -- you would either make a guide that went over the gums
14 and then you would drill some holes through that guide,
15 but, again, you'd have to have some people holding --
16 holding the guide in place the whole time because a
17 little bit of movement and your -- your axis are -- are
18 off.

19 The other heavily favored route
20 historically was always just free-hand. You would
21 elevate your flap, make your -- your initial osteotomies,
22 place some pins to just check your -- your regulation,

1 and then adjust them on -- on the eyeball. That's, as
2 you can imagine, it's -- it's wrought with potential
3 problems of what you might look at and say that looks
4 good and parallel. I might look look at it and say, I
5 don't agree, and a third person might look at that and
6 say, I -- I'd change two of those -- of those implants.

7 So there's a lot of interprovider
8 variability. But that is a continuing challenge of -- of
9 how do I do it with no teeth to seat a fixation base?
10 The way I do it now is more subtraction technology. So
11 we -- we image, get a CT scan of the patient's bone,
12 anatomy, and then we get the intraoral scan of the soft
13 tissue anatomy, marry the data sets, and you can subtract
14 out the soft tissue which would, in a sense, mimic
15 elevating a flap and -- and exposing the bone. And then,
16 you can make a guide, but you have to have certain
17 anatomical, maybe unique findings, in order to place a
18 guide and -- and really know that you're in the right
19 spot.

20 And so, we end up having to take some
21 other markers. Could be the intranasal spine, could be
22 some portion of -- of, like, a nerve foramen or something

1 like that where you measure compensatory or fixation
2 bases. So those -- there are some challenges on
3 completely edentulous -- edentulous arches that -- I don't
4 know that -- that I've personally been convinced that
5 that -- the inaccuracies are completely eliminated.

6 (Clarification by reporter.)

7 BY MR. FEIGELSON:

8 Q. Dr. Elo, does -- does the 209 patent
9 describe how to deliver a fixation base in an edentulous
10 case?

11 A. I -- I don't recall seeing that it says
12 for edentulous cases.

13 MR. FEIGELSON: Let's go to paragraph 45
14 of the -- of the -- I'm sorry. Back to your Declaration
15 and back to Exhibit 2007.

16 MR. MCGRATH: (Complies)

17 BY MR. FEIGELSON:

18 Q. So paragraph 45 is under a section that
19 says, "Asserted References." If you scroll up just a
20 tiny bit on the screen, you'll see that.

21 Do you see where -- do you have that on
22 your screen, Dr. Elo?

1 A. I do, yes.

2 Q. And in paragraph 45, you begin discussing
3 "U.S. Patent Application Publication No. 2017/0252126 to
4 Llop," L-L-O-P, right?

5 A. Yes.

6 Q. And in paragraph 50 through paragraph 56,
7 you provide some opinion that, "Llop does not teach or
8 suggest particular elements of the 209 patent claims"; is
9 that right?

10 A. Yes.

11 Q. Specifically in paragraph 50, which you
12 have on your screen, you state that it's, "Your opinion
13 that Llop does not teach or suggest the claim elements of
14 a mouthpiece configured and dimensioned to surround at
15 least a portion of the teeth of the patient," right?

16 A. Yes.

17 Q. Okay. And in paragraph 56, you state
18 that, "It is your opinion that Llop does not teach or
19 suggest on abutment guide base that attaches to the
20 installed fixation base to assure appropriate location of
21 installed abutments or an abutment guide oriented to
22 receive"; is that right?

1 A. Yes.

2 Q. You agree that Llop discloses all other
3 elements of the 209 patent claims at issue?

4 A. Could you be more specific?

5 Q. You gave an opinion with respect to two
6 particular claim elements in these sections, correct?

7 A. Yes.

8 Q. And you didn't provide any opinions with
9 respect to any of the other claim elements in the 209
10 patent, right?

11 A. That's correct.

12 Q. Okay. So do you agree that Llop discloses
13 all other elements of the 209 patent that are at issue
14 that are not listed in paragraphs 50 through 56?

15 A. I -- I think maybe just for -- for
16 clarification, if I can respond and then see if I answer
17 your question. I don't believe that Llop discloses a
18 mouthpiece to seat their equivalent of a fixation base.
19 They do have a drill guide, but they don't have an
20 abutment guide. They use some, like, some gasket as some
21 separation, I think, between their -- their fixation base
22 equivalent and then their -- their prosthetic.

1 And so, I -- I -- I do think there's some
2 differences there.

3 Q. Dr. Elo, what is a subapical osteotomy?

4 A. So a subapical osteotomy is a -- it's an
5 orthodontic procedure. It's rarely done, but there are
6 some indications for it where, let's say, for -- for an
7 example and -- and the image that I used in the
8 Declaration, if I can maybe use that as a way to
9 describe, it might be -- picture may be worth my thoughts
10 --

11 Q. Which paragraph, Doctor -- which paragraph
12 are you referring to, Dr. Elo?

13 A. It's in 58, just below the text. But it
14 will be the image -- let's see if I can scroll down.

15 WITNESS: Charlie, are you able to scroll
16 down? For some reason it's not --

17 MR. MCGRATH: If you click on the screen,
18 you should be able to but I can take you there.

19 WITNESS: Oh, there we go. Okay. I think
20 an operator error on my part here. Okay.

21 A. So in that image, that -- that image is
22 showing that the left maxilla in the upper left portion,

1 the two premolars and then the two molars are what we
2 would maybe call super erupted or they've grown taller
3 than maybe they should be, out of position. So that
4 leads to that particular patient having an open bite or
5 their front teeth don't touch. So a subapical osteotomy
6 is to cut the vertical cut and then it's outlined by the
7 orange.

8 The vertical cut would be made in this
9 case between the canine and the premolar. That's the
10 vertical cut. It goes from the right side -- one, two,
11 three, four -- by the fourth tooth. Then it goes up
12 above where the roots of the teeth would be. And then,
13 there's a horizontal cut that goes from just behind the
14 canine all the way back to what we call the maxillary
15 tuberosity.

16 Coincidentally, just to the right of that
17 tuberosity is the Pterygoid plate just, you know, for
18 historical purpose.

19 BY MR. FEIGELSON:

20 Q. Thank you.

21 A. And then, that -- that orange area that's
22 shaded in-between, what this illustration is trying to

1 show is that that segment of bone would be moved up. It
2 would be moved up superiorly and then fixed in position
3 with -- with small, mini plates and screws.

4 And the goal would be to not have to
5 operate on the lower jaw, and to not have to cut across
6 the front teeth, but to do a segmental osteotomy to just
7 -- well, we use the word "impact" that segment of
8 overgrown teeth, if you will. And -- and that's what a
9 subapical osteotomy is. So you're going above the
10 apices, above the roots of the teeth, and that's the word
11 subapical. And then, osteotomy is just bone cut. But
12 that's what a subapical osteotomy is.

13 Q. And you say you have performed there?

14 A. I have, yes. They're rare, but I -- I
15 have. I -- I mentioned in the Declaration I -- I had to
16 go back historically because it -- it's been, I think, a
17 few years since we did the last subapical. But it looked
18 like in our department, which is one of the more prolific
19 orthognathic departments in the country, we do anywhere
20 from 150 to 200 jaws of orthognathic surgery per year,
21 which is -- which is a pretty high number for residency
22 program.

1 We had only done about 15 since 20 -- 2002
2 just to give you some idea of how rare of a procedure
3 that is.

4 MR. FEIGELSON: You know, we've been going
5 a little over an hour. I could use a little break, five
6 or ten minutes?

7 (Off the record.)

8 (Exhibit No. 1009 was marked.)

9 BY MR. FEIGELSON:

10 Q. Dr. Elo, on your break, did you talk with
11 Mr. Karish?

12 A. I did not. I had a banana.

13 Q. I don't think those are mutually
14 exclusive.

15 Dr. Elo, I'd like to put on the screen
16 Exhibit 1009, which is the English translation of a
17 Chinese patent; Patent Number CN105686886A. The
18 applicant is Sichuan University.

19 You've seen this document before, yeah,
20 Dr. Elo?

21 A. Yes.

22 Q. And this is what you refer to as "Sichuan"

1 in your Declaration?

2 A. Correct, yes.

3 Q. So we -- we don't need to go back on the
4 screen, but in the -- in your Declaration in paragraph
5 59, you say that: "Sichuan has a positioning biteplate 1
6 being" -- "it's connected to a maxillary osteotomy line
7 guide plate 3."

8 Is that -- and I'm reading from your
9 Declaration.

10 A. That's right. I have it pulled up on my
11 screen here. Yep, that's correct.

12 Q. And what is the purpose of those guide
13 plates, Number 3, in Sichuan?

14 A. So if we're -- if we're using -- actually,
15 it might be good if you're able to go back. You could --
16 you could maybe even pull up that -- that diagram that I
17 just used right before the break, right above 59. That
18 -- that skeleton picture. The guide plate really would
19 guide those osteotomy cuts.

20 Q. So let's -- I'm sorry. So let's put --
21 put your Declaration back up. Exhibit 2007.

22 A. Yeah.

1 Q. Go ahead.

2 A. The guide plates would -- the -- the goal
3 would be to guide where that orange cut is made. And so,
4 the purpose of those guide plates is -- is just that, to
5 guide your saw in making the osteotomy. And -- and
6 really, specifically, in the case of a subapical
7 osteotomy, the goal is to try to avoid some of those
8 dangerous anatomical things that we mentioned before.

9 Like in this -- in this case avoiding the
10 Pterygoid plexus or the maxillary artery in that -- in
11 that infratemporal fossas. The area by the Pterygoid
12 plates. And so, that would be the goal is to really
13 guide your saw from -- from getting you into trouble.
14 That's -- that's the purpose of those guide plates,
15 Number 3.

16 Q. So is the -- the guide plates, do they --
17 do they mark with some precision the area of the jawbone
18 that's to be cut in this osteotomy?

19 A. They do. So the way that -- the way that
20 they're used functionally, because we use a version of
21 these for orthognathic surgery currently. And so, I
22 could -- I could tell you how they're used practically

1 and -- and regularly now is the guide plates, you -- you
2 plan out your procedure.

3 Just as we discussed earlier, you'd have
4 your CT scan done to get the bone anatomy, you do
5 intraoral scanning to get the soft tissue and teeth
6 components. Marry that data together, and then on a
7 computer screen, we work with biomedical engineers
8 depending on what -- what plating company we're using and
9 say, okay, we want to make the cuts in this certain spot.
10 We're able to identify where all of the roots are, where
11 any vessels can be, to -- to try to avoid them of course.
12 And then, we can plan our cuts.

13 And then, once we know where the cuts are
14 going to be, we can plan our cutting guides. And so, we
15 know exactly where the cutting guide would have -- in --
16 in our case, we might have either a superior and inferior
17 portion, and then a little channel in-between where your
18 saw would pass, or if we're making a vertical cut that
19 you can put a -- a -- a -- a guide on your front and back
20 or anterior or posterior that have a vertical guide to
21 make your vertical cut.

22 So the -- the -- the guides, themselves,

1 are made very specifically to maybe there's a channel
2 in-between the -- the metal. And then, you would cut
3 through that with either a burr or a saw to guide your
4 cuts so they're -- they're made very specifically.

5 (Clarification by reporter.)

6 BY MR. FEIGELSON:

7 Q. So prior to the use of these positions
8 guides as in Sichuan, how -- how did surgeons identify
9 the area of the jaw bone to be cut in a subapical
10 osteotomy?

11 A. So it was -- it was -- I -- I -- I don't
12 want to say blind because that -- that probably makes
13 people lose faith in the system, but you would have to
14 know the anatomy of the area. You can see once you lift
15 up the gum tissue or the soft tissue to expose the bone,
16 many times there's some eminences or just maybe some --
17 some areas where the roots themselves are not pushing
18 through bone but they kind of jutted out a little bit so
19 you would stay up above the root eminences, and then that
20 would be where you would make your cut, making sure
21 you're trying to avoid roots of teeth. And then, you
22 would just have to know your anatomy in terms of what to

1 miss blood vessel wise.

2 So I -- I hate to use the word it was a
3 little bit more of a blind, but it was a little bit more
4 of a blind cut. Just knowing about what you should be in
5 -- in the area of, and then trying to avoid the things
6 that could get you into trouble. So it wasn't as precise
7 is probably a clearer way to put that, but that was the
8 way we did it.

9 Q. Let's go back to Sichuan Exhibit 1009.
10 And at the bottom of page 6 of Sichuan, the very last
11 sentence and it goes on to the next page, it says: "Due
12 to the lack of an axiliary device for the positioning of
13 osteotomy lines, the following situations are prone to
14 occur during interoperative osteotomies."

15 Do you see where it says that?

16 A. I do, yes.

17 Q. Then it gives a list of various problems
18 that could happen as a result of the -- this procedure
19 because of the lack of a positioning device; is that
20 right?

21 A. Yeah. I -- I think any of those are --
22 are absolutely correct. If -- if you're imprecise and

1 you're -- and you're thinking, well, I believe I need to
2 impact this segment using that illustration from the
3 Declaration, if I believe I need to go up three
4 millimeters and let's say I remove one in my mind or what
5 I can measure clinically to be three millimeters, and
6 then I don't have maybe an exact cutting guide, I'm just
7 eyeballing it.

8 Well, there's the -- the width of the saw
9 or the width of the burr, depending on what you use.
10 Then you have to -- you have to move it up, almost plate
11 it, check the bite, and find out, well, my front teeth
12 are still not yet together. Take off my plates, remove a
13 little bit more bone, push that segment back up, plate it
14 again, check the bite.

15 So there's a lot of imprecision without
16 some of those -- those more precise cutting guides. So I
17 -- I agree with -- with what they have there.

18 Q. And -- and -- and in the next paragraph,
19 at the top of paragraph 4, it says: "Because the
20 orthognathic surgeon cannot intuitively visualize the
21 position of the tooth root, the most common complications
22 associated with subapical osteotomy is interoperative

1 injury of the root that results in pulp necrosis, tooth
2 discoloration, tooth mobility, et cetera," right?

3 A. Yes.

4 Q. Do you agree with that?

5 A. I do not disagree, yes.

6 Q. Okay. And then, if we go down to the next
7 one, where -- in paragraph 5, it -- it says, "The present
8 invention" -- it -- it says, "it's intended to fill the
9 gap of lacking a device guiding osteotomy positioning
10 during subapical osteotomy"; do you see that?

11 A. Yes.

12 Q. And -- and that was achieved in Sichuan by
13 using the biteplate to allow for the precise positioning
14 of the guide plates that are installed on a patient's
15 jawbone; is that right?

16 A. That's right.

17 Q. Let's go back to your Declaration and
18 paragraph 65.

19 Dr. Elo, is it your opinion that the
20 biteplate of Sichuan is not a mouthpiece?

21 A. That is my opinion, yes. I -- I -- when I
22 was reading this, I -- I had a thought in my mind, having

1 used biteplates, and I -- I can describe that where I've
2 used them if you like -- but in -- in my opinion, tooth
3 prints that are in -- in the Sichuan, they felt as
4 similar to a mouthpiece as maybe footprints do to a shoe.

5 You've got a very small portion of
6 something, a print of it, but not enough to cover the
7 whole thing. And that's -- that's sort of the -- the
8 best, I guess, similarity or analogy that I could give
9 with how the tooth prints work. And I could tell you how
10 things have changed and our -- our purposes, where we use
11 Sichuan-type for orthognathic, we -- we do have more of a
12 mouthpiece-type of a device because that biteplate does
13 slide around a bit more than we would like.

14 Q. Your -- your opinion that Sichuan is not a
15 mouthpiece, that's based on the specific definition of
16 mouthpiece "being a device that's inserted into the mouth
17 and worn over the teeth," right?

18 A. That's correct.

19 Q. On paragraph 68, you say that, "Sichuan's
20 biteplate is not a mouthpiece because it has tooth prints
21 that are only a few millimeters deep; is that right?

22 A. That's correct, yes. 1 to 2, I don't --

1 yeah.

2 Q. So in your opinion, Sichuan's biteplate is
3 not a mouthpiece period, correct?

4 A. In -- in my opinion, not -- not as I or --
5 or that I believe most would understand mouthpiece in --
6 in the dental world. I don't believe it fits that
7 criteria, no.

8 Q. But -- and to be clear, you're not saying
9 that Sichuan's biteplate is not configured and
10 dimensioned to surround at least the portion of the teeth
11 of a patient, right?

12 MR. KARISH: Objection, form.

13 A. Yeah. I -- I think I am saying that I
14 don't believe it -- it's -- it's configured and
15 dimensioned to enclose at least some teeth of a patient.
16 BY MR. FEIGELSON:

17 Q. Well, where -- where do you say that? I
18 see you say that it's not a mouthpiece.

19 A. I -- so I say that at the end of 68 or, I
20 guess, the second-to-the-last sentence of 68. That, in
21 my opinion, one would not understand a biteplate having
22 tooth prints that are only 1 to 2 millimeters deep as

1 being a mouthpiece, let alone the mouthpiece dimension
2 that configured to enclose at least some teeth of the
3 patient.

4 Q. So, Dr. Elo, I want to be clear. You
5 state that the biteplate does not satisfy claim
6 limitation on the 209 patent, right? And one -- one
7 possibility could be you don't think it's a mouthpiece.
8 The other possibility could be you don't think it's
9 configured and dimensioned to surround only the portion
10 of the teeth of the patient.

11 I'm asking you which of those two
12 possibilities are -- are -- is your opinion?

13 MR. KARISH: Objection, form.

14 A. Should I -- should I answer?

15 BY MR. FEIGELSON:

16 Q. You can answer.

17 MR. KARISH: If you think you understand
18 the question, you can answer, yeah.

19 A. Sure. So I -- I do not believe that it --
20 it would meet the cry -- the definition, as I understand
21 it, of mouthpiece. And I -- I think when I -- when I go
22 back to the definition portion of what we talked about

1 with enclose and -- and we talked about how their
2 synonymous with surround, I -- I think of a bit more
3 than a millimeter or two of maybe a cuspal tip.

4 You know, most are maybe
5 11-12 millimeters, and vertical show. And so, 1 to 2
6 millimeters is -- is maybe 10, maybe 20 percent at most,
7 if that. And I don't believe that that would meet a --
8 in my opinion, a -- a definition of enclose or surround.

9 So I don't believe it meets either one of
10 -- of the ones that you're questioning whether mouthpiece
11 or dimensioned to and configured to some teeth of the
12 patient. I don't believe it's either one of those.

13 BY MR. FEIGELSON:

14 Q. Okay. Moving ahead, there's another
15 reference, the Groscurth referenced.

16 (Clarification by reporter.)

17 BY MR. FEIGELSON:

18 Q. Do you recall the Groscurth reference,
19 Dr. Elo?

20 A. I do, yes.

21 Q. And in paragraph 71, you say that,
22 "Groscurth is for used with edentulous patients," right?

1 A. Yes.

2 Q. Oksy. Is that fully edentulous or
3 partially edentulous?

4 A. The way that I remember reading it was
5 fully. In fact, I -- I rescanned that one earlier today
6 to make sure that I had that correct. I -- I think if
7 I'm being honest, it was almost a little confusing. I
8 still took it as edentulous patients, but then they show
9 images where there's extraction sockets.

10 But the stint and the guide system wasn't
11 really placed until the teeth were out, and so that would
12 be edentulous patients. And so, yeah. That one -- the
13 one, to me, I'd stick with the edentulous patients.

14 Q. Fully edentulous?

15 A. Fully, yes. At least for the arch.

16 Q. Is it your opinion that configured and
17 dimensions that surround at least a portion of the teeth
18 only refers to teeth that are on the same side as the
19 operating site?

20 A. In terms of the arch? Like, whether upper
21 or lower arch?

22 Q. Correct.

1 A. In -- in terms this use, I -- I think it
2 could be either, but the way that I understand the 209,
3 it's more intended for, let's say, the placement of
4 mouthpiece on the fixation base of the arch you're
5 working on. That's the way that I more understand that.

6 I know some of the other ones use the
7 opposite arch, the Yau, the llop. The way I understand
8 the mouthpiece, at least related to the 209, is more in
9 the same arch. I don't know that it has to be, but
10 that's the way that I understand it, and that's the only
11 way that I've ever used it.

12 Q. Is it -- the next reference I want to talk
13 about is the Yau reference, Y-A-U.

14 In paragraph 74, you say, "The tooth molds
15 12 are adapted for tighten engagement with the natural
16 teeth or temporary dentures of the opposite jaw when the
17 patient bites," correct?

18 A. Yes.

19 Q. And you put in bold the word "opposite,"
20 right?

21 A. Yes.

22 Q. Why did you highlight that word?

1 A. I think it was just more as a -- a
2 reenforcement of that it's dissimilar to what I felt
3 Mr. Banks and then -- and then, what was presented.
4 Like, what he presented, but then also what was presented
5 in the 209 patent. It -- it felt more that it was in the
6 -- in the same arch. And so, I wanted to just maybe
7 highlight the discrepancy as we were putting that
8 together.

9 Q. And you just testified that you -- you
10 didn't know that the 209 requires it to be on the -- the
11 -- sorry -- that it -- that it re -- that it requires the
12 -- to be on the same side, right?

13 A. I -- I'm only --

14 MR. KARISH: If I -- let me -- let me --
15 let me just object first.

16 I'm going to object to the form of the
17 question, and I'm going to object that it misstates prior
18 the testimony.

19 But, again, you can answer.

20 A. I don't -- the reason I'm -- I'm
21 hesitating is I don't know that I've memorized the exact
22 wholly language to -- to make sure I didn't miss a word

1 somewhere in it. But, conceptually, the way that I
2 understand it and have used similar guides, is that the
3 -- the mouthpiece is attached to the fixation base to
4 help seat the fixation base in that same arch. And so, I
5 -- I don't know that I even would understand the concept
6 of having the mouthpiece, let's say on the bottom, to
7 seat a fixation base on the top jaw.

8 So I don't know that I would -- I can't
9 say it's not for sure because I -- I just didn't memorize
10 all the language. But conceptually, it does not make
11 sense that it would work that way. So I don't believe it
12 does, but I -- I -- I can't say with 100 percent
13 certainty that's not a provision that I'm just -- I'm not
14 anticipating.

15 BY MR. FEIGELSON:

16 Q. Do you know if the language in the patent
17 claim of the 209 patent require that the mouthpiece is
18 configured and dimensioned to surround teeth that are on
19 the same arch that's being operated on?

20 A. I -- I don't -- I don't recall if it
21 requires it. Again, conceptually, it makes sense that it
22 -- that it would. But as I've come to -- to see in

1 reading some of these patent documents, I -- I do see
2 that some allowances are made and by the authors where
3 their crafting these.

4 But I -- I do know when it's working
5 clinically, it -- it seems that it would only make sense
6 if it's used on the same arch. Having done a lot of
7 implants, I don't know that I could see how you could
8 have a mouthpiece for the lower, let's say, to help place
9 a fixation base on the upper. I just don't know how that
10 would work.

11 So yeah. I don't -- I don't know
12 100 percent, but I -- just, conceptually, I can't imagine
13 that that would be the case.

14 Q. Okay. And if you would look -- look at
15 paragraph 78.

16 A. (Complies)

17 Q. Again, here you say, "The tooth mold 12 of
18 You are adapted for engagement with the natural teeth or
19 temporary dentures of the opposite jaw when a patient
20 bites, but one skilled in the art would not describe the
21 tooth molds 12 as surrounding the teeth on the opposite
22 jaw," right?

1 A. Correct, yes.

2 Q. And, again, you put in bold the word
3 "opposite"?

4 A. Correct, yes.

5 Q. And you go on in that paragraph to compare
6 the tooth molds of Yau to structures from the Llop prior
7 art reference, right?

8 A. Yes.

9 Q. Did you compare the tooth molds of Yau to
10 the actual language of the 209 patent claims?

11 A. Could -- could you repeat or maybe clarify
12 that?

13 Q. Yeah. In paragraph 78, the second half,
14 you make a comparison between the tooth molds of Yau?

15 A. Yes.

16 Q. And the structures in the Llop prior art
17 reference, right?

18 A. Yes.

19 Q. You have in your Declaration a comparison
20 of the tooth molds of Yau to the claim language of the
21 209 patent?

22 A. Let's see if I do or not. I don't believe

1 that doesn't -- that does not sound -- I don't know that
2 I have that addressed specifically. It does not appear
3 that I have that addressed specifically. That statement
4 that you just read is more conceptually, when you look at
5 the images and the description of Yau registering only
6 cusp tips of teeth, of -- of a few teeth in the opposite
7 arch, is very similar to -- to Llop, where it's
8 registering only cusp tips of a few teeth to the opposite
9 arch. And I think that's what I was asserting in this.

10 Q. I understand. Let's -- let's jump ahead
11 to paragraph 89. It's a new section of the Declaration,
12 so let me know when you're there.

13 A. (Complies). Ready.

14 Q. Good. You say that, "Sichuan's
15 biteplate," this might be paragraph 90. You say,
16 "Sichuan's biteplate has impressions of teeth on the jaw
17 to be operated on," right? Do you see that?

18 A. Yes.

19 Q. In paragraph 90? Does the Sichuan
20 biteplate only have impressions on one side?

21 A. I think the Sichuan could have it on both,
22 but it -- you're seating -- you're seating the biteplate

1 on the jaw that it's going to be operated on, though.
2 That's -- functionally, I -- I don't know if it would
3 have teeth on the opposite side.

4 There wouldn't really be a benefit to that
5 because you'd have to hold the biteplate on. So you
6 don't necessarily have a patient bite down in that
7 instance. Like, these are patients who are in the
8 operating room under anesthesia, so they're not --
9 they're not awake. You're not worried about some of the
10 same things that you are with implant guides.

11 But with Sichuan, only the bite marks or
12 the bite impressions on the same side you're operating on
13 are the only ones that really work. I don't know the
14 specific details, if they said there's bite marks on
15 both. It wouldn't be helpful to have them on the
16 opposite jaw. So for instance, if we -- if we use that
17 same illustration of that upper left subapical osteotomy,
18 you would have a biteplate hitting the upper teeth, and
19 then that would help seat the -- the cutting guides on --
20 on the maxilla.

21 Having bite marks on the lower teeth or
22 lower side of the biteplate doesn't really help you

1 because you still have to hold that on with fingers.
2 You're not -- you're not having anybody bite down.
3 Particle, because they can't bite. Right? You're doing
4 this for a biting issue. So I -- I don't recall if they
5 have them on both sides but it wouldn't -- it wouldn't
6 get you anything if there's bite marks on both sides.

7 Q. Okay. But, in fact -- let's put the
8 Sichuan back up. Exhibit 1009.

9 In paragraph 88, Sichuan actually does
10 disclose that, "wherein the positioning biteplate 1 is
11 provided with initial dental prints 11 disposed on the
12 upper and the lower surfaces thereof." Paragraph 88 of
13 Exhibit 1009.

14 A. And that -- that may be one of those where
15 they put the language in to include all of it, but
16 functionally, it wouldn't -- it would give you no use.

17 Q. But the words are there that there's
18 dental prints on both sides of a biteplate, correct?

19 A. I mean, that's what they have as words,
20 yeah.

21 Q. And there's a figure with that as well,
22 correct?

1 A. There is.

2 Q. Going back to --

3 A. Although, even in their figures -- I'm
4 sorry to interrupt. But even in their figure, they only
5 show it on the arch. So if you look at their figure 6,
6 just a little bit below where you are in the document,
7 they show the upper device placed with only the -- the
8 teeth in the upper bite registry.

9 And so, that kind of illustrates what I
10 was describing. Like, you wouldn't -- you -- there's no
11 gain for the lower, and so I don't know if it was written
12 from a place of understanding or maybe just cover all of
13 your bases but functionally, it wouldn't get you any
14 benefit to have bite marks on both sides when you're
15 operating on the one.

16 You couldn't use the same biteplate for
17 both upper/lower jaw surgery. It just wouldn't work.

18 Q. Let's go back to your Declaration briefly.

19 A. (Complies)

20 Q. Back to paragraph 90 still. And the next
21 sentence in paragraph 90 -- are you with me?

22 A. Yes.

1 Q. Says, "In Llop, the teeth of the jaw to be
2 operated on are removed prior to the use of the struts";
3 do you see that?

4 A. Yes.

5 Q. But you don't give any citations to where
6 that's described in Llop, do you?

7 A. I don't know if there's a citation. It's
8 -- it's -- it's actually demonstrated in the Scherer
9 video, which follows Llop. Where the teeth are removed,
10 then the guide is placed. I forget what they used for
11 term, but they're equivalent of the foundation guide or
12 the -- the fixation base.

13 They place that after the teeth had been
14 removed. In fact, that video starts with the teeth being
15 removed by a -- by a guy who's -- who's an acquaintance
16 of mine. And so, that's the first step is getting the
17 teeth out and then the guide is placed after that. So
18 it's -- it's illustrated, not even necessarily if it's --
19 if it's not specifically referenced, it's illustrated in
20 the reference of Scherer.

21 Q. Let's -- let's put Llop up as Exhibit
22 1006. That's going to be shown as the publication number

1 2017/0252126.

2 (Exhibit No. 1006 was marked.)

3 BY MR. FEIGELSON:

4 Q. The Llop -- and you're familiar with this
5 document, right, Dr. Elo?

6 A. Yeah, yes.

7 Q. Let's -- let's turn to paragraph 140 of
8 the Llop reference here.

9 Previous page. And on the bottom left
10 portion. So at the bottom of paragraph 140, are you with
11 me?

12 A. I am, yes.

13 Q. Do you see it says, "Any teeth at the
14 dental implant site can be removed"; do you see that?

15 A. I see that.

16 Q. And that's the situation you're describing
17 where it says the teeth are extracted?

18 A. That's right. So the -- the teeth are
19 removed before placement because they're first after --
20 they're equivalent of the fixation base goes on as their
21 cutting guide. Like, they would -- they would do the
22 bone removal guide.

1 Q. Right. So before the struts were added in
2 that situation, the teeth would be removed. That's what
3 they're --

4 A. That's right. The teeth would be removed
5 first and then the fixation base or the equivalent would
6 be placed with the struts because you -- - you wouldn't
7 be able to take out the teeth with the struts still in
8 place.

9 Q. So the next sentence says, "If the
10 patient's dental health has declined enough, the alveolar
11 ridge supporting the dental surgical site could be made
12 edentulous," right?

13 (Clarification by reporter.)

14 BY MR. FEIGELSON:

15 Q. Do you see that, Dr. Elo?

16 A. I see that, yes.

17 Q. Is that all of the teeth on the jaw to be
18 operated on are removed in this case? That's what
19 edentulous means?

20 A. That's what edentulous means, yes.

21 Q. So that means on other cases such as if
22 the patient's dental health has not declined so much,

1 there would be teeth remaining when the struts were used,
2 right?

3 MR. KARISH: Objection, calls for
4 speculation.

5 A. I -- I mean, I -- I suppose. I -- I don't
6 see evidence of that in those two sentences. I'm not
7 sure if that's what you're asking.

8 BY MR. FEIGELSON:

9 Q. You don't see the last sentence as
10 providing a possibility that teeth remain on the -- on
11 the alveolar ridge supporting the dental surgical site?

12 A. Yeah. Well, I mean, see what you're --
13 what you're saying; however, the guide is for the full
14 arch replacement. So any, like, Llop was really used in
15 my -- in sequence, and that was an all on "X"
16 replacement.

17 It wasn't to replace four implants and
18 keep three teeth, that type of a guide. It's only really
19 used in the case of edentulating a patient, removal of
20 bone, placement of implants, and then delivering a
21 prosthesis. Like, that's -- that's the Llop -- not
22 protocol, but the -- the guide. And so, I -- I believe

1 the goal then, in all of these, is to edentulate that
2 arch.

3 Q. Again, in your analysis, did you see
4 anything in the 209 patent, the Watson patent, anything
5 in those claims that require the mouthpiece to surround
6 teeth on the same side that it's being operated on?

7 A. I don't know about the word "require." I
8 -- I do know that it was -- it was used to place the --
9 the fixation base in the same arch. I -- I don't know if
10 the word "require" is in there, but I do know that it was
11 -- it was placed in the same arch to seat the fixation
12 base.

13 Q. Let's go back to your Declaration. And
14 starting on paragraph 92. I'm in the -- the last
15 sentence in the middle. You say that, "The claimed
16 mouthpiece may be provided with windows, as shown in
17 figure 12D, which allow a surgeon to check the
18 positioning of the mouthpiece," right?

19 A. Correct.

20 Q. Did the claims of the Watson 209 patent
21 recite these windows and the elements of the claim?

22 A. I -- I don't recall if that specific

1 language is in there or not.

2 Q. Does a mouthpiece, according to the 209
3 patent, have to include such windows?

4 A. I -- I'm not certain if it's -- if it's a
5 required element.

6 Q. And to make sure I understand, you're
7 saying the surgeon, who is using a tall mouthguard, like
8 what you say is shown in the 209 patent, that surgeon
9 could visually inspect through those windows to check the
10 positioning of that mouthguard?

11 A. Oh, 100 percent. Yeah. We do those -- I
12 did three of those today. Yeah. They -- they --
13 absolutely.

14 Q. And if a surgeon was using a biteplate,
15 what would they need to do to check if it was properly
16 positioned?

17 A. Well, you'd -- you'd have to have another
18 set of hands that has to hold it on because a biteplate
19 doesn't seat in. It simply registers a millimeter or two
20 depth. So if I'm holding only one side and the other
21 side sags, you've -- you've got to have at least an
22 additional set of hands to keep it up, not only the

1 posterior but the anterior.

2 So you've got to have three points of --
3 of seating that. And that would be the only way of
4 knowing that the biteplate was fully seated.

5 Q. And you know that by feel?

6 A. It's by feel, yeah. I mean, it's -- it's
7 hard to fully tell if a -- if a biteplate is metal, so
8 you can't see underneath to see if the cusp is truly
9 engaged on -- on the undersurface, right, because it's by
10 the in-tooth metal. Whereas, a mouthpiece, the window
11 benefit is it's usually a clear material with a window
12 cut out.

13 So you can see that the cusp is all the
14 way at the end of that -- let's say acrylic or whatever
15 the material may be. You can see that. You can visibly
16 confirm that. You can't do that with a biteplate, which
17 is why we no longer use biteplates when we do
18 orthognathic cases when we have more of a mouthpiece.
19 Because we -- we need to know that it's seated because
20 it's guiding our -- our cuts.

21 So I -- I don't agree that the biteplate
22 is -- is more accurate. It's just simply not true when

1 you're -- when you're doing it physically on a patient.
2 It's more -- it's more cumbersome because you've got to
3 have more fingers in place to hold it. It doesn't stay
4 up on its own. If I place a biteplate in your mouth and
5 I let go, it falls. I have to hold it, and I can't hold
6 it with one finger. I've got to have an assistant or
7 whoever at least place another finger in the back on the
8 other side, and then another one in the front.

9 So they're -- they're a little cumbersome
10 to use. I -- I just don't agree with -- with
11 Dr. Erickson's assertion that it's equally -- equally
12 accurate. I just don't -- I don't agree.

13 Q. On the flip side, a mouthpiece,
14 mouthguard, or however you're calling it, that could get
15 stuck on the -- on the patient's teeth? It would be
16 difficult to remove, correct?

17 A. Well, no. Because the -- the mouthguards
18 or mouthpieces are not made of a metal. That -- that
19 doesn't have any flex, and they're not made of a super
20 loose acrylic material. They're made of a rigid enough
21 material that once it's seated -- I don't know if you've
22 every worn a sports mouthpiece that was custom made,

1 either a orthodontist or the dentist or somebody that
2 made it, those, once you seat them, they stay.

3 And the -- you know, think of maybe Steph
4 Curry's mouthpiece. He's always got it dangling out of
5 his mouth. That's in there once he slides it in, but you
6 can pop it out if you need to. And -- and so, when you
7 have a mouthpiece that helps register your fixation base,
8 when you place it, it -- it -- I wouldn't say it snaps in
9 but it seats. You know that it's firm, and it doesn't
10 rock, it doesn't tip, it doesn't disengage.

11 Now, because we all have some version of
12 OCD, we do probably still hold it with a finger
13 somewhere. But you don't need it the same amount of
14 maintenance as a biteplate does. 100 percent. They're
15 just different. Yeah, they're just different.

16 Q. In paragraph 93, you say that, "Without
17 many teeth present or when many of the teeth are broken
18 or loose, that a biteplate is not effective," right?

19 A. Yeah. I mean, we've only used biteplates
20 for orthognathic surgery, where people have the majority
21 of their dentition are intact and are otherwise healthy.
22 And then, when we used to take registers of people's

1 faces with a device called a "face-bow." That's the way
2 we used to measure before all of the technology came in.

3 And so, when they would bite, even if they
4 have broken or loose teeth because you'd still use it for
5 denture patients, you can -- you can see it's a less than
6 satisfying type of a registration. When someone with bad
7 teeth bites into a piece of metal, maybe a little piece
8 of wax on top of the metal, and then you would only get a
9 1 or 2 millimeter indentation. And the reason it's off
10 is because you can imagine, if someone's got loose teeth
11 -- and believe it or not, there are people that when they
12 even talk, their teeth can move.

13 If you check your bite today, and then I
14 have you come back the next week, I have the patient come
15 back, their bite might be slightly different because the
16 teeth can still move a little bit. So the accuracy is
17 not as ideal when you have the biteplate because all you
18 have is that millimeter. You have no other surface of
19 that tooth to really make sure you're engaged. And you
20 -- you don't know if it's seated then at the time of the
21 procedure.

22 So biteplates are a little bit -- I just

1 -- I just didn't agree with -- with Dr. Erickson's
2 assessment.

3 Q. Dr. Elo, you mentioned about the -- the
4 GuidedSMILE product earlier, and that you had not -- that
5 your familiarity was limited to what Mr. Banks told you
6 and videos that you may have watched; is that correct?

7 A. Yeah. So Mr. Banks didn't tell me, I just
8 read it in his Declaration. And then, just what I'd seen
9 on their website, videos that are out there. And then,
10 like I mentioned, we -- we have prosthodontists,
11 residents that -- that make similar type of a system. We
12 -- we might not have as -- as nice of the -- of the metal
13 material for the fixation base, but it's the similar
14 concept of the mouthpiece fixation base drill guide,
15 abutments guide.

16 So it's the same concept. But, yeah.
17 I've -- I've not used the CHROME GuidedSMILE product
18 myself.

19 MR. FEIGELSON: Can we put up Exhibit
20 1030, please?

21 MR. MCGRATH: (Complies).

22 (Exhibit No. 1030 was marked.)

1 BY MR. FEIGELSON:

2 Q. Dr. Elo, what's going up is Exhibit 1030.
3 These are screenshots from a video from GuidedSMILE Roe
4 Dental. We're not going to play the video. It's about
5 an hour long. But we can go to the next page.

6 This video is entitled, "The Pin Guide and
7 Fixation Base." We can go to the next page, as well.

8 This describes -- do -- do you see this in
9 front you? We're on page 3 of Exhibit 1030.

10 A. I see the image. I don't think I have the
11 -- I don't think I have the document on my -- like, in my
12 own .pdfs, but I see it on the screen.

13 Q. Right. This is not a document, I think,
14 that you were provided. It doesn't appear in your
15 Declaration. But I -- I don't know if this was from a
16 video that you may have watched. It describes two
17 different types of pin guides.

18 So it describes two different pin guides.
19 The Dentate pin guides --

20 (Clarification by reporter.)

21 BY MR. FEIGELSON:

22 Q. Which fits the model and will fit the

1 teeth. Then there's edentulous. (CHECK CHECK)

2 Do you understand what's being referred to
3 there, Dr. Elo?

4 A. I do, yes.

5 Q. Let's go to the next page, which is
6 edentulous. Let's go to one more page.

7 You can see this -- by the way, it comes
8 about 30 minutes into the video if you wanted to watch it
9 yourself.

10 And this screen is showing, "The Pin Guide
11 Single Edentulous."

12 A. I do see that.

13 Q. And it says, "Will fit just like the
14 patient's denture. If it rocks, adjust like a denture.
15 Will meet the opposing teeth. Patient in occlusion while
16 drilling facial pins," right?

17 A. Yes.

18 Q. Do you understand that this is a -- this
19 would be used instead of a mouthguard in order to deliver
20 the fixation base on an edentulous patient?

21 A. It looks to be that way, yes, I do
22 understand that.

1 Q. Let's go to the next page. This is
2 described as a "Single Edentulous Integrated Bite."

3 Dr. Elo, do you have an understanding of
4 what's happening in this picture?

5 A. Yeah. They're using lower teeth. You can
6 see the -- well, you can see on the right side, they're
7 using the lower teeth to push -- I'm assuming that's a
8 mock of the person's denture, which is then used to push
9 up the fixation base. That's what it looks like to me.

10 Q. And, in fact, Mr. Banks provided testimony
11 that on the pin guide, there is a negative of the lower
12 teeth. So the patient is going to bite into this device
13 just like they would have bit into their denture.

14 Does that sound right to you, Dr. Elo?

15 A. It -- it sound -- it sounds right, but it
16 sounds similar to what -- what challenges we currently
17 have doing these procedures, yes.

18 Q. How do you mean?

19 A. Well, most of the patients that -- that
20 come to see, let's say, an oral surgeon at a dental
21 school or academic, we're kind of at the bottom of a
22 funnel. It's a -- maybe my patient population's a little

1 bit different than a private practice, but if someone
2 comes to me, they don't want anything to fit like their
3 current denture.

4 So if I were to take a mold of their
5 current denture and say, well, I'm going to use that as
6 guide, I'm going to give them maybe an implant retained
7 version of the denture that they don't love. So I do see
8 on the slide or two before where it says, "Modifies the
9 denture and make it fit a little bit better," but it's
10 not a lot different than some of the struggles that we
11 have if you're using a current denture.

12 This is just one of the challenges we
13 have. It's not a -- it's not a product knock. This is
14 just the challenge that we have as clinicians is how do I
15 seat a fully edentulous one using a mouth that has less
16 than ideal dentition. It's just a challenge. But I -- I
17 can see that it would pose a challenge not totally
18 dissimilar to the ones that we currently face.

19 Q. You can see that the pin guide in the
20 example that's before you on the screen, it has a
21 negative of the incisal edges of the lower teeth, right?

22 A. Right, yes.

1 Q. Okay. Do you think that this GuidedSMILE
2 solution of a single edentulous integrated bite is
3 effective?

4 A. That's a -- that's a great question. I --
5 I -- I would hesitate to say yes or no without trying it
6 because I -- I -- I like to be fair to -- to every player
7 in the -- in the system. There's been -- there's been
8 times where technology or -- or -- or different things or
9 techniques have been shown and I was skeptical. They've
10 proven to be great. And then there was times I thought
11 it was going to be great and it -- and it wasn't.

12 So I don't know. Looking at it just
13 briefly, seating that denture, unless it was not rocking,
14 which can sometimes be a challenge. Again, they're
15 coming to you to replace -- re -- replace their current
16 denture. So if you're using a -- a very similar fitting
17 device that mimics their denture -- I -- I don't know. I
18 would just want to make sure that everything is -- is as
19 well-fitting as it could. But I do think that it's still
20 that possibility of sliding.

21 It's not a ton different than what we
22 mentioned about the Scherer video where you have to hold

1 a patient closed. It's pretty similar to that. You --
2 you run into the same issues of -- of maybe that upper
3 denture sliding a little bit, which can alter the fit of
4 your fixation base. And then, everything trickles down
5 from there.

6 Now, I don't know. Without trying it,
7 it's hard to say. But edentulous ones are just always a
8 challenge, so. But, you know, I like challenges. I
9 wouldn't hesitate to -- to give it a try.

10 Q. Let's go back to your Declaration.
11 Exhibit 2007.

12 Moving ahead a little bit, we'll talk more
13 about the Yau reference, Y-A-U, paragraph 98.

14 You say that, "the structure of Yau
15 appears difficult to use," right?

16 A. I did, yeah.

17 Q. What -- what's your basis for saying that?

18 A. Well, it's -- it's -- it's just clinical
19 experience, right? So when you see a -- a guide that has
20 multiple components to it that are not yet fixed in
21 place, each -- each component, because there's, like, an
22 upper, a middle, a lower, each of those components has

1 the potential to be off just a little bit. But then you
2 have to piece them together to form in a sense one unit,
3 and then that has to be the guide for critical implant
4 placement that your foundation -- that everything has to
5 -- to be built from there.

6 And so, kind of the same concepts that I
7 mentioned we're challenging with biteplates or with
8 struts is that you may not have great numbers of -- of
9 healthy teeth markers on the opposing arch that you're
10 using to get this mold from. You've got a very little
11 bit of that tooth imprint, a millimeter or two, and then
12 you've got to piece together small portions of guides in
13 to a larger guide.

14 And then -- I mean, there's a lot of hope,
15 I guess. And then, when you're -- when you're physically
16 taking on that task of doing it, things have to snap
17 together. You've got to have fingers in the mouth. It's
18 just a little cumbersome. And I -- I would describe that
19 word difficult as I think there's things that are
20 smoother. And as -- as a surgeon, as a clinician, and
21 even as a patient for goodness sake, I think what you
22 want is as little of struggle as possible, as accurate as

1 possible, and then as predictable from patient to
2 patient.

3 And just looking at the components,
4 thinking about -- I mean, I average probably doing 10 to
5 12 implants or so a week. Doing that number of implants,
6 if I had that kind of struggle with each case, I don't
7 know if I would want to do implants. And I think that's
8 the part that's -- that's a little bit difficult. We
9 have used guides very similar to the Yau technique, and I
10 think those were -- I don't want to say one and done.
11 We've probably used it a few times, and then decided
12 there's got to be something else.

13 So I do have some experience with using
14 those -- those components pieced together, guides, and
15 they're just very difficult to use clinically.

16 Q. Are they anymore difficult than using a
17 clone of the patient's denture and using the occlusion
18 for positioning as is done in Llop?

19 A. I don't know without using that. I -- I
20 can tell you we have used denture clones, I mean, going
21 back a ways. What you would do is you'd almost make
22 another denture, just a clear one, and drill holes

1 through it. But it -- it becomes not a lot different
2 than the Sichuan in the sense that your denture almost
3 becomes your biteplate.

4 You're literally drilling the hole through
5 the denture or the holes have already been made if -- if
6 we did it in the lab. And so, you're almost using --
7 you're almost having to position your fingers on the
8 teeth of the denture, much like holding a biteplate would
9 be, and then drilling through that. It's not necessarily
10 to seat a fixation base. Those were different times.
11 But it's hard to say without -- without trying it, but I
12 can certainly see where some of the same challenges would
13 -- would creep in, absolutely.

14 Q. Thank you. You would agree that if Yau's
15 tooth mold had played engagement with the patient's
16 teeth, that would provide more precise positioning and
17 then if there was not tight engagement with the teeth,
18 right?

19 A. Well, with that particular mold. Right?
20 Because keep in mind, with Yau, the challenge is not so
21 much did that very first upper piece, did that get
22 intimate relationship of that little bit of the tooth

1 mold, but that's got connect to a middle piece which then
2 has to connect to a -- to a lower piece. That's where
3 some of the challenge comes in is you've got to have
4 perfect connectors, and sometimes, when you're making
5 products out of acrylic or something, there could be a
6 little bit of warping, temperature changes.

7 Stuff like that can affect the fit or the
8 way these things snap together. And if you look, there's
9 multiple areas where -- where Yau, the things have to be
10 perfect, otherwise -- otherwise it just doesn't -- it
11 just doesn't go. And in -- in the experience that I have
12 with similar ones to Yau, it has been less than ideal.

13 You don't always hear that audible snap or
14 feel that thing snap into place and you think, I think
15 it's seated. And as a -- as a clinician, you -- you want
16 that -- more of an assurance. You don't want to be,
17 like, I think it's seated. That's not a good feeling. I
18 can -- I can promise you -- because keep in mind, we're
19 doing the structural framework. And it'd be no different
20 than someone pouring your foundation of your house and
21 saying, I think it's straight, but let's go ahead and
22 build the walls and see what happens.

1 And it's kind of the way we feel too. If
2 your guide's not good, it's hard to feel confident that
3 everything that follows after that is going to be -- is
4 good. So edentulous cases are a challenge. I mean, you
5 know, I'm not going to lie about that. But even -- even
6 using a small little mold that has to snap to a medium
7 sized mold to a bigger one, that's also challenging. So
8 I don't think it's a very good option for predictability
9 from case-to-case.

10 REPORTER: Aaron, when it's a good time,
11 can we take 10?

12 MR. FEIGELSON: Now is a very good time.
13 I don't have a lot left. So 10 minutes, and then we can
14 come back and finish. That's fine with me.

15 (Off the record.)

16 BY MR. FEIGELSON:

17 Q. All right. We are back on the record.

18 Dr. Elo, let's look at paragraph 104 of
19 your Declaration. And you state in paragraph 104 that,
20 "there was a long felt need for a guided surgical product
21 to improve the efficiency and accuracy of full-arch tooth
22 replacement," right?

1 A. Yes.

2 Q. And you based that statement on the
3 Declaration of Mr. Banks and the evidence that he
4 presents?

5 A. I think in part. Certainly, my -- my own
6 clinical experience treating these patients as well. But
7 I -- I think that he used very similar words in his
8 Declaration.

9 Q. You didn't provide any of your own
10 independent evidence regarding an alleged long-felt need,
11 right?

12 A. No, I didn't. I didn't. It felt maybe
13 anecdotal, and I didn't want to make it necessarily about
14 my -- my clinical practice experience necessarily. But
15 no, I don't believe I put in any anecdotal.

16 Q. And -- and -- I'm sorry.

17 A. I just -- I didn't put in any supporting
18 statements about that.

19 Q. And -- and that same is true for the last
20 sentence in paragraph 104, that -- where you note that,
21 "The prior attempts for guided surgical products for
22 installing a full-arch dental prosthesis were

1 unsuccessful"?

2 Right? So there, you were relying on
3 Mr. Banks as well, and you don't have any additional
4 evidence of your own?

5 A. I think his -- his statements and as well
6 as just my own clinical experience, again, with these --
7 with this patient group.

8 Q. And in paragraph 105, the same is true
9 there regarding an alleged commercial success? You're
10 only relying on the information that Mr. Banks provided?

11 A. That one is more Mr. Banks. Yes, that's
12 correct.

13 Q. Dr. Elo, are you familiar with the
14 material that is used for the fixation base that is
15 described in the 209 patent?

16 A. I'm just familiar with what I believe the
17 language says, metal, metallic alloy, or other strong
18 material.

19 Q. Do you think that's an important aspect of
20 the solutions that is described in the 209 patent? That
21 a fixation base is made from a metal strong material?

22 MR. KARISH: Objection, form.

1 You can go ahead.

2 A. Certainly it -- it has to be a strong
3 material. If it's metal, I -- I -- using metal for
4 orthognathic surgery, as well as using metal for
5 pathology, like resection cases, I love it. I mean, just
6 -- you -- you feel great with using it because you know
7 it's rigid. It's -- it's thinner. It's -- it's -- it's
8 nice to work with.

9 In our University practice, most of our
10 guides are non-metal. And -- and they've gone through
11 many iterations over the last 20-some odd years of
12 material just as technology, and 3D printing, and some of
13 those products have -- have developed. So personally,
14 I've used both and they both work fine.

15 The material has to be strong. I do agree
16 with -- with many of the comments that were in both
17 Dr. Erickson's, Mr. Banks's Declarations, where you
18 certainly can't have a product that risks fracturing at
19 any really point. Your drill guide can't be flexible or
20 too flexible. Your fixation base can't be too flexible.
21 Otherwise, your accuracy goes off. You're -- you may be
22 free-handing it by the time the case is -- is progressed

1 through. And so, what that material is, I don't know
2 that I'm smart enough to know all of the different
3 materials out there. I've used metal. I've used
4 metallic alloy. I've used other strong materials.

5 They all seem to work, but it definitely
6 has to be a strong material. That's about as much as I
7 can probably contribute to that particular question.

8 BY MR. FEIGELSON:

9 Q. Okay. And you said that in your, I guess,
10 your University, you said that you -- you create your own
11 guides. Is that -- did I hear you right?

12 A. Right. So at Loma Linda, we have a -- we
13 work a lot with the graduate prosthodontic residency
14 program. And they try not to send much out to the lab.
15 They -- they try to do most in-house. Part of it is
16 teaching something for the residents, some of it is a lot
17 of prosthodontists -- I'm sure Dr. Erickson would agree
18 with this statement: They're very attentive to a lot of
19 the fine detail with it comes to prosth restorations.

20 And so, they don't often like to -- to
21 send stuff out and there's cost differences. We don't
22 charge high fees at the University, so there's some

1 cost-saving measures. So we do a lot of our guides
2 in-house with 3D printing. And some -- I mean, they've
3 certainly gotten better over the years as they've
4 progressed. Rare occasion do we send out to implant
5 concierge. At my Western University practice, we're a
6 little bit more likely to send our -- our materials to an
7 implant concierge. I think it's in San Antonio, but
8 somewhere in Texas. And then, that's the place we will
9 send the guides.

10 So it just depends on where my -- where
11 I'm seeing patients at and who's making the guides.

12 Q. And those are stackable guides?

13 A. They can be. I -- I -- because I do some
14 of each. Right? We do some single teeth, multiple
15 teeth, we have full-arch edentulous cases. It just kinds
16 of depends on the case, but the prosth residents at the
17 Loma Linda are mainly where I'm using the stackable
18 guides. That's -- those are the ones being made by the
19 prosthodontists.

20 Q. Dr. Elo, has GuidedSMILE offered you a
21 covenant not to use your lab and practice on the patent
22 -- the 209 patent?

1 A. No.

2 Q. Have they offered you a license?

3 A. No.

4 MR. FEIGELSON: I don't have anymore
5 questions for you today. Thank you for your time.

6 Counsel?

7 MR. KARISH: I don't have any questions
8 for the witness. I think we are done.

9 REPORTER: Okay. Aaron, would you like to
10 order?

11 MR. FEIGELSON: Yes. We'll take a rough.

12 REPORTER: Okay. You got it.

13 And would you like to order, Mark?

14 MR. KARISH: Yeah, just a regular
15 transcript.

16 REPORTER: Did you want a rough as well?
17 Did you want me to CC you on that?

18 MR. KARISH: I don't need a rough.

19 (The deposition of Dr. Jeffrey A. Elo,
20 was concluded at 3:35 p.m.)

21 (Signature was reserved.)

22

1 STATE OF WASHINGTON)

2) SS.

3 COUNTY OF KING)

4

5 I, the undersigned, declare under penalty of
6 perjury that I have read the foregoing transcript, and
7 I was desirous of making; that the foregoing is a
8 true and correct transcript of my testimony contained
9 therein.

10

11 EXECUTED this _____ day of _____ 2025
12 at _____, _____.

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17 DR. JEFFREY A. ELO

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