

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

CLEARCORRECT OPERATING, LLC,)
Petitioner,)
v.) No. IPR2025-00816
ALIGN TECHNOLOGY, INC.,) Patent No. 11,369,456
Patent Owner,)

DEPOSITION OF DR. SUMIT YADAV, PH.D.

6:00 a.m.
January 8, 2026

ESQUIRE
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Reported By: Judy Robinson, CCR #2171



ALIGN - EXHIBIT 2015

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A P P E A R A N C E S

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1 BE IT REMEMBERED that the deposition upon oral
2 examination of DR. SUMIT YADAV, PH.D., was taken on
3 January 8, 2026, at 6:00 a.m., at 125 South 309th
4 Street, 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 * * * * *

10 DR. SUMIT YADAV, PH.D.

11 having been first duly sworn

12 on oath was examined

13 and testified as follows:

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

15 BY MR. ROSATO:

16 Q. Good morning, Dr. Yadav.

17 A. Good morning.

18 Q. Is this your first deposition?

19 A. No.

20 Q. You've been deposed before?

21 A. Yes, sir.

22 Q. How many times?

23 A. One more time.

24 Q. One more time. What case was that?

25 A. They were two, both orthodontic companies

involved.

REPORTER: I'm sorry, both what companies involved?

WITNESS: Orthodontic.

REPORTER: Orthodontic?

WITNESS: Dental companies.

BY MR. ROSATO:

Q. This was one case involving two orthodontic companies; is that correct?

A. Yes, sir.

Q. What were the names of those orthodontic companies?

A. I know the name of the product. I might not be -- one was Propel.

Q. What was the name of the other company?

A. AcceleDent.

(Reporter clarification.)

A. I might be wrong, but I will spell to the best of my knowledge, okay? A-C-C-L-E-D-E-N-T.

BY MR. ROSATO:

Q. Which of those companies were you working with?

A. Propel.

Q. What was your capacity as a witness to work with them?

1 A. Just expert witness.

2 Q. What kind of case was this, an IPR?

3 A. I have -- it was long back. I don't remember,
4 on the top of my head, but it was long back.

5 Q. Okay.

6 A. Almost ten years back or nine years back.

7 Q. Okay. About ten years ago?

8 A. Almost. Nine years ago.

9 Q. Did you submit a written report in that case?

10 A. What do you mean by "written report"?

11 Q. Like a written Declaration.

12 A. Yes.

13 Q. Okay. And then you were subject to a
14 deposition?

15 A. Yes, sir.

16 Q. And that was just one deposition in that case?

17 A. Just one.

18 Q. Okay. Okay. So it was a while ago. So just
19 to refresh your memory, we'll go through a couple
20 important ground rules. And the first question is: Is
21 there any reason that you cannot provide complete and
22 accurate testimony today?

23 A. No.

24 Q. Okay. And we're doing a remote deposition
25 here so hopefully my questions are clear. If they're

1 not clear, you need to let me know that, okay?

2 A. Yes, sir.

3 Q. And as far as responses go, we'll ask you
4 provide verbal responses to questions as opposed to
5 shaking or nodding your head, okay?

6 A. Okay.

7 Q. Non-verbal gestures are particularly hard for
8 a court reporter to pick up, and especially on a remote
9 deposition, so we appreciate your -- your help in that
10 regard. Also, we can take a break if you like. I will
11 aim to break about every hour. Does that work for you?

12 A. Good.

13 Q. Great. If you need a break at any point, you
14 can let me know. But if we're going to break and
15 there's an open question, I'll ask that you finish
16 answering the question before we take a break; is that
17 okay?

18 A. Good.

19 Q. Great.

20 Do you have a computer in front of you?

21 A. The one which I'm looking at you, yeah.

22 Q. Okay. Other than Zoom, are there any programs
23 open on that computer?

24 A. No.

25 Q. Great. I would ask that you do not have open

1 any programs or -- or devices that allow outside
2 communication during the deposition. Is that
3 acceptable?

4 A. Yes, sir.

5 Q. Okay. We're on a remote deposition. So there
6 will be times when we're talking about a particular
7 exhibit, okay?

8 A. Okay.

9 Q. And when I introduce an exhibit, we can make
10 that electronically available to you. And before we got
11 started we were talking about the availability of some
12 paper copies. Do you recall that?

13 A. Yes.

14 Q. Okay. Okay. So I understand there's a pile
15 of exhibits that have already been filed in this case
16 nearby; is that right?

17 A. Yeah.

18 Q. Okay. So when I introduce an exhibit, you're
19 free to locate a paper copy from that file and look at
20 that paper copy, okay?

21 A. Thank you.

22 Q. And I would ask that any -- any exhibits that
23 are not introduced but are in that pile stay out of your
24 possession during our conversation, okay?

25 A. Okay.

1 Q. Great. All right. Well, we can move along.

2 And the next question I have for you is
3 whether you're being compensated for your testimony in
4 this case?

5 A. Yes, sir.

6 Q. How are you being compensated?

7 A. How are or how much, or what's your question?

8 Q. Are you -- is your compensation in this matter
9 an hourly rate?

10 A. Yes, sir.

11 Q. Other than your hourly rate, is there any
12 other form of compensation?

13 A. Other form of compensation? Honestly, no.

14 (Exhibit No. 1 was marked.)

15 BY MR. ROSATO:

16 Q. Okay. Well, we can get started with exhibits.
17 You can locate Exhibit 1003, which is the Declaration
18 you filed in this case.

19 A. Okay.

20 Q. Let me know when you have that.

21 A. I have it in front of me.

22 Q. Okay. And you recognize the document you have
23 in front of you?

24 A. Yes, sir.

25 Q. What is that document?

1 A. It's my Declaration of Dr. Sumit Yadav in
2 Support of Petition for IPR of the U.S. Patent No.
3 11369456.

4 Q. Great. Thank you for clarifying that.
5 Turn to paragraph 2 of your Declaration and
6 let me know when you're there.

7 WITNESS: Can I move the keyboard here?

8 MR. MCCAMMON: You can move it.

9 A. Paragraph -- can you refer to the page?
10 Paragraph two, yes.

11 BY MR. ROSATO:

12 Q. Paragraph two on page search do you see that?

13 A. Yes, sir.

14 Q. There you identify a clear correct operating
15 LLC as the petitioner correct?

16 A. Yes, sir.

17 Q. Other than this IPR do you have any
18 affiliation with ClearCorrect Operating, LLC?

19 A. No.

20 Q. You don't own any stock in ClearCorrect?

21 A. No, sir.

22 Q. Prior to this IPR have you ever worked with
23 ClearCorrect?

24 A. I have never worked with ClearCorrect.

25 Q. Does paragraph two of your Declaration

1 identify any company other than ClearCorrect Operating,
2 LLC?

3 A. No.

4 Q. Have you ever heard of the company Straumann?

5 A. Yes, sir.

6 Q. How far you heard about them?

7 A. I'm a dentist; right? And Straumann is a big
8 dental company.

9 Q. Prior to this have you ever worked with
10 Straumann?

11 A. Consultant? Correct.

12 Q. We can start with that. Have you ever worked
13 with them as a consultant?

14 A. No.

15 Q. Have you ever worked with them in a capacity
16 other than consulting?

17 A. What do you mean? Can you specify, please,
18 because it's a big dental company?

19 Q. Other than consulting, have you worked with
20 them?

21 A. To me the question is very vague.

22 Can you just specify what information do you
23 need from me?

24 Q. Other than this IPR, and any of the --
25 (Reporter clarification.)

1 BY MR. ROSATO:

2 Q. One of the other things we need to make sure
3 we're not doing is talking over each other. While
4 you're answering a question, I'll try not to start the
5 next question. But when I'm asking a question, it would
6 be helpful if you let me finish the question and then
7 you can provide your answer, okay?

8 A. Good.

9 Q. Great.

10 So other than this IPR, and any consulting
11 capacity, have you ever worked with the Straumann
12 Company?

13 A. No, sir.

14 Q. Do you have any financial interest in
15 Straumann?

16 A. No.

17 Q. Other than being a witness in this IPR, do you
18 have any affiliation with Straumann?

19 A. No.

20 Q. Have you ever heard of the company Bay
21 Materials?

22 A. Yes, sir.

23 Q. How have you heard of Bay Materials?

24 A. I have -- when we go -- like, in my meetings
25 they put a booth there, so I've heard of Bay Materials,

1 and yeah, that's how I've heard of Bay Materials.

2 Q. When you say "in your meetings , "what meetings
3 are you referring to?

4 A. American Association of Orthodontic Meetings
5 or any orthodontic meetings I go. Bay Materials usually
6 have a booth in the exhibition hall.

7 Q. What kind of information do they present at
8 their booth?

9 A. I go to -- there are 500, more than 500
10 companies exhibited in that. So I go to every company,
11 and I don't remember what kind of information they
12 present there.

13 Q. Okay. Prior to this IPR, have you worked with
14 Bay Materials?

15 MR. MCCAMMON: Object to the form.

16 A. No.

17 BY MR. ROSATO:

18 Q. Other than this IPR, do you currently do any
19 work with Bay Materials?

20 MR. MCCAMMON: Object to the form.

21 A. No.

22 BY MR. ROSATO:

23 Q. Do you have any financial interest in Bay
24 Materials?

25 A. No.

1 Q. Do you have any affiliation with Bay
2 Materials?

3 A. No.

4 Q. Have you ever heard of the Chinese entity
5 Allied Star Medical Equipment Company?

6 A. No.

7 Q. Is it fair to say that prior to this IPR, you
8 have never heard with Allied Star Medical?

9 MR. MCCAMMON: Object to the form.

10 A. No.

11 BY MR. ROSATO:

12 Q. Is it fair to say, you probably didn't
13 understand my question, so let me rephrase it. Have you
14 ever worked with Allied Star Medical?

15 A. I have not.

16 Q. Okay. And other than being a witness in this
17 IPR, do you have any affiliation with Allied Star
18 Medical?

19 MR. MCCAMMON: Object to the form.

20 A. I don't.

21 BY MR. ROSATO:

22 Q. Okay. Have you ever heard of the Chinese
23 company Shanghai Smarty Denti Technology Company?

24 A. Yes, sir.

25 Q. What do you know of Shanghai Smarty Denti

1 Technology Company?

2 A. I just saw their booth in Italian meeting.

3 That's it. Italian Orthodontic Society meeting where I
4 was giving a talk they had an exhibit or a booth there.

5 Q. I see. When did that meeting occur?

6 A. It was -- let me -- 2024. Fall of 2024.

7 Probably October.

8 Q. Okay. Have you ever worked with Shanghai
9 Smarty?

10 A. No.

11 Q. Do you have any financial interest in Shanghai
12 Smarty?

13 A. No.

14 Q. Other than being a witness in this IPR, do you
15 have any affiliation with Shanghai Smarty?

16 MR. MCCAMMON: Object to the form.

17 A. I don't.

18 BY MR. ROSATO:

19 Q. Okay, great. Thank you.

20 What did you do to prepare for your deposition
21 today?

22 A. I read my Declaration and my exhibits and met
23 with my legal team.

24 Q. By "your legal team," are you referring to the
25 Finnegan team that's --

1 A. Yes, sir.

2 Q. Yeah. Okay. When did you meet?

3 A. Last two or three days for preparation of
4 deposition; right?

5 Q. You spent two or three days meeting with them
6 to prepare for this deposition; is that correct?

7 A. Yes, sir. Past two days.

8 Q. Over the course of those two days, what's your
9 estimate in how many hours you spent meeting?

10 A. It's tough because we were taking breaks and
11 also a lot of breaks. I can tell you the hours. But
12 approximately each day, four hours. Maybe 4-1/2 hours?

13 Q. Where did the meetings take place?

14 A. DC. Washington DC.

15 Q. Okay. Let's turn back to your Declaration.
16 That's again Exhibit 1003. You still have a copy of
17 that; correct?

18 A. Yes, sir.

19 Q. Tell me about the process of preparing this
20 Declaration.

21 A. What do you want to know exactly in the
22 process? If you can tell me I will go step-by-step.

23 Q. How did you go about preparing this
24 Declaration?

25 A. I met with the Finnegan team and we

1 collaborated in preparing this Declaration.

2 Q. When did those meetings start?

3 A. Well, I -- it's been more than a year, I think
4 so. And I don't remember the dates but it's been more
5 than a year for sure. 10 to 12 months.

6 Q. So you spent 10 to 12 months working on the
7 Declaration?

8 A. I met with them 10 to 12 months before, and
9 that's how we started working on it.

10 Q. I see. And when you say "10 to 12 months
11 before," do you mean before today?

12 A. Yes, you can say that. I don't remember the
13 exact time or exact date but yes, approximately a year
14 before.

15 Q. A year before today?

16 A. Yes, sir.

17 Q. Okay. Paragraph 2 of your Declaration states
18 that you're charging \$500 an hour; is that correct?

19 A. Yes, sir.

20 Q. And do you invoice for your time?

21 A. Yes, sir.

22 Q. Who do you send invoices to?

23 A. To the Finnegan team.

24 Q. Okay. The last page of the Declaration,
25 there's a signature. Can you take a look at that,

1 please?

2 A. (Complies) Yes, sir.

3 Q. Is that your signature?

4 A. Yes, sir.

5 Q. And it's dated April 11th, 2025; correct?

6 A. Yes, sir.

7 Q. And have you submitted an invoice for your
8 time spent working on this Declaration?

9 A. Yes, sir.

10 Q. Approximately how many hours did you spend
11 working on the Declaration?

12 A. Well, I don't remember the time. You know,
13 like it's been a year, and I don't remember the time.

14 Q. But you did submit invoices for your time;
15 correct?

16 A. I did.

17 Q. Do you have an estimate as to the amount of
18 time spent working on the Declaration?

19 A. Again, like I don't want to do a guesswork.
20 It's been more than a year.

21 Q. Understood. I'm only asking for an estimate.
22 I won't pull --

23 A. Okay.

24 Q. I don't need precision.

25 MR. MCCAMMON: Object to form.

1 A. 50 to 70 hours. Might be here and there, but
2 yeah.

3 BY MR. ROSATO:

4 Q. Okay. Great. Thank you for that estimate.
5 Please turn to page 18 of your Declaration.

6 A. 18, yes, sir.

7 Q. We can start with paragraph 24. And let me
8 know when you're there.

9 A. Yes, sir.

10 Q. Okay. So I think I said paragraph 24. But at
11 paragraph 24, you state: This team would have included
12 members with advanced degrees. Do you see that?

13 A. Let me see. Yes.

14 Q. Okay. And then it lists e.g. and it lists
15 several degrees there. Do you see that?

16 A. Yes, sir.

17 Q. One of them is a BDS; correct?

18 A. Yes.

19 Q. And that's a bachelor's degree?

20 A. Yes, sir.

21 Q. Okay. Then your statement continues on with:
22 In addition to an advanced degree experience in
23 orthodontics including 1 to 3 years of orthodontic
24 training or equivalent experience. Do you see that?

25 A. Yes, sir.

1 Q. What exactly do you mean by "experience"?

2 MR. MCCAMMON: Object to the form.

3 A. Orthodontic experience treating orthodontic
4 patients.

5 BY MR. ROSATO:

6 Q. Okay. And when you say with experience and
7 orthodontics including 1 to 3 years of orthodontic
8 training, are -- do you consider the experience and the
9 orthodontic training two separate things?

10 A. No. It says 1 to 3 years of orthodontic
11 training or equivalent experience. So those are either
12 or or.

13 Q. So either experience in orthodontic training
14 or?

15 A. Or same amount of experience.

16 Q. Okay. Would -- per the statement, would the
17 requisite amount of experience be satisfied with one
18 year of orthodontic training?

19 A. Yeah.

20 Q. Okay.

21 A. Yeah.

22 Q. So the experience is a broader category that
23 could include training is what you're saying here. Am I
24 understanding that correctly?

25 A. What I'm saying is either 1 to 3 years of

1 orthodontic training or equivalent experience.

2 Q. I see. And what sort of training do you have
3 in mind?

4 A. Treating orthodontic patients.

5 Q. Okay. You consider orthodontic training to
6 mean actually treating patients; is that correct?

7 A. Yes.

8 Q. Okay. Turn to page 19 of your Declaration and
9 let's look at paragraph 25. And let me know when you're
10 there.

11 A. (Complies) I am there.

12 Q. There you state, "Based on my educational
13 background and experience, I'm qualified as at least a
14 person of ordinary skill in the art with respect to the
15 456 patent." Do you see that?

16 A. Yes, sir.

17 Q. And you mention August 30th, 2006; correct?

18 A. Yes.

19 Q. Okay. And is August 30th, 2006, the date you
20 applied as the invention date for the 456 patent?

21 A. I'm sorry. What were you saying? Can you
22 repeat it?

23 Q. What's the significance of August 30th, 2006?

24 A. That's my degree confirmed date for my
25 master's in dental sciences.

1 Q. Okay. Are you aware that the 456 patent
2 claims priority back to August 30th, 2006?

3 A. I am aware.

4 Q. Okay. And in paragraph 25 of your
5 Declaration, you state that by August 30th, 2006, I had
6 my bachelor's in dental sciences and master's in dental
7 sciences orthodontic. Do you see that?

8 A. Yes, sir.

9 Q. Okay. And then you state I was treating
10 orthodontic patients since October 2003; correct?

11 A. Yes.

12 Q. Okay. So in your opinion you're able to opine
13 from the perspective of a person for ordinary skill by
14 that August 30th, 2006; correct?

15 A. Yes.

16 Q. And in your opinion, that's supported by your
17 bachelor's and master's in dental sciences and treatment
18 of orthodontic patients since 2003; is that correct?

19 A. Yes.

20 (Exhibit No. 2 was marked.)

21 BY MR. ROSATO:

22 Q. Okay. Let's pull out a copy of your CV.
23 That's -- that has been submitted in this case as
24 Exhibit 1029. Let me know when you locate that
25 document.

1 A. (Complies) yes.

2 Q. Do you have Exhibit 1029?

3 A. Yes.

4 Q. And that's a copy of your CV; correct?

5 A. Yes.

6 Q. Okay. Great.

7 Looking at the first page at the bottom of
8 education, it states you were awarded a BDS --

9 A. Yes.

10 Q. -- in June 2002; is that correct?

11 A. Yes.

12 Q. Okay. And BDS is a bachelor's in dental
13 science; correct?

14 A. Dental surgery.

15 Q. It's a bachelor's in dental surgery; is that
16 correct?

17 A. Yes, sir.

18 Q. Okay. And from where did you receive that
19 degree?

20 A. Manipal University, India.

21 REPORTER: And spell the university, please.

22 WITNESS: M-A-N-I-P-A-L.

23 REPORTER: Thank you.

24 BY MR. ROSATO:

25 Q. Okay. Just above that entry, your CV lists

1 that you also received an MDS in June 2006; correct?

2 A. Yes.

3 Q. Okay. What is an MDS?

4 A. Master's in Dental Surgery.

5 Q. If you received your degree in June 2006, when
6 did you start your study for that degree?

7 A. It starts July 1st, 2003.

8 Q. Okay. If I'm getting the timeline correct
9 here, you received your BDS in June of 2002; correct?

10 A. Yes, sir.

11 Q. And then you began studying for your MDS
12 in -- on July 1st, 2003; is that correct?

13 A. Yes, sir.

14 Q. Were you treating patients between June 2002
15 and July 1st, 2003?

16 A. Yes, sir.

17 Q. Okay. And in paragraph 25, your Declaration
18 you state that you were treating orthodontic patients
19 since October 2003; is that correct?

20 A. Yes, sir.

21 Q. And that treatment period would include the
22 period we just discussed between receiving your
23 bachelor's degree and starting your master's degree; is
24 that correct?

25 A. Yes, sir.

1 Q. Great. This treatment of patients, where did
2 that occur?

3 A. It occurred in India.

4 Q. Okay. Were any patients treated by you
5 outside of India?

6 A. I was in India at that time.

7 Q. Okay. In what context were you treating
8 orthodontic patients?

9 A. Context means? Can you --

10 Q. With private practice?

11 A. I was -- you can say, yeah, private practice,
12 and for a year in private practice and then in my
13 orthodontic training.

14 Q. So training as a student?

15 A. We are not students, we are residents.
16 Employee of the university.

17 Q. Okay. Are you residents during the course of
18 your study? Is that how it works?

19 A. Yes.

20 Q. Okay. Did you ever treat orthodontic patients
21 in the U.S.?

22 MR. MCCAMMON: Object to the form.

23 A. I do that day in day out.

24 BY MR. ROSATO:

25 Q. You do that day in and day out today?

1 A. Yeah.

2 Q. I see. And what's the context of that
3 treatment today? Is that academic or private practice?

4 A. I -- it's both.

5 Q. Both. Have you ever treated an orthodontic
6 patient with a clear aligner system?

7 A. Yes, sir.

8 Q. Did you ever treated a patient with a clear
9 aligner system during your time in India that we
10 discussed?

11 A. Yes, sir.

12 Q. What brand of clear aligner system were you
13 using at that time?

14 A. Essix.

15 Q. Essix, E -- can you spell that please?

16 A. E-S-S-I-X. X for XuXu.

17 Q. Okay. Is that an India -- Indian company
18 brand?

19 A. I cannot remember that. But my vague
20 understanding it was from a company called Raintree.
21 R-A-I-N, Tree.

22 Q. And that was during the 2002-2003 timeframe we
23 discussed?

24 A. 2002-2006.

25 Q. Okay. Approximately when was the first time

1 you treated an orthodontic patient with a clear aligner
2 system?

3 A. You can say again, I don't remember exactly
4 the date, but somewhere around 2004.

5 Q. And this is with the Essix Raintree product;
6 is that correct?

7 A. I said Essix but Raintree I vaguely remember.

8 Q. Okay. Fair enough. Without holding you to
9 the precision, the treatment with clear aligners in 2004
10 was with this system that you referred to when you talk
11 about Essix. Is that a correct understanding?

12 MR. MCCAMMON: Object to the form.

13 A. Yes, sir.

14 BY MR. ROSATO:

15 Q. Okay. Turning back to paragraph 27 of your
16 Declaration, why don't you take a look at that and let
17 me know when you're there?

18 A. I can keep my CV back?

19 Q. You can put it to the side but you
20 can -- you're welcome to refer to it if you need to.

21 A. Okay, thank you. Yes, sir, I am an paragraph
22 27.

23 Q. Okay. Do you see where you state that you
24 understand that ClearCorrect previously filed a petition
25 for enter parties review against U.S. Patent No. 803444,

1 which is related to the 465 patent. Do you see that?

2 A. Yes, sir.

3 Q. Okay. And you state that in that IPR,
4 ClearCorrect proposed that a person having a doctorate
5 in dental science and 3 to 5 years of training and
6 practical experience in orthodontics would qualify as a
7 POSITA; is that correct?

8 A. Yes, sir.

9 REPORTER: I'm sorry, qualify as a what?

10 MR. ROSATO: P-O-S-I-T-A.

11 REPORTER: Okay, thank you.

12 MR. ROSATO: Person of Ordinary Skill in the
13 Art.

14 REPORTER: Okay, thank you.

15 BY MR. ROSATO:

16 Q. Okay. Looking at your CV, it looks like you
17 received your doctorate in 2010; is that correct?

18 A. Yes, sir.

19 Q. Okay. We were earlier discussing clear
20 aligners. Do you recall that?

21 A. Yes, sir.

22 Q. Okay. So we're on the same page, what is the
23 clear aligner?

24 A. It's a system to treat orthodontic patients.

25 Q. It's a type of orthodontic appliance system;

1 correct?

2 A. System to treat orthodontic patients.

3 Q. Okay. Are you familiar with wire and bracket
4 appliances?

5 A. Yes, sir.

6 Q. Okay. And a clear aligner is a -- is
7 different than a wire and bracket appliance; correct?

8 A. It's a system both are wire bracket and clear
9 aligners. They are a system to treat orthodontic
10 patients.

11 Q. Okay. They're different systems; correct?

12 MR. MCCAMMON: Object to the form.

13 A. I would say they are appliances or system to
14 treat orthodontic patients.

15 BY MR. ROSATO:

16 Q. So is a clear aligner the same thing as a wire
17 and bracket appliance?

18 A. The question is very vague, scientifically
19 very vague question.

20 Q. And what's your answer?

21 A. I'm saying the question scientifically is very
22 vague. You need to tell me the precise question so that
23 I can answer it.

24 Q. What does a clear aligner look like?

25 A. Clear aligner look like. It's clear; right?

1 And it's kind of a plastic material.

2 Q. What does a wire and bracket appliance look
3 like?

4 A. Wire and bracket, it's wire could be any kind
5 of material. Similarly, bracket could be any kind of
6 material. There has been plastic materials. There have
7 been crystalline materials. There have been metal
8 materials.

9 Q. Does a clear aligner look identical to a wire
10 and bracket appliance?

11 A. No, sir.

12 Q. Okay. Describe generally how clear aligners
13 are used for orthodontic treatment of a patient?

14 A. Again, like that's a very vague question and
15 if you ask me a specific question, I can tell you
16 step-by-step the answer to it.

17 Q. It's a general question. Generally how do
18 clear aligners work to execute orthodontic treatment of
19 a patient?

20 A. Well, either clear aligner or any appliances
21 in orthodontic. Clear aligner, wire braces both apply
22 forces on the teeth to move the teeth within the bone.
23 That's how all the orthodontic system, whether clear
24 aligner, whether brace. They apply an external force.
25 It moves in the bone and that's how we treat.

1 Q. So referring to clear aligners, explain how a
2 clear aligner applies forces to the teeth?

3 A. Clear aligner applies forces through the
4 plastic of their material.

5 Q. How does a clear aligner apply forces to the
6 teeth?

7 A. Through their material.

8 Q. Oh through their material, sorry.

9 A. I was not clear. Through their material.
10 Plastic material.

11 Q. And explain how that works. How does a clear
12 aligner fit on teeth and apply force?

13 A. You -- honestly a clear aligner will -- if
14 this is the teeth. Can you see my fingers?

15 Q. Yes.

16 A. It might be tough for Judy but this clear
17 aligner go here and apply the force and the teeth moves
18 depending on what you want to do.

19 Q. Okay. I'm going to try to do my best to work
20 off of your gesture illustration.

21 Is it accurate to say that clear aligners have
22 teeth-receiving cavities?

23 A. Clear aligner have teeth receiving -- that's a
24 very none scientific terminology. So cavities is what
25 we say is on the teeth; right? So you can say shell.

1 Q. Okay.

2 A. I would say shell because as a dentist
3 cavities are on the teeth.

4 Q. Fair enough. So clear aligner forms a shell
5 configuration; is that accurate?

6 A. Yes, sir.

7 Q. And that shell configuration receives the
8 teeth when the aligner is worn; is that correct?

9 A. Yes, sir.

10 Q. Do the teeth contort the plastic material when
11 the aligner is worn?

12 A. Can you repeat the question? I was not able
13 to hear you properly.

14 Q. Do the teeth contort the plastic material when
15 the aligner is worn on the teeth?

16 MR. MCCAMMON: Object to the form.

17 A. It is my understanding the plastic material is
18 contorted to the shape of the teeth.

19 BY MR. ROSATO:

20 Q. Okay. And what's your understanding of how
21 wearing an aligner results in a force being applied to
22 the teeth?

23 MR. MCCAMMON: Object to the form.

24 A. I -- again, it's a very broad and a vague
25 question. So what kind of knowledge are you testing

1 here, I am not sure. Like, they apply force through
2 their plastic material on the teeth.

3 BY MR. ROSATO:

4 Q. Right. And earlier you mentioned the aligner
5 applying forces to the teeth. Do you recall that?

6 A. I -- yeah, to the teeth.

7 Q. Okay. My question is, when you refer to that
8 application of forces, how is the aligner applying
9 forces to the teeth?

10 MR. MCCAMMON: Object to the form.

11 A. Through the plastic material. Via the plastic
12 material. Via the aligner material.

13 BY MR. ROSATO:

14 Q. What do you mean by wire the --

15 A. Via, V-I-A. Sorry.

16 REPORTER: I'm sorry. Please repeat that.

17 MR. ROSATO: Oh, via, V-I-A.

18 REPORTER: Oh, okay.

19 BY MR. ROSATO:

20 Q. Okay. So aligner applies forces to the teeth
21 via the plastic material; is that correct?

22 A. Yes, sir.

23 Q. And how is the plastic material generating a
24 force to the teeth?

25 MR. MCCAMMON: Object to the form.

1 A. Through the shape, through the shape they
2 contort on the teeth.

3 BY MR. ROSATO:

4 Q. Through the shape of the aligner; is that
5 correct?

6 A. Properties of the material.

7 Q. And you stated through the shape they contort
8 to the teeth; is that correct?

9 A. Yes, sir.

10 Q. And also through the properties of the
11 material that are contorting; is that correct?

12 A. Plastic material.

13 Q. Okay. Thank you.

14 And how is the shape of a clear aligner
15 determined for treating a patient?

16 A. Can you just repeat the question one more
17 time, please?

18 Q. How is the shape of the clear aligner
19 determined for the orthodontic treatment of a patient?

20 A. The shape is determined by the malocclusion or
21 the initial position of the teeth.

22 Q. What's the process for determining the shape
23 of an aligner when you could -- when you want to treat
24 the patient?

25 A. The shape is determined by the initial

1 position and final outcome where you want to reach,
2 that's how you determine the shape of the aligner shell
3 for the teeth.

4 Q. Is the shape of an aligner specific to the
5 patient being treated?

6 A. Yes, sir.

7 Q. Okay. So in other words --

8 A. Can I say --

9 Q. Go ahead.

10 A. Specific to the morphology of the teeth.

11 Q. And specific to the morphology of that
12 particular patient's teeth; correct?

13 A. Yes, sir.

14 Q. Okay. So in other words, a clear aligner
15 design for one patient wouldn't necessarily fit a
16 different patient due to morphological differences of
17 the teeth; correct?

18 A. Yes, sir.

19 Q. Okay. And is orthodontic treatment of a
20 patient typically accomplished with a single clear
21 aligner?

22 A. Depending on how is the severity.

23 Q. The severity. Sorry.

24 A. The severity.

25 Q. Severity of the malocclusion; correct?

1 A. Yes, sir.

2 Q. Okay. Would it be fair to say that typically
3 treatment of a malocclusion requires a series of
4 multiple aligners?

5 A. Again, they are like my answer will stay the
6 same scientifically correct depending on the severity of
7 the patient. Because multiple is more than two, and I
8 have treated patients with two clear aligners.

9 Q. Okay. And is treatment with two clear
10 aligners a typical case you encounter?

11 A. I treat a lot of patients so you
12 make -- typical, nontypical is again, a different
13 language, right, so I have treated it.

14 Q. And most patients require more than two clear
15 aligners?

16 A. Yes, sir.

17 Q. Okay. Explain briefly how that works. How a
18 series of clear aligners is used for orthodontic
19 treatment?

20 A. If you tell me the exact, I will tell you
21 step-by-step because this is very vague questions how
22 clear aligners work. As I said before, I will say
23 again, each clear aligner is applying a force on the
24 teeth. The goal is to reach the final outcome.

25 Q. Right. Would it be fair to say that a single

1 clear aligner is designed to move the teeth in, you
2 know, one increment of the treatment?

3 A. That is right.

4 Q. Okay. So with a series, you have each aligner
5 executing, you know, an increment of the treatment; is
6 that fair?

7 A. That is right.

8 Q. Okay. And as those clear aligners are worn
9 sequentially, you eventually get from your initial
10 position to your target position; is that fair?

11 A. Tough to answer that question because things
12 don't work the way you are saying; right? So it's tough
13 to answer that question.

14 Q. But that's the idea; right?

15 A. The idea is different and treating patient is
16 different; right? So it's different things what we're
17 talking about. That's what you're talking about is
18 planning and treating patients is entirely different
19 ball game.

20 Q. Okay. So if you -- but you -- okay, let's
21 start with planning. So you would plan to incrementally
22 move teeth in stages as I described; is that fair?

23 A. It's fair.

24 Q. Okay. And then you would design aligners
25 based on that incremental treatment plan; correct?

1 A. Yes, sir.

2 Q. And then in the course of treatment, you would
3 hope that those aligners accomplish the treatment that
4 you had planned out; is that fair?

5 A. I would say we will hope.

6 Q. Okay you hope and sometimes adjustments need
7 to be made; is that fair?

8 A. It's not sometimes. Though it's a majority of
9 the times.

10 Q. Okay.

11 WITNESS: Can we take a break now?

12 MR. ROSATO: Absolutely, yeah.

13 MR. MCCAMMON: Is that okay with you?

14 MR. ROSATO: Yeah. So let's go off the
15 record.

16 (Off the record.)

17 BY MR. ROSATO:

18 Q. We're talking about clear aligners; correct?

19 A. Yes.

20 Q. We were talking about clear aligners applying
21 forces to the teeth when it's worn over the teeth. Do
22 you recall that?

23 A. Yes, sir.

24 Q. Okay. And then we were talking about
25 orthodontic treatment with clear aligners sometimes

1 require this series of multiple aligners. Do you recall
2 that?

3 A. Yes, sir.

4 Q. Okay. Understanding that this typically
5 varies, what is the typical amount of time a single
6 aligner is worn before moving on to the next aligner in
7 the series?

8 A. Depends on the orthodontist.

9 Q. Is a single aligner worn for one week for
10 example?

11 A. Again, depends on the orthodontist.

12 Q. Sure. What would be an example of the amount
13 of time a single aligner is worn before moving on to the
14 next aligner in the series?

15 A. Varies from orthodontist to orthodontist.

16 Q. I understand it varies. What's an example of
17 an amount of time that would be -- a single aligner
18 would be worn before moving onto the next aligner in the
19 series?

20 A. Two to 14 days the literature says.

21 REPORTER: Two to 14 days and then what?

22 WITNESS: The literature. The scientific
23 literature.

24 BY MR. ROSATO:

25 Q. Okay. So in this example, one aligner is worn

1 for 2 to 14 days and then removed; correct?

2 A. Yes.

3 Q. Okay. Then after it's removed, the patient
4 wears the next aligner in the series; is that correct?

5 A. Yes, sir.

6 Q. Okay. And the process continues until the
7 orthodontist is satisfied with the treatment; is that
8 fair?

9 A. Yes, sir.

10 Q. Okay. Let's shift gears and talk about wire
11 and bracket appliances. We talked about those earlier.
12 Do you recall that?

13 A. Yes, sir.

14 Q. Do you have an -- I'll ask you a terminology
15 question. Do you have an objection to the term braces?

16 A. No.

17 Q. Okay. Because people like myself sometimes
18 refer to wire and bracket appliances as braces; is that
19 fair?

20 A. Fine with me.

21 Q. Okay. I may use both and we'll understand
22 we're talking about the same thing.

23 A. Fine with me.

24 Q. Okay. You may have covered this earlier but
25 can you just describe generally how a wire and bracket

1 appliance executes orthodontic treatment of a patient?

2 A. It is similar to what we have talked about.

3 We applied the force on the teeth, wire, the wires and
4 the teeth move.

5 Q. And -- okay. How is such an appliance worn by
6 a patient?

7 A. The orthodontist puts the brackets and the
8 wires.

9 Q. They put the brackets on the patient's teeth;
10 correct?

11 A. Yes, sir.

12 Q. How are the brackets placed on the patient's
13 teeth?

14 A. We call it cement. In non-scientific language
15 it's a glue.

16 Q. Okay. And typically you have one bracket on
17 one tooth; is that correct?

18 A. Depending on what you're trying to achieve but
19 typically, yes.

20 Q. Okay. And you'll have multiple teeth with
21 brackets on them; is that correct?

22 A. Again, depends -- varies on malocclusion to
23 malocclusion but typically, yes.

24 Q. Okay. And how is the wire then installed in
25 this assembly?

1 A. The wire is placed in the bracket slots.

2 Q. Okay. A wire will run through bracket slots
3 at multiple brackets; is that correct?

4 A. That is correct.

5 Q. Okay. And the idea is for the wires to exert
6 a force on the brackets; is that correct?

7 A. Exert the force on the teeth.

8 Q. Right. So the wire is attached to the
9 brackets, which are attached to the teeth; correct?

10 A. Yes, sir.

11 Q. Got it. And that in turn applies a force to
12 the teeth; is that fair?

13 A. Fair.

14 Q. Okay. You mentioned the brackets being bonded
15 to the patient's teeth using cement; is that correct?

16 A. Yes, sir.

17 Q. Does it matter where on the patient's teeth
18 brackets are cemented?

19 A. Depending on the outcomes or the initial
20 malocclusion. What you want to achieve, but it depends
21 on initial malocclusion. It matters.

22 Q. It matters. And so bracket placement is a
23 component of the intended treatment; is that fair?

24 A. Fair.

25 Q. Right. And the idea is the wire is trying to

1 pull the brackets into alignment; is that fair?

2 A. Wires are trying to pull the teeth into the
3 alignment.

4 Q. By way of the brackets, fair?

5 A. By way of the brackets but teeth into the
6 alignment.

7 Q. Right, okay. And you touched on this but how
8 does an orthodontist determine where on the teeth to
9 bond to the brackets?

10 A. Depending on the initial malocclusion and what
11 we want to achieve, we place the bracket depending on
12 that.

13 Q. Does bracket placement influence the force
14 that's applied to the teeth?

15 A. Yes, sir.

16 Q. Okay. Where do you get the brackets from
17 typically?

18 A. There are many companies; right? There are so
19 many companies.

20 Q. How do you -- how does an orthodontist go
21 about selecting what brackets to utilize in a different
22 treatment?

23 A. It's their preference. Orthodontists have their
24 own preferences, so they use their own preferences.

25 Q. When you say "preferences," do you mean the

1 preference for a particular brand?

2 A. Particular brand, particular bracket design.

3 Q. Okay. Are brackets typically designed custom
4 for an individual patient?

5 A. Would be custom to.

6 Q. They could be?

7 A. There is, yeah.

8 Q. Okay. Does -- are there instances of
9 orthodontic treatment with braces that do not utilize
10 custom brackets?

11 A. There is.

12 Q. Okay. And is that the -- is none customized
13 brackets would you say more typical in orthodontic
14 treatment?

15 A. You -- like I can only tell you what I do. I
16 cannot tell you what other people do; right? So because
17 it's tough to tell. These are fully customized and some
18 practices do half to half. It's very -- I don't know
19 the, you know, exact number.

20 Q. Sure. What do you typically do?

21 A. I typically do like 70, 30, 70 not customized,
22 30 customized.

23 Q. Okay. And how do you go about deciding
24 whether to use customized versus non-customized
25 brackets?

1 A. Depending -- there's varied factors it depends
2 on and one of them is price, which is unable to sign out
3 or sign into your account, which is unable to sign into
4 your account.

5 Q. Okay.

6 A. Sorry. Depending on varied factors and
7 aesthetics and one of the most important factor is the
8 price.

9 Q. Are customized brackets more expensive --

10 A. Yes.

11 Q. -- than non-customized?

12 A. Yes.

13 Q. Okay. And that makes sense because presumably
14 you'd have to custom order custom brackets for a given
15 patient; is that correct?

16 A. Yes, sir.

17 Q. And how are those brackets customized?

18 A. I -- it's on the -- based on the shape of the
19 morphology of the teeth.

20 Q. And what about the customized bracket is
21 unique for that particular patient? Is it the shape of
22 the -- what is that the cup that goes against the tooth?

23 A. The cup or -- yeah. You can say cup. Yeah.

24 Q. Well, what's the proper term?

25 A. It's just the base of the bracket we say.

1 Q. Okay. And is that fair to call it a cup that
2 affixes to the surface of the tooth?

3 A. Yeah, you --

4 Q. Can --

5 A. Up but that's not the only thing they
6 customize it. They customize a lot of other things too.

7 Q. What other types of things get customized?

8 A. Shape, size, slot.

9 Q. I see. And then in a non-customized bracket
10 you have a generic shape, size, and slot; is that fair?

11 A. There are different kinds of brackets with
12 different shapes, sizes, prescription.

13 Q. Okay. What are elastics in the context of
14 braces?

15 A. In the context of orthodontics, elastics are a
16 medium to apply force on the teeth.

17 Q. What's an example of an elastic that would be
18 used with braces?

19 A. For any orthodontic purposes whether it's
20 being braces, aligners, removable
21 appliance -- appliances, elastic stays the same. We
22 apply forces used on the teeth using elastics.

23 Q. And is a rubber band an example of an elastic?

24 A. Yes, sir.

25 Q. Okay. Explain how you implement a rubber band

1 elastic with a wire and bracket appliance?

2 A. Implement, it depends again on the patient to
3 patient, what kind of elastic you will give it to the
4 patient.

5 Q. Sure.

6 A. Rubber band and then the patient wear those
7 elastics as described.

8 Q. And the rubber bands are attached to the
9 brackets; is that correct?

10 A. To attachments. Bracket is one of the
11 attachments.

12 Q. I see. So there's an attachment on the tooth
13 and the rubber band would couple with that attachment;
14 is that fair?

15 A. Yeah.

16 Q. Okay. Is that typically the bracket or
17 component of the bracket?

18 A. Again, what you are treating it depends on
19 that but it is a component of a bracket buttons.

20 Q. Okay. Okay. Let's talk about tooth
21 collisions. Do you recall discussing tooth collisions
22 in your Declaration?

23 A. Yes, sir.

24 Q. Okay. And what is that? What is a tooth
25 collisions?

1 A. When two teeth collides or when we plan if we
2 see that two teeth are colliding, it's called tooth
3 collision.

4 Q. One moving tooth strikes against another; is
5 that fair?

6 A. Fair enough.

7 Q. Okay. Let's turn to paragraph 41 of your
8 Declaration and let me know when you're there, please.

9 A. (Complies) Sure. I am there.

10 Q. Okay. So we talked about a tooth collision
11 where one moving tooth strikes against another; correct?

12 A. Yes, sir.

13 Q. At paragraph 41 you identify several
14 techniques for avoiding a collision and specifically
15 identify slowing down; do you see that?

16 A. Yes, sir.

17 Q. And what do you mean by "slowing down"?

18 A. If you look in our constructions, we have
19 defined what is slowing down. Page 22 of my
20 Declaration, do you see the clean term slowing slow?

21 REPORTER: I'm sorry, what is the term,
22 slowing what?

23 WITNESS: Slowing oblique slow.

24 REPORTER: Okay. Slowing oblique slope?

25 WITNESS: S-L-O-W, yes.

1 REPORTER: Thank you.

2 A. So are you on the page, sir?

3 BY MR. ROSATO:

4 Q. Yes. So my question is, how does slowing down
5 the movement of a tooth avoid a collision?

6 A. The slowing down avoids collision because one
7 teeth is when we plan the movement, one teeth is moving
8 at a very slower pace compared to the other teeth, so
9 they don't collide.

10 Q. Okay. So for slowing down to avoid a
11 collision, the scenario would involve two moving
12 objects; is that fair?

13 A. It's fair enough.

14 Q. Okay. Right, because if one object is
15 stationary and you just slow down the other object,
16 you're still going to collided. It's just going to
17 change the time at which the collision occurs; right?

18 MR. MCCAMMON: Object to the form.

19 A. So throughout the treatment, one object has to
20 be stationary if you are what you said throughout the
21 treatment. What -- let me rephrase it. What you said
22 to be correct one object throughout the treatment has to
23 be stationary.

24 BY MR. ROSATO:

25 Q. Right. Okay.

1 A. Throughout the treatment till the end of the
2 treatment.

3 Q. Right. And so for slowing down to avoid a
4 collision, the scenario would have to involve both
5 objects moving?

6 A. Yeah. So --

7 Q. All right. Okay.

8 And would it be fair to say if two objects are
9 moving, a collision occurs at a point of intersection;
10 is that fair?

11 A. It's not fair, no.

12 Q. Why is that not fair?

13 A. Honestly, collision can occur. Why -- it's
14 not necessarily that it will only occur at the
15 intersection; right?

16 Q. So I'm thinking in the context of two moving
17 objects, okay?

18 A. So let's put it to dental objects two teeth.

19 Q. Okay. So if two teeth are moving a collision
20 results when those two teeth intersect; is that fair?

21 A. So you are saying like this; right? Like two
22 teeth moving, you're saying like this. I'm saying
23 collision can occur here. (indicating) collision can
24 occur inside the bone too. So that's a collision too of
25 the root.

1 Q. Okay.

2 A. Of the object.

3 Q. That's fair. If you're drawing a distinction
4 between pure lateral movement of objects resulting in a
5 collision and then two elongated objects tipping in to
6 form a collision; is that right?

7 A. No. Collision can occur like this too,
8 overlapping collision. Collision can occur like this
9 too. (indicating). Collision can occur inside too. So,
10 yeah.

11 Q. Okay. I think we're on the same page. I'm
12 just trying to get at the idea of slowing down and for
13 that to avoid a collision, the scenario would be
14 involving two moving objects. And I think we're on
15 agreement on that; is that fair?

16 A. Yes.

17 Q. Okay. So would it also be fair to say that
18 speeding up movement of one of the objects could avoid a
19 collision?

20 A. So changing the pace or the rate of the
21 movement can avoid collision.

22 Q. Okay. Okay. So slowing down isn't the only
23 way to avoid the collision you would agree with that?

24 A. Yeah, I agree with that. But again, as I
25 said, we are moving the teeth within the bone; right?

1 An acceleration of the tooth is practically impossible.

2 Q. You think it's impossible to change the rate
3 at which a tooth moves?

4 MR. MCCAMMON: Object to form.

5 A. Acceleration of a tooth is practically
6 impossible.

7 BY MR. ROSATO:

8 Q. Why is that impossible?

9 A. You have to resolve the bone. Bone does not
10 resolve overnight.

11 Q. Well, okay. But you can start with one
12 scenario where you don't move at all; correct?

13 A. But then again, you are saying collision by
14 your definition you are moving two objects and now you
15 are saying one object is stationary.

16 Q. Well, what I'm trying to understand -- I think
17 you're -- yeah. You're saying that there's a point at
18 which acceleration becomes impractical?

19 A. Yeah. Again, you're -- like it's a very vague
20 term; right? When you say acceleration, again, it's a
21 very vague term. What do you mean by "acceleration"?
22 Because you're like it's not like a car accelerating;
23 right? You cannot make it from 30 to 45 miles per hour
24 in a second. This is within the bone.

25 Q. Understood. I think you referenced the rate

1 of movement -- the rate -- excuse me, the rate of
2 movement of a tooth; is that correct?

3 A. Yes, sir.

4 Q. Okay. Is it fair to say that an orthodontist
5 can move a tooth at different rates of movement?

6 A. That is correct to say.

7 Q. Okay.

8 A. Scientifically correct to say.

9 Q. Okay. So I think we're saying the same thing.
10 So avoiding a collision can be accomplished buy changing
11 the rate at which a tooth moves?

12 A. That is completely correct to say.

13 Q. Okay. And changing the rate at which a tooth
14 moves could involve slowing it down; correct?

15 A. That is completely right to say.

16 Q. And changing the rate at which a tooth moves
17 can also involve speeding it up?

18 A. That is completely right to say.

19 Q. Okay. Great. We're on the same page.

20 Is it also fair to say you could also avoid a
21 collision between two teeth by choosing not to move the
22 teeth?

23 A. But how will you achieve the final outcome if
24 you don't move the teeth?

25 Q. My question was, would that avoid a collision?

1 A. Honestly, I cannot answer it because that's
2 the wrong question. I have to achieve the final
3 outcome. If I don't move the teeth, how will I achieve
4 the final outcome?

5 Q. But would you avoid a collision?

6 A. Honestly if you're not moving a teeth, you'll
7 avoid a collision because you're not doing anything.

8 Q. Right.

9 A. Right, yeah. If you're not doing -- if you're
10 not starting a treatment obviously two teeth won't
11 collide.

12 Q. Right. And it's also true that if you
13 identify a potential movement that would result in a
14 collision and then choose not to execute that movement
15 you have avoided the collision; is that fair?

16 A. That is right.

17 Q. Okay. Let's turn to the Chishti 511 document.
18 Can you locate exhibit 1004, please?

19 A. (Complies). Let me open it.

20 REPORTER: Mike, is this another exhibit?

21 MR. ROSATO: It is. This is an exhibit that's
22 already of record.

23 REPORTER: Okay. Was that -- what -- is that
24 three?

25 A. Chishti 511; right?

1 (Exhibit No. 3 was marked.)

2 BY MR. ROSATO:

3 Q. Yes.

4 A. Yes, sir, I have that in front of me.

5 Q. Okay. Great. So just to make sure we're
6 looking at the same document, we're looking at
7 Exhibit 1004; correct?

8 A. We are looking at Patent No. U.S. 6471511B1.

9 Q. Okay, great. And it's patented Chishti, et
10 al.; correct?

11 A. Chishti, et al.

12 REPORTER: I'm sorry. What is the term?

13 MR. ROSATO: It's spelled C-H-I-S-H-T-I.

14 REPORTER: Okay. Chishti, did you say et al?

15 WITNESS: Yes, ma'am.

16 BY MR. ROSATO:

17 Q. This is referred to in your Declaration as
18 Chishti 511; correct?

19 A. Yes, sir.

20 Q. Okay. I will try to refer to it as Chishti
21 511. I may just say Chishti, but if I do we're talking
22 about Exhibit 1004 here, okay?

23 A. Sure.

24 Q. Great. And what's the title of this Chishti
25 511 patent listed on the front cover there?

1 A. Defining Moving Appliances Computationally.

2 Q. Okay. Let's turn to column 1 and look at the
3 section titled Summary of the Invention. Let me know
4 when you're there, please.

5 A. (Complies). Summary of the Invention. I am
6 there.

7 Q. Okay. And the first sentence there in that
8 section states the present invention provides methods
9 and apparatus for defining appliance configuration; do
10 you see that?

11 A. Yes, sir.

12 Q. Okay. So further down in the column starting
13 about line 59 there was a discussion of an acceptable
14 appliance design according to the invention; do you see
15 that?

16 A. 59 the invention specifies, this one?

17 Q. Yes.

18 A. Yeah.

19 Q. And it's discussing an acceptable appliance
20 design as applying an acceptable level of force, cause
21 discomfort only within acceptable bounds and achieved
22 the desired increment of two, three positioning in an
23 acceptable period of time; do you see that?

24 A. Yes, sir.

25 Q. Okay. And this is similar what -- to what you

1 were explaining to me earlier about the impracticability
2 or impossibility of moving teeth too fast in some
3 instances; right?

4 A. This is a very broad language written there.
5 So I -- it says that you move -- you reposition the
6 teeth in acceptable period of time.

7 Q. Okay.

8 A. With acceptable level of force.

9 Q. Right. And you know, acceptable level of
10 discomfort; right?

11 A. Yes, sir.

12 Q. Okay. I want to look at Chishti 511's process
13 of designing these aligners. Let's turn to column 4.

14 A. Column 4 of the same document?

15 Q. Of the same document and let's look at the
16 paragraph that start at about line 7.

17 A. Okay. Let me -- you're talking about having
18 both of beginning position?

19 Q. Correct, yeah.

20 A. Yes, sir.

21 Q. And this is similar to what you discussed
22 earlier; right? It says here, "Having both a beginning
23 position and a final position for each tooth, the
24 process next defines the tooth path for the motion of
25 the tooth"?

1 MR. MCCAMMON: Object to the form.

2 A. Yes, sir.

3 BY MR. ROSATO:

4 Q. Okay. And earlier we were talking about the
5 distinction you drew between planning the treatment and
6 then having an aligner that executes that. Do you
7 recall that?

8 A. Yeah. So we talked about planning a treatment
9 and whether the braces or aligner executes that. It's a
10 different thing. We talked about an orthodontic
11 appliances planning is different then an orthodontic
12 appliances executing is different.

13 Q. Okay. The process of planning the treatment
14 is different than the process of the -- of executing
15 with an aligner; is that fair?

16 A. It's with any orthodontic appliances,
17 planning. We can plan but what will happen we don't
18 know.

19 Q. Okay. So the execution is different than the
20 planning, is that what you're saying?

21 A. With any orthodontic appliances, executing
22 changes.

23 REPORTER: I'm sorry. With any orthodontic
24 appliances what changes?

25 WITNESS: When we are executing, execution

1 changes.

2 REPORTER: Okay.

3 BY MR. ROSATO:

4 Q. Got it. Okay. And this paragraph is talking
5 about the planning part of all of this; is that fair?

6 A. That's fair.

7 Q. Okay. Later in the paragraph it talks about
8 the tooth paths are segmented; do you see that?

9 A. Yes, sir, line 15.

10 Q. Yeah. And can you explain what that means,
11 tooth -- the tooth paths segmented?

12 A. Each -- let's put it as a dental object as I
13 have said it in my Declaration; right? Each teeth let's
14 consider it as a dental object; right? So each dental
15 object in your language took has a different path, so
16 they are segmented.

17 Q. Okay. And it states that the segments are
18 calculated so that each tooth motion within a segment
19 stays within a -- within threshold limits of linear and
20 rotational translation; do you see that?

21 A. Yeah. I see that, yeah.

22 Q. What do you understand this to mean, threshold
23 limits of linear and rotational translation?

24 A. Well, like what I understand from this is that
25 the tooth can move linearly and rotated -- rotation;

1 right? And it remains within the confines.

2 Q. Within the confines of what?

3 A. The plan of the segment.

4 Q. I see, okay. Well, in the next sentence, it
5 talks about how in doing this constitutes a clinically
6 viable reposition; do you see that?

7 A. Can you specify the line?

8 Q. Well, line 18 and 19. It says, "In this way
9 the end points of each path segment can constitute a
10 clinically viable repositioning"?

11 A. Yeah.

12 Q. Okay. So my question is, the -- does this
13 concept of threshold limits of linear and rotational
14 translation relate to what's identified as a clinically
15 viable repositioning?

16 A. Honestly, it's a very vague term. So it's a
17 vague term; right? So as I said what I understand from
18 clinically and rotational is -- sorry. Let
19 me -- translational translation and rotation is, this is
20 translation, this is rotation.

21 Q. Uh-huh.

22 A. Each segment you can only do this much.
23 (indicating).

24 Q. Why can you only do this much? (Indicating)
25 what do you mean by that?

1 A. Because of the limit for the movement.

2 Q. The limit that one aligner can accomplish?

3 A. One aligner or your segment can accomplish.

4 Q. I see, okay.

5 Explain to me what then -- what they mean by
6 "clinically viable"?

7 A. Honestly, I don't know what they mean here.
8 Clinically viable. Let me -- give me two minutes. Let
9 me just read it.

10 Q. Yeah, sure.

11 A. Sure. From what I understand is clinically
12 viable means within the clinic -- within the confines
13 and reaching the end position and avoiding collision.

14 Q. So a calculated segment that would result in a
15 collision would not be a clinically viable segment; is
16 that correct?

17 A. That's fair.

18 Q. Okay. And according to Chishti 511 here, each
19 calculated path segment represents a clinically viable
20 repositioning of a given tooth; is that fair?

21 A. It's fair as per Chishti 511.

22 Q. Okay. And in the context of Chishti 511, it's
23 describing a clinically viable repositioning as the
24 tooth's motion staying within the threshold limits of
25 linear and rotational translation and not resulting in a

1 collision; is that correct?

2 A. That is correct.

3 Q. Okay. Let's look at figure 1 of Chishti 511.

4 A. (Complies).

5 Q. Is it fair to -- let me know when you're
6 there, please.

7 A. I am there.

8 Q. Okay. Is it fair to say that the segmentation
9 planning we just talked about is represented in box 150?

10 A. 1-5 -- the planning?

11 Q. Yes.

12 A. Yes, the plan is in 150.

13 Q. Okay. Great.

14 Okay. Let's turn back to column 4 of Chishti
15 511 and we'll start at about line 51. Let me know when
16 you're there at that paragraph.

17 A. (Complies) I'm there.

18 Q. Okay. There it states the segmented tooth
19 paths are -- and associated tooth position data are used
20 to calculate clinically acceptable appliance
21 configurations that will move the teeth on the defined
22 treatment path in the steps specified by the path
23 segments. Do you see that?

24 A. I see that.

25 Q. Okay. And this goes back to the concept we

1 were discussing earlier of the distinction between
2 treatment planning and then designing an aligner to
3 execute that plan; is that fair?

4 MR. MCCAMMON: Object to form.

5 A. Yes.

6 BY MR. ROSATO:

7 Q. Okay. I'm going to flip you back to figure 1.

8 A. I'm there.

9 Q. Okay. And looking at box 170; do you see
10 that?

11 A. I see that.

12 Q. Okay. And this box corresponds to the second
13 part of what we identified and that is calculating the
14 clinically acceptable appliance; is that correct?

15 A. That is correct.

16 Q. Okay. Okay. Now let's look at column 5 of
17 Chishti 511 and starting at line 7. Let me know when
18 you're there.

19 A. (Complies) I'm there.

20 Q. Okay. It's providing a description of figure
21 2; correct?

22 A. It is.

23 Q. Okay. And it states, "Figure 2 illustrates a
24 process 200 implementing the appliance calculation step
25 figure 1 step 170." Do you see that?

1 A. Yes.

2 Q. Okay. So just linking the -- you know, this
3 sort of work flow together, Chishti 511 here is saying
4 that figure 2 is illustrating a process that provides
5 more detail on what happens in step 170 of figure 1; is
6 that fair?

7 A. Let me see figure 2 and... that is correct.

8 Q. Okay. And you're looking at figure 2. Figure
9 2 provides more detail of what happens during step 170
10 of figure 1; is that right?

11 A. That is right.

12 Q. Okay. So in column -- you can move down
13 column 5 of Chishti 511 down to about line 60 where it's
14 discussing figure 3. Let me know when you're there.

15 A. I'm there.

16 Q. Okay. And do you see where it states figure 3
17 shows a process 300 of creating a finite element model
18 that can be used to perform step 210 of process 200 of
19 figure 2?

20 A. Let me just see. I agree.

21 Q. Okay. These flow charts are sort of building
22 on each other; right?

23 A. That is correct.

24 Q. Yeah. The comment of a finite element model
25 stated there, what is a -- what is finite element? What

1 is a finite element model?

2 A. It's an engineering model.

3 Q. And what are they modeling here?

4 A. They are modeling obviously the teeth, the
5 periodontal ligament or the whole object or dental
6 apparatus.

7 Q. The appliance; correct?

8 A. They are modeling the dental object.

9 Q. What do you mean the dental object?

10 A. If you look at figure 3, 3-1-0 box.

11 REPORTER: Sorry, 3-1-0 what?

12 WITNESS: Box.

13 BY MR. ROSATO:

14 Q. Box 3-1-0, okay.

15 A. It says, "Create finite element model of
16 initial job."

17 Q. Uh-huh.

18 A. Right?

19 Q. Okay. Right. And then down in box 330, it's
20 creating a finite element model of the aligner; is that
21 correct?

22 A. That is correct.

23 Q. Okay. And then 340 it's placing the model
24 aligner on the model jaw; is that correct?

25 A. That is correct.

1 Q. Okay. And this description of column -- in
2 column 5 discussing figure 3 refers back to figure 2; is
3 that correct?

4 A. That is correct.

5 Q. Okay. Over in column 6, let's look at the
6 paragraph starting about line 38. Let me know when
7 you're there.

8 A. (Complies). I am there.

9 Q. It's describing figure 4; right?

10 A. I have -- yeah.

11 Q. Okay.

12 A. I have to go and look at it. Yes, tell me.

13 Q. Okay. So it's describing figure 4 it's
14 showing the process 400 for calculating the shape of the
15 next aligner that can be used in the aligner
16 calculations; correct?

17 A. It states that shows 400 for calculating the
18 shape of a mixed aligner.

19 Q. Okay.

20 A. It's an aligner for --

21 Q. Oh sorry, go ahead.

22 A. Yeah, that's it.

23 Q. Okay. And it refers back to the process of
24 figure 2, process 200; correct?

25 A. Steps 240 of process 200.

1 Q. Right. Now then, it moves on to figure 5, and
2 that's -- has several subparts that -- the description
3 goes on in columns 7 and 8. Do you see that?

4 A. Column 7 and 8.

5 Which line?

6 Q. So column 7, starting at line 23. Do you see
7 that?

8 A. Just give me a second. I see that.

9 Q. Okay. It's saying, "5A illustrates one
10 implementation of the step of computing an aligner
11 change"?

12 A. I see.

13 Q. Okay. Down around line 52 it's describing 5B
14 and 5C. Do you see that?

15 A. I see that.

16 Q. All right. It says, "In an alternate
17 embodiment illustrating 5B and 5C an absolute
18 configuration of the aligners computed"?

19 A. I see that.

20 Q. Okay. We will continue on to figure 6, which
21 is discussed in column 8 starting about line 22. Let me
22 know when you're there.

23 A. (Complies.) I'm there.

24 Q. Okay. And it's talking about figure 6
25 illustrating the process 200 of computing the shape of

1 an aligner. First step in the treatment plan; right?

2 A. Yes.

3 Q. And then the next paragraph it's further
4 describing figure 6 stating, "When an aligner
5 configuration has been found for each step or segment of
6 the treatment path step 604, the overall process 600
7 determines whether all the aligners are acceptable." Do
8 you see that?

9 A. I see that.

10 Q. Okay. So what's going on here if I'm
11 understanding it correctly is that Chishti 511 is saying
12 that they're first computing an aligner shape for each
13 path of the segment according to the treatment path of
14 figure 2; is that fair?

15 A. That's fair.

16 Q. Yeah. And then here in figure 6 it goes onto
17 look at all the of the aligners and determine whether
18 they're acceptable; is that correct?

19 A. That is correct.

20 Q. Okay. And at column 8, line 44, it's
21 discussing impossible movements; do you see that?

22 A. Let me reach there. Column 8, line 44. Yeah,
23 I see that.

24 Q. And that step's identified as 620; correct?

25 A. 620.

1 Q. Yeah. And then it goes on to explain that if
2 any impossible movements were required the process 600
3 proceeds to executing module that calculates the
4 configuration of a hardware attachment. Do you see
5 that?

6 A. Yeah.

7 Q. And what is a hardware attachment?

8 A. What I understand is hardware attachment is
9 anything which is attached to the teeth -- to the tooth.

10 Q. Right. And it states, "A hardware attachment
11 should be attached -- let's see, "to the subject of the
12 tooth which forces can be applied to affect their
13 required motion," rights?

14 A. That is written in Chishti 511.

15 Q. Okay. So -- just so I understand what's going
16 on here, they're -- this figure 6 is identified as an
17 impossible movement for a designed aligner; correct?

18 A. If figure 620 -- box 620 in figure 6, yes.

19 Q. Okay. And then it provides a solution in the
20 form of calculating the configuration of a hardware
21 attachment; correct?

22 A. A potential solution.

23 Q. Okay. But that's the solution that's listed
24 here; right?

25 A. Yeah, it's a potential solution.

1 Q. Okay. And look at the next paragraph where it
2 starts "If no impossible solution. No impossible
3 solutions were required." Let me when you're there.

4 A. If no impossible movements; right?

5 Q. Sorry, yes, correct. Strike my previous. It
6 starts with, "If no impossible movements were required."

7 A. Yes, sir, I'm there.

8 Q. Okay. So there it states, "If no impossible
9 movements were required, the process transfers control
10 to a path definition process such as 150 figure 1 to
11 redefine those parts of the treatment path having
12 unacceptable aligners." Right?

13 A. Just give me a second.

14 Q. Yeah.

15 A. Yeah.

16 Q. So just working through the flow here, figure
17 6 is examining the constraints of the aligner and then
18 in -- it is looking for an unacceptable aligner, and
19 that's stated in like line 38; right?

20 A. So it's looking for impossible movement,
21 right, box 620 of figure 6?

22 Q. Yes.

23 A. Yeah.

24 Q. Well, and right above that it talks
25 about -- it says first for one of the constraints on the

1 aligners is, you know, relax then the path segment with
2 the -- with an unacceptable aligner. Do you see that?

3 A. Line 38 you're talking about?

4 Q. Yeah, 38 it mentions --

5 A. Yeah, there it is.

6 Q. Okay.

7 A. Then for each box segment with an unacceptable
8 aligner.

9 Q. Right. And then it states if all the aligners
10 are acceptable, the overall process exits; right?

11 A. That is correct, you can see it through the
12 figure 6.

13 Q. Yeah. And then it goes on to discuss what
14 happens if impossible movements were required at 620;
15 correct?

16 A. Correct.

17 Q. Okay. And if there's an impossible movement,
18 it discusses calculating a hardware attachment; correct?

19 A. It does. Add hardware.

20 REPORTER: I'm sorry, did you say ad hoc?

21 WITNESS: Add hardware.

22 REPORTER: Add hardware. Thank you.

23 BY MR. ROSATO:

24 Q. And then it states if it's an unacceptable
25 aligner but no impossible movement were required, then

1 it goes on to redefine the treatment path such as in
2 step 150 of figure 1; correct?

3 A. Correct.

4 Q. All right. So it's in response to determining
5 that no impossible movement exists but it then goes on
6 to recalculate the treatment paths; right?

7 A. If, if no impossible movement exists it
8 recalculates the path.

9 Q. Got it.

10 MR. ROSATO: Okay. Let's take a break. We'll
11 go off the record.

12 (Off the record.)

13 BY MR. ROSATO:

14 Q. Can you locate in your pile there
15 Exhibit 1007? This is the Sachdeva reference.

16 A. Give me a second.

17 Q. Do you have Exhibit 1007?

18 A. Yes, sir. Patent U.S. 6250918b1.

19 (Exhibit No. 4 was marked.)

20 Q. Great. Turn to column 1 starting at about
21 line 10 where Sachdeva is discussing manipulating
22 patients' teeth using a wire and bracket appliance and
23 let me know when you're there.

24 A. Column 1, line 10. The background and
25 invention -- of the invention?

1 Q. Correct.

2 A. Yeah.

3 Q. It's discussing bracket -- excuse me, it's
4 discussing manipulating the teeth using wire and bracket
5 appliance; right?

6 A. To move the teeth.

7 Q. Right. And Sachdeva discusses brackets bonded
8 to the teeth and coupled together with an arch wire; do
9 you see that?

10 A. It says, "In general brackets are bonded to
11 the patient's teeth." Not in every case, in general.

12 Q. Uh-huh. And coupled together with an arch
13 wire.

14 A. And coupled together with an arch wire.

15 Q. Okay. And it states that this combination of
16 wire and brackets applies force to move the teeth;
17 right?

18 A. It says, "The combination of the brackets and
19 wire provide a force on the teeth causing them to move."

20 Q. And, you know, this relates back to our
21 earlier discussion when we were talking about braces;
22 right?

23 A. That's correct.

24 Q. Okay. So a few lines down at column 1, line
25 22, it discusses an orthodontist determining a

1 three-dimensional mental image of a desired physical
2 orthodontic structure of the patient. Do you see that?

3 A. Yes.

4 Q. What do you understand Sachdeva to be
5 referring to by the "desired structure"?

6 A. So if you look at it down below, it says,
7 right, which may be assisted through the use of X-rays
8 or models; right?

9 Q. Uh-huh.

10 A. And they say three-dimensional mental image
11 through models you cannot look inside the bone or the
12 teeth or the root. So with the models, you can only
13 look at it on the crown. And with the x-ray you can
14 look at the roots. So it tells you about that.

15 Q. Got it. And they refer to a desired physical
16 orthodontic structure of the patient; do you see that?

17 A. Yes.

18 Q. Okay. And you're saying that desired physical
19 orthodontic structure can be assisted with X-rays and or
20 models; correct?

21 A. That's what Sachdeva says.

22 Q. Okay. And what do they mean by the -- you
23 know, this desired physical orthodontic structure being
24 utilized by the orthodontist?

25 A. It's just the -- they want to look the

1 morphology of the tooth, the root -- position of the
2 root -- the position of the teeth within the bone.

3 Q. Okay. Does an orthodontist envisioning the
4 desired structure impact how they go about treating the
5 patient?

6 A. Sure.

7 Q. Is that the idea here, right, the orthodontist
8 is looking at the teeth and envisioning where they want
9 them to be?

10 A. Sure.

11 Q. Okay. Okay. And then a few lines down, in
12 fact, Sachdeva discusses an orthodontist using this
13 mental image together with their expertise to place
14 brackets on the teeth; right? Do you see that?

15 A. I see that.

16 Q. Okay. And earlier we talked about the
17 importance of bracket placement; right?

18 A. Correct.

19 Q. Okay. Is that what they're getting at here,
20 the orthodontist is both envisioning the desired
21 structure and then placing brackets based on that
22 desired structure?

23 A. That is correct.

24 Q. Okay. And there's a fair amount of discussion
25 of bracket placement, but over in column 2, starting

1 about line 34, Sachdeva states that "Placement of each
2 bracket on a corresponding tooth is critical." Do you
3 see that?

4 A. Just let me -- the line 34 says the --

5 Q. By placing the brackets as the focal point
6 placement of each bracket on a corresponding tooth is
7 critical?

8 A. That is right.

9 Q. Okay. We touched on this earlier but can you
10 explain why it's critical -- why bracket placement is
11 critical in orthodontist treatment?

12 A. So if you read it down.

13 Q. Uh-huh.

14 A. Line -- it says, "Each bracket includes a
15 custom sized and position wires retaining groove a
16 misplacement of a bracket by small amount can cause a
17 different force system."

18 Q. Right. So misplacing the bracket on the tooth
19 can result in an undesirable force system being applied
20 to the tooth?

21 A. Different force system.

22 Q. Different force system. And that different
23 force system might not be the force system the
24 orthodontist wants; correct?

25 A. Can be undesirable, not necessarily

1 undesirable.

2 Q. Okay. This is discussed in a little bit more
3 detail in the next page at column 2 starting about line
4 4.

5 A. Line? Line 4?

6 Q. Column 3, line 4.

7 A. Yes, sir.

8 Q. All right. It says, "A slight misplacement of
9 one bracket changes the force on multiple teeth and
10 hinders treatment."

11 A. That is right.

12 Q. Okay. And this is consistent with the
13 discussion you and I had earlier in the day; correct?

14 MR. MCCAMMON: Object to the form.

15 A. Which discussion you are referring to?

16 BY MR. ROSATO:

17 Q. Our earlier discussion about bracket
18 placement.

19 A. We discussed that bracket positioning is an
20 important part of an orthodontic treatment.

21 Q. Right. Let's turn to column 5 of Sachdeva and
22 let me know when you're there.

23 A. (Complies) I am on column 5.

24 Q. Okay. So down around line 16 and 17, it's
25 discussing an intraarch conflict. Do you see that?

1 A. Let me read it. Yes, I'm there.

2 Q. Okay. This is helping me understand the
3 terminology but what is a -- what do you mean by
4 "intraarch"?

5 A. So intraarch, it's within the arch.

6 Q. Within the same arch; right? Yeah.

7 A. Correct.

8 Q. And that's how I understood it. I think they
9 actually mixed their terminology here.

10 A. They mention both in this, yes.

11 Q. Yeah. And then in line 19, it says, "For an
12 intraarch conflict the actual position of the tooth will
13 dictate whether the upper tooth is the priority or the
14 lower tooth is the priority." Do you see that?

15 A. I see that.

16 Q. So they seem to be referring to a tooth in the
17 upper arch having a conflict with the tooth in the lower
18 arch. Can you agree with that?

19 A. It says intraarch conflict.

20 Q. All right. And it talks about upper tooth as
21 a priority and the lower tooth.

22 A. Yeah, it could be, right. Intraarch conflict
23 could be the upper tooth might have a priority to move
24 fast.

25 Q. Compared to a tooth in the lower arch?

1 A. Right. That's an intraarch because they are
2 intraarch. This is intraarch, yeah.

3 Q. Between the two different arches?

4 A. Yeah, this -- what he's saying is intraarch.

5 Q. Okay.

6 A. Correct.

7 Q. Okay. So, they're referring to teeth in the
8 two different arches, the upper arch and the lower arch?

9 A. Yeah.

10 Q. Okay. Okay. And then a few lines down,
11 Sachdeva discusses a lower tooth that protrudes and
12 blocks movement of the upper tooth. Do you see that?

13 A. I see that.

14 Q. Okay. The conflict here is that the lower
15 tooth is preventing the movement of the upper tooth; is
16 that fair?

17 A. It's fair.

18 Q. Okay. Further down Sachdeva also discusses
19 single tooth conflict. It's the column 5 about line 39.
20 Do you see that?

21 A. I see that.

22 Q. It states such a conflict arises when the
23 tooth cannot obtain its desired position due to the
24 distance of movement and treatment constraints; right?

25 A. Yeah.

1 Q. All right.

2 A. Due to the distance of the movement, and then
3 he has stated what could be the constraints.

4 Q. And what does he identify as the remedy for
5 such a single tooth conflict?

6 A. I think it's in the bigger -- let me. Bigger
7 floor, box 50.

8 Q. Extract the tooth?

9 A. That's what he stated here.

10 Q. Okay. And that's also stated in column 5 in
11 the description of figure 4; correct?

12 A. It is.

13 Q. Yeah. The process proceeds to step 50 where
14 the tooth is extracted?

15 A. Correct.

16 Q. Okay.

17 MR. ROSATO: Okay. Let's go off the record.
18 (Off the record.)

19 BY MR. ROSATO:

20 Q. Dr. Yadav, during any of the breaks that
21 occurred today, did you have any conversations with
22 counsel?

23 A. No.

24 Q. That includes the lunch break we just took?

25 A. Yeah.

1 Q. Okay. Great.

2 MR. ROSATO: Great. We really appreciate your
3 time today and we don't have any further questions.
4 Thank you.

5 MR. MCCAMMON: I just have a couple
6 questions.

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

8 BY MR. MCCAMMON:

9 Q. Dr. Yadav, do you recall earlier discussing
10 the distinction between treatment planning and executing
11 treatment on a patient?

12 A. Yes, sir.

13 Q. What were you referring to when you referred
14 to execution of patient treatment?

15 A. Execution. Treatment planning is done on the
16 software.

17 REPORTER: I'm sorry. I'm sorry, what's done
18 on the software?

19 WITNESS: Treatment planning.

20 REPORTER: Treatment planning. Okay.

21 A. Computationally. There is -- execution is
22 what's happening in the mouth.

23 MR. MCCAMMON: Thank you, Doctor. No further
24 questions.

25 REPORTER: Okay. And then, Mike, you want to

1 order and a rough draft? Excuse me. And do you want
2 the transcript as soon as possible?

3 MR. ROSATO: Well, yeah. First, are we still
4 on the record?

5 REPORTER: Yeah. Yeah.

6 MR. ROSATO: Okay. So no redirect -- recross,
7 excuse me. As far as the rough, yes, we'd like a rough.
8 But we can go off the record and talk about that.

9 REPORTER: Okay. Okay. Yeah. So I'll send
10 you a rough. And when do you need the final?

11 MR. ROSATO: I mean, no, we don't need a rush
12 on that if that's okay.

13 REPORTER: Okay. So I'll just send you the
14 rough and then --

15 MR. ROSATO: That works.

16 REPORTER: That works. And same for you,
17 Luke?

18 MR. MCCAMMON: Yes, please. Thanks.

19 REPORTER: Yeah, you're welcome.

20 (The deposition of Dr. Sumit Yadav, Ph.D, was
21 concluded at 9:20 a.m.)

22 (Signature was reserved.)
23
24
25

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 that the foregoing is a true and correct transcript of
8 my testimony contained
9 therein.

10
11 EXECUTED this _____ day of _____ 2026 at
12 _____, _____.

13
14
15 _____
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17 SUMIT YADAV
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C E R T I F I C A T E

STATE OF WASHINGTON)
COUNTY OF KING)SS.
)

I, Judith A. Robinson, Certified Court Reporter and an officer of the Court under my commission as a Notary Public, in and for the State of Washington, do hereby certify that the foregoing deposition was transcribed under my direction; that the transcript of the deposition is a full, true and correct transcript to the best of my ability; that I am neither attorney for, nor a relative or employee of any of the parties to the action or any attorney or Counsel employed by the parties hereto, nor financially interested in its outcome.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal this 18th day of January, 2026.

Judith A. Robinson

Judith A. Robinson, Notary Public
in and for the State of Washington
residing at Seattle.
My Commission expires November 4,
2028.
CCR License #2171

Reference No.: 14044905

Case: ClearCorrect Operating vs Align Technology

DECLARATION UNDER PENALTY OF PERJURY

I declare under penalty of perjury that I have read the entire transcript of my Deposition taken in the captioned matter or the same has been read to me, and the same is true and accurate, save and except for changes and/or corrections, if any, as indicated by me on the DEPOSITION ERRATA SHEET hereof, with the understanding that I offer these changes as if still under oath.

Dr. Sumit Yadav Ph.D.

NOTARIZATION OF CHANGES

(If Required)

Subscribed and sworn to on the _____ day of

_____, 20____ before me,

(Notary Sign)_____

(Print Name) _____ Notary Public,

in and for the State of _____

Reference No.: 14044905
Case: ClearCorrect Operating vs Align Technology

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Dr. Sumit Yadav Ph.D.

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Dr. Sumit Yadav Ph.D.