IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

ALIGN TECHNOLOGY, INC. *
*
VS. *
*
CLEARCORRECT OPERATING, LLC, ET AL. *

June 30, 2026

* CIVIL ACTION NO. 6:24-CV-187

BEFORE THE HONORABLE ALAN D ALBRIGHT
JURY TRIAL PROCEEDINGS
Volume 5 of 7

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ALIGN – EXHIBIT 2045
ClearCorrect Operating, LLC. v. Align Technology, Inc. IPR2025-00820

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Proceedings recorded by mechanical stenography, transcript produced by computer-aided transcription.

09:03

09:03 (Hearing begins.)

09:06 THE BAILIFF: All rise.

09:06 THE COURT: Please remain standing for the jury.

09:06 (Jury entered the courtroom.)

09:06 THE COURT: Thank you. You may be seated.

09:06 DIRECT EXAMINATION CONTINUED

09:06 BY MR. HIRSCH:

09:06 Q. Good morning, Dr. Perryman.

09:06 A. Good morning.

09:06 Q. Now, sir, when we were speaking yesterday, you had just told us about the -- each of the steps that you undertook to perform your antitrust analysis, correct?

09:06 A. Yes, sir. That's correct.

09:07 Q. I want to start right where we left off.

09:07 MR. HIRSCH: If we could pull up DDX-8.9.

BY MR. HIRSCH:

09:07 Q. And you told us, Dr. Perryman, that the first step in your analysis was to determine what the relevant antitrust market is; is that correct?

09:07 A. Yes, sir. That's correct.

09:07 Q. All right. First, sir, why is that the first step of the analysis?

09:07 A. Well, we're going to be evaluating whether or not Align has market power in a market, and so the first thing we have to do is figure out what market are we talking about. And in antitrust, market has a little bit different meaning than we all use it, man on the street, so to speak, having to do with whether or not there are reasonable alternatives to the product at issue.

09:07 Q. So let's talk about that, that special meaning. How do we define the market for purposes of the antitrust analysis?

09:07 A. Well, for the antitrust analysis, we're defining the relevant market to be a market in which basically there's the product and all the reasonably interchangeable substitutes for the product, in other words, things that you might buy if the price -- that a significant number of people might buy if the price changed.

09:08 Q. So why don't we take an example, Dr. Perryman, and specifically a car dealership.

09:08 A. Yes, sir.

09:08 Q. And let's imagine a car dealership that sells all different types of vehicles, so sedans, pickup trucks, and sports cars, for instance.

09:08 A. Yes, sir.

09:08 Q. First, in that car dealership, how, if at all, does it mean that all the cars are in the same antitrust market simply because they're sold by the same dealership?

09:08 A. Oh, it doesn't mean that at all. It's very common for car dealerships to have all sorts of cars there, but a person that comes in wanting a pickup is probably not going to end up buying a sports car.

09:09 Q. So let's talk about how we would define -- using this example --

09:09 A. Yes, sir.

09:09 Q. -- how we would define the relevant market.

09:09 When we're doing this analysis, the special antitrust market analysis, how many types of products do we start the analysis with?

09:09 A. Well, we start with the smallest unit that we have, and then we see if that's big enough or if we need to expand it out until we get to the point if there -- if things are not substitutes.

09:09 Q. So in our example, let's start with a single model pickup, so a Ford F-150, for example.

09:09 A. Yes, sir.

09:09 Q. Is that by itself a relevant antitrust market?

09:09 A. No, sir. It would not be.

09:09 Q. And tell us why.

09:09 A. Well, if you think about it, if Ford were to suddenly raise their price for the F-150 and it became more expensive, you'd have the option of buying a Dodge Ram or Toyota Tundra or a GMC or some other brand that would serve the same purpose as the F-150.

09:10 Q. So in our example of the car dealership, what would the relevant antitrust market be?

09:10 A. Well, in that case it would be pickups, basically, because normally when people want that, they need to haul stuff or they're out in the country a lot or they -- they're hunters, whatever, but for whatever reason they need that type of vehicle.

09:10 Q. And why do we include all the different models of pickup trucks?

09:10 A. Well, because they're reasonably interchangeable. That is, if one of them costs too much, if one of them raise their price, you have the option of buying the other one. It would still serve the same purpose for you.

09:10 Q. And we said there are other types of cars, like sports cars, for example --

09:10 A. Yes, sir.

09:10 Q. -- at this dealership?

09:10 A. Yes, sir.

09:10 Q. Why don't we include the other types of cars

that are sold?

A. Well, they're not reasonable substitutes. If you're looking for a pickup and you go and you start shopping for a pickup, you're probably not going to end up with a sedan or a sports car because that doesn't meet your needs.

Q. All right. So if we recap, sir, why isn't the relevant antitrust market just a single model of pickup?

A. Well, that would be too narrow.

Q. And why, on the other hand, isn't the relevant antitrust market the entire fleet of cars sold by the dealer?

A. Well, that would be too broad.

Q. So what is the relevant antitrust market in our example?

A. Well, in this case the relevant market would be pickups.

Q. So now let's apply that analysis, Dr. Perryman, to the facts that we're dealing with in this case. All right?

A. Yes, sir.

Q. In our case, what is the relevant antitrust market?

A. Doctor-directed clear aligners.

09:11 Q. And what are doctor-directed clear aligners?
09:11 A. You have heard a lot about those. Those are
09:12 the aligners where you see a dentist or an orthodontist
09:12 and they prescribe a treatment plan for you and oversee
09:12 that plan to completion.
09:12 Q. And why isn't the relevant antitrust
09:12 analysis -- relevant antitrust market, excuse me, just
09:12 one type of aligner brand?
09:12 A. Well, obviously, these aligners all do
09:12 basically the same thing in basically the same way. So
09:12 if one of them were to raise their price a lot, then
09:12 you would expect in a competitive market that there
09:12 would -- that people would substitute into other
09:12 products.
09:12 Q. Now, Dr. Perryman, you understand that Align
09:12 contends that braces should be part of the market,
09:12 correct?
09:12 A. Yes, sir. I do.
09:12 Q. What is -- what are metal braces like, in your
09:12 car analogy?
09:12 A. Well, they're more like the sedan or the
09:12 sports car. They're -- they'll get -- like those
09:12 things will get you from Point A to Point B. Braces
09:13 will straighten your teeth, but they do it in a
09:13 different way and for a different group of consumers.

09:13 Q. All right. So let's talk about braces a little bit more.

You heard Dr. Taylor's testimony yesterday?

A. Yes, sir. I did.

Q. And based on that testimony and the other evidence that you've reviewed, sir, what are some of the primary differences between clear aligners and braces that are relevant to your analysis?

A. Well, one of them is that obviously the aligners are transparent. You can't see them. Braces are not. The aligners are removable and the braces are not.

Some of the other witnesses have testified about how you can have emergency with braces. In fact, I had one when I was a teenager. And that -- that's not the case with aligners. And then also that braces can cause damage to your teeth.

So there's some basic differences there. And what that basically means is people are unlikely to switch from aligners back to braces. It's a thing we call one-way substitution.

A few years ago -- or probably a number of years ago, but most of us I think were there when we switched from when you're out on the road and you need to make a phone call, you used to have to find a pay

phone. We all switched to cell phones. But nobody's switching back to pay phones if the price of a cell phone goes up.

So it's a similar situation. You have people -- the market moving from braces to aligners, but you don't see people going the other direction.

Q. So what does that indicate as to whether braces are in the relevant antitrust market?

A. It would indicate that they are not.

Q. Let's talk quickly about the customers of these different products.

A. Yes, sir.

Q. What percentage of doctor -- of the doctor-directed clear aligner market is adults?

A. About 75 percent.

Q. And you heard the interviews -- the videos of the interviews of Joe Hogan, the Align CEO, yesterday?

A. Yes, sir. I did.

Q. And what did Mr. Hogan say about the customers of aligners?

A. Well, I thought he said it very well. Basically, that they brought adults into the teeth-straightening market, that most adults were not willing to do braces, but they opened up a whole new market.

09:15 Q. All right. And we saw this with Mr. Miller
09:15 yesterday, but if we go to 8.22, what analogy did Align
09:15 use to compare braces to clear aligners?
09:15 A. Well, they were talking about digital braces,
09:15 which was an advancement making braces better, and the
09:15 description was that that was like better feed for
09:15 horses, whereas the aligners were cars.
09:15 Q. And how are horses and cars in the same
09:15 antitrust market?
09:15 A. Well, they're not. Again, they'll both
09:16 basically get you from Point A to Point B eventually,
09:16 but clearly you don't substitute a horse for a car, at
09:16 least not very many people would.
09:16 Q. And ultimately, Dr. Perryman, what did
09:16 Mr. Hogan say in that video that we saw yesterday about
09:16 the market for clear aligners?
09:16 A. He basically said that Invisalign had created
09:16 a new market for clear aligners that was its own
09:16 market.
09:16 Q. Now, there's also been some discussion of
09:16 direct-to-consumer aligners. You've heard that during
09:16 this trial?
09:16 A. Yes, sir.
09:16 Q. What are direct-to-consumer aligners?
09:16 A. Direct-to-consumer -- and I think you heard

about this before. But direct to consumer is where a doctor's not involved. You make an impression of your teeth. You send it in. They send you back the aligners, and there's never a doctor involved in the process.

Q. Are direct-to-consumer aligners in the relevant antitrust market?

A. No, sir. They're not.

Q. Why not?

A. Well, primarily because, again, most people who want to have this treatment want to have a physician do it and want to have a physician oversee it.

Those -- those products can't do as many cases. They do different types of cases, use a different approach, and also have some safety concerns associated with them.

Q. What's the status of the direct-to-consumer market right now?

A. Well, I think Mr. Hogan said it very well on one of those videos. It blew itself up. I mean, basically the -- most of the companies that were in that market are no longer in that market. It's very, very small and disappearing.

Q. So what impact, if any, does the

09:17 direct-to-consumer market have on Align's market share or market power?

A. Basically none.

MR. TUBACH: Objection, Your Honor.

May we approach?

THE COURT: Sure.

(Bench conference.)

09:18 MR. TUBACH: Your Honor, Dr. Perryman is now about to offer an opinion about market power, including doctor direct -- the DTC, the direct-to-consumers. He's offered no such opinion whatsoever in his report. There's no opinion in his report where he says that the larger market includes it.

MR. HIRSCH: He says in his report, Paragraph 76 at Note 176, that the direct-to-consumer companies have not sustained any commercial presence and did not constrain Align. That's exactly what he's saying.

09:18 MR. TUBACH: He's just quoting from something that Joe Hogan said. It's not an opinion he's offered in any way, shape, or form. This is critical, Your Honor.

09:18 THE COURT: Stop. If it's in there, he's going to say exactly what's in there.

09:18 MR. HIRSCH: That's the last question I'm going to ask him about it.

09:18 THE COURT: The objection is overruled.

09:18 MR. HIRSCH: Thank you, Your Honor.

09:18 (Bench conference concludes.)

09:19 BY MR. HIRSCH:

09:19 Q. Dr. Perryman, you told us yesterday you're an economist, right?

09:19 A. Yes, sir. I am.

09:19 Q. And you run economic modeling; is that correct?

09:19 A. Yes, sir. I do.

09:19 Q. Did you perform a quantitative analysis in this case to define the relevant antitrust market?

09:19 A. Yes, sir. I did.

09:19 Q. What specific analysis did you perform?

09:19 A. Well, it's an analysis that the justice department and the Federal Trade Commission have told us is the proper way to define a market in the United States. It's called a hypothetical monopolist test.

09:19 Q. What is the hypothetical monopolist test?

09:19 A. Well, basically it creates a hypothetical world much like you saw one back when we were talking about patents a while back. It creates a hypothetical world in which it says that what if you had just one

company producing the product that you're interested in and they raise their prices 5 percent, would they make money from that or would so many people buy something else that they wouldn't make money?

Q. And why were you looking at a 5 percentage price increase in particular?

A. Well, again, what the justice department and the Federal Trade Commission had told us is that you want to look at a small but significant increase that's around for a while, and they've determined that 5 percent is the appropriate benchmark.

Q. So in this -- in this test, if prices increase by 5 percent and customers switch to buy something else, what does that indicate as to what the relevant antitrust market is?

A. Well, it basically tells me that that something else is a part of the market because buyers see it as something they can substitute.

Q. And if customers, on the other hand, accept that 5 percent increase and don't buy something else, what does that indicate as to the relevant antitrust market?

A. Well, if they don't lose enough sales to offset the price increase and they make more money, then that tells us that's the appropriate market.

We've defined the market that has the products in it that are reasonably interchangeable.

Q. All right. So if we go back to your example with the cars and the pickups.

A. Yes, sir.

Q. And we do the hypothetical monopolist test starting with just one type of pickup truck.

And the question again, sir, the question is what's the relevant antitrust market, right?

A. Yes, sir.

Q. So if we have one type of pickup truck and the price increases by 5 percent, what happens?

A. Well, what would happen is that company would tend to lose money because people could buy other trucks that were less expensive.

Q. So is that one type of truck the relevant antitrust market?

A. No, sir. It's not.

Q. Now, if we expand to include all the different models of pickup trucks and then the price increases by 5 percent, what happens?

A. Right. If you make that one market, one supplier and the price goes up on all of them by 5 percent, then there's not anything that would substitute enough to offset that. So they would

09:22 actually accept the price increase, and that would be
09:22 the relevant market.
09:22 Q. All right. So now let's turn to the test that
09:22 you performed with the data that you looked at.
09:22 You have that in mind?
09:22 A. Yes, sir.
09:22 Q. What products did you include in your
09:22 hypothetical monopolist test?
09:22 A. Well, the product I include in the
09:22 hypothetical monopolist test, you always start with the
09:22 smaller one and see if -- see if there's any
09:22 substitutes.
09:22 So I started with a single monopolist company
09:22 that was producing doctor-directed clear aligners.
09:22 Q. And, now, this is -- this is referring to a
09:22 single hypothetical monopolist?
09:22 A. Yes, sir.
09:22 Q. Why do you analyze each of these different
09:23 products as if they were sold by one company?
09:23 A. Well, that's what the test consists of. We're
09:23 not modeling companies. We're modeling a product to
09:23 see what the product market is. And so basically the
09:23 product is doctor-directed clear aligners, so we had to
09:23 add up all the data we could find to define the size of
09:23 that market.

09:23 And the companies that -- obviously Invisalign and ClearCorrect, a couple of other companies, were willing to share their data. And we ended up with about 95 percent of all the data for the market.

Q. What time frame did you look at?

A. For this we looked from July of 2020 through August of 2024.

Q. All right. And using all this data, what did you -- what did you calculate first?

A. Well, the first thing we calculated is what we call the break-even point.

Q. And what's that?

A. Well, again, we're going to see if you increase the price by 5 percent, are they going to make money or are they going to lose money. And at some point it's just a wash. And that wash is the break-even point which will tell us if we're -- if you lose more sales than that, you're going to lose money. If you lose fewer sales than that, you're going to make money.

Q. And what'd you find the break-even point to be?

A. Well, I did it a couple different ways basically. I don't want to get into the weeds here. But one way, assuming that demand was linear, one that

was curved, and basically the break-even point was 1.2 to 1.3.

And what that means is if a price went up 1 percent and your sales went down 1.2 to 1.3 percent, you would -- you would just break even. Less than that, you would make money. More than that, you would lose money.

Q. What was the next step in your calculation?

A. Well, the next step is that we have to actually determine what the coefficient, the same elasticity that -- relative to the break-even point, what that is for the -- for this hypothetical market that's clear aligners.

Q. And you refer to a regression here?

A. Yes, sir.

Q. What's a regression?

A. Well, regression is a statistical tool. It's been around well over a century. It's used thousands of times every day in many fields. Basically that shows us the relationship that a group of variables has to a single variable that you're trying to explain.

Q. And how widely are regression analyses used in these types of market analysis?

A. Almost every one. In modern times it's done this way.

09:25 Q. Now, do regressions involve the use of mathematical variables?
09:25 A. Yes, sir. They do.
09:25 Q. What types of variables did you use in the regression that you did here?
09:25 A. Well, I used a lot of variables to control for other factors. But the specific variable you have to use in this type of regression is called an instrumental variable.
09:25 Q. What is an instrumental variable?
09:25 A. Well, an instrumental variable is one that will let me separate out the impact that price is having on quantity without -- without it going the other direction, with the quantity impacting price.
09:26 Q. And what specific instrumental variable did you use?
09:26 A. What I used was a 90-day moving average of the discounts that are offered on scanners, on the iTero scanner because it had the properties that I needed for this analysis.
09:26 Q. All right. And what was the result when you performed this regression analysis?
09:26 A. Well, after we did a number of tests to make sure that this instrumental variable was proper and met all the proper specifications, we actually did the test

09:26 itself. And we found out that the actual coefficient there or elasticity was .83.

Q. And how does the result of your regression calculation compare to that break-even point that you told us about?

A. Well, it's substantially lower. Remember, the break-even point was about 1.2 to 1.3. The calculated elasticity for this market was .83. And what that means is they raise their price, they don't lose very many sales. And so they actually make money by raising their price, which means we've appropriately defined the market.

Q. All right. So let's go back, sir, to your vehicle example one last time.

A. Yes, sir.

Q. And let's see how it applies to the aligners you looked at.

A. Yes, sir.

Q. If we look at a single type of pickup truck and a single aligner, are those the correct markets for the antitrust analysis?

A. No, sir. That would be too narrow.

Q. And if we go the other way and we add all the cars on the lot and we add aligners and braces, how is that the correct market for the antitrust analysis?

09:27 A. That would be too broad.
09:27 Q. But if we pick all the pickup trucks and just all clear aligners but not braces, how is that the relevant antitrust markets?
09:27 A. Well, that's where you've hit kind of the Goldilocks spot or the sweet spot. That's where the -- this analysis and all the other evidence has demonstrated that's the appropriate market.
09:28 Q. All right. Now, sir, during opening statements, you saw Align pull up a slide with one of their experts and how he defines the relevant market.
09:28 A. Yes, sir. I did.
09:28 Q. Do you agree that this is the correct definition to use to define the antitrust market?
09:28 A. No, sir. I don't.
09:28 Q. And tell us why.
09:28 A. Well, basically, it's not the definition that's used in the guidelines from the government, but even if you take it on its face, they don't do a similar thing in terms of the way they do it.
09:28 The customer bases are different, they certainly do it in a different way, and I haven't seen any evidence that the prices for a single patient that has a particular problem are similar in any way as well. So it's simply -- even by that definition would

not meet the criteria.

Q. All right. So considering all the evidence that you considered, sir --

A. Yes, sir.

Q. -- the evidence about the differences between aligners and braces, the regression that you performed, the video we saw from Mr. Hogan, what's your conclusion as to what the relevant antitrust market is in this case?

A. Well, the relevant antitrust market is very clearly doctor-directed clear aligners.

Q. All right. So we've talked about the market.

What was the next step in your analysis?

A. Well, the next step was to look at does Align possess monopoly power in that market.

Q. And you mentioned this yesterday, but briefly remind us. When we talk about monopoly power, what does that mean?

A. Well, when you have monopoly power, basically you have the ability to raise prices, like we just talked about, and still make a profit, or to exclude new people from coming in the market or make it very difficult for them to expand to a reasonable scale.

Q. Now, if we go back to the market share that you discussed with us yesterday --

09:30 A. Yes, sir.
09:30 Q. -- can you remind us of Align's share of the clear aligner market over the period you considered?
09:30 A. Yes, sir. It's changed a little bit over time, but it's been anywhere from 84 to 92 percent of the market.
09:30 Q. And what does that market share that you calculated indicate as to whether Align has monopoly power?
09:30 A. Well, obviously that's a very high share. The standard that is normally applied is somewhere between 60 and 70 percent. Anything above that is considered to be -- to have an excess market share, a market share that's indicative of market power.
09:30 Q. And what has Align itself said about its share of the market?
09:30 A. Well, Mr. Hogan has said in this e-mail here, I think you've seen before, that Align has a huge share of the market.
09:30 Q. Now, you referred a couple moments ago, sir, to preventing others from entering the market?
09:31 A. Yes, sir.
09:31 Q. What does it mean to prevent other competitors from entering the market?
09:31 A. Well, they're called barriers to entry or

09:31 expansion. That means that there are things out there
09:31 that make it where it's not easy for somebody else to
09:31 enter the market.
09:31 Simple example -- I guess a little weird maybe
09:31 what just popped in my head -- if I had the only hotdog
09:31 stand in Waco and if you wanted to get a hotdog, you
09:31 had to come see me. If there weren't any barriers to
09:31 entry, if I started charging too much for my hotdogs or
09:31 if I started -- started skimping on the quality or the
09:31 quantity in my hotdogs, other people would just come in
09:31 and open a hotdog stand and take my business away.
09:31 So it's not only high market share. It's also
09:31 those things that prevent people from coming into the
09:31 market.
09:31 Q. And did you look at whether in the market in
09:31 this case there are barriers to entry?
09:31 A. Yes, sir. I did.
09:31 Q. What'd you find?
09:31 A. Well, there are a number of them. I think
09:32 you've heard about some. I mean, you have to have the
09:32 capital manufacturing capabilities, the ability to do
09:32 research and development, resources for marketing, that
09:32 sort of thing. So you have those types of things that
09:32 would be somewhat natural barriers.
09:32 And then you also have a number of things that

have been -- the conduct that's happened that we'll talk about later that have also posed substantial additional barriers.

Q. So all told, sir, what did you conclude as to whether Align has monopoly power in the doctor-directed clear aligner market?

A. Well, they have a market share that every year is well above the threshold, and they have -- and there are substantial barriers. So indeed they do have monopoly power.

Q. All right. Now, the next thing that you said you did in your analysis was to look at whether Align engaged in anticompetitive conduct?

A. Yes, sir.

Q. What is anticompetitive conduct from an economic perspective?

A. Well, what we're talking about, when we talk about anticompetitive conduct, is anything that distorts the market, it makes it come out in ways it wouldn't happen if you had fair competition, anything that impedes or impairs competition from happening, and then anything that forecloses or shuts off a substantial part of the market to other competitors.

Q. So I want to, Dr. Perryman, go back in time briefly, back to the 2013 time period.

09:33 A. Yes, sir.
09:33 Q. What did Align say about the state of competition at that time?
09:33 A. Well, at that time, Align folks were suggesting that they expected to have some serious competition in three to five years.
09:33 Q. And were they correct?
09:33 A. Yes, sir. They were. Beginning around 2017, 2018, a number of companies began to try to enter the market and try to be successful.
09:33 Q. All right. So let's see what Align did when that competition actually came.
09:34 You've heard discussion in this case about Align's moat, right?
09:34 A. I have. Yes, sir.
09:34 Q. What conclusion did you reach as to whether Align engaged in any competitive conduct by building a moat around Invisalign using the iTero?
09:34 A. I came to the conclusion that that is -- that is exactly what they did.
09:34 Q. All right. So we'll walk through this step-by-step, but can you first give us a high-level overview of how Align engaged in anticompetitive conduct?
09:34 A. Sure. The first thing they did was they

changed their policies to where in the United States, you had to buy an iTero to do Invisalign. So if you're a doctor and you want to provide the service and you -- you know, everybody's moving away from PVS -- you want to provide the service of offering aligners. And a lot of people know about the company, it has 85 or 90 percent of the market. If you want to sell that particular aligner, you have to buy an Invisalign. So that was the first step.

And the second step would be that once -- once you got in that situation, you had your iTero, it was very difficult to do anything else. It imposed some barriers. We sometimes call it choice friction in economics. Makes it more difficult to make a different choice.

Q. So how do those two steps, sir -- if we go to the next slide, how do those two steps create an anticompetitive conduct situation?

A. Well, basically, you have the doctor and if they want to sell Invisalign and don't want to use the putty, they basically have to buy an iTero.

Once they buy the iTero, it's very difficult to do anything but Invisalign. So you just kind of start this circle, going -- buy the iTero, use Invisalign and so forth, and you end up being able to

09:35 sustain this very high market share.
09:35 Q. All right. I want to focus on the first
09:36 piece.
09:36 A. Yes, sir.
09:36 Q. You said that doctors must buy iTero to use
09:36 Invisalign.
09:36 A. Yes, sir.
09:36 Q. And I want to pause for a moment to talk about
09:36 PVS that we've heard about during this trial, right?
09:36 A. Yes, sir.
09:36 Q. And Align has suggested that doctors could use
09:36 PVS instead of buying a scanner like iTero, right, sir?
09:36 A. Yes, sir. They have.
09:36 Q. You heard Dr. Taylor's testimony, right?
09:36 A. I did. Yes, sir.
09:36 Q. And his testimony regarding the cost of using
09:36 PVS rather than a scanner?
09:36 A. Yes, sir. The cost and the inconvenience.
09:36 Yes, sir.
09:36 Q. And did you analyze the portion of Invisalign
09:36 cases that use iTero as opposed to PVS?
09:36 A. Yes, sir. I did.
09:36 Q. And when you did that analysis, what'd you
09:36 find?
09:36 A. Well, basically, I've got a graph here kind of

showing what it looked like, going all the way back to 2014. And back then, before scanners really caught on, almost everybody used the PVS. That's the kind of yellow line. And then as scanners came on, people began to move to the scanner. And as of now, about 95 percent of Invisalign's orders come through the iTero.

Q. Now, how much do scanners cost on average?

A. The iTero cost, depending on the model and everything, somewhere between 34- and $43,000.

Q. So from an economic standpoint, how practical is it for a doctor to buy more than one type of scanner?

A. Well, obviously, that would be a substantial investment, to buy more than one type of scanner. To even need more than one scanner, you'd need a lot of volume. And if you had to buy more than one, you'd probably buy another iTero, because as Dr. Taylor told us yesterday, having to train people on two different approaches and two different machines and that sort of thing would become very difficult and risky in the office as well.

So, in essence, most doctors that are -- or all doctors that want to sell Invisalign are probably going to end up with just an iTero.

09:38 Q. So if a doctor wants to buy a scanner, why do you say they need to buy an iTero to use Invisalign?

09:38 A. Well, that's the only way that you're allowed to sell the product that's 85 to 90 percent of the market is to have this particular scanner.

09:38 Q. And when did Align start that policy?

09:38 A. In 2018.

09:38 Q. In 2018, what was the state of competition in the clear aligner market?

09:38 A. Well, the state of competition was that you had a number of companies that were coming in -- coming in and trying to enter the market. None of them were able to do it profitably, but you had a lot of companies coming in and trying to get into the market at that point in time.

09:38 Q. And before that period, before folks were trying to come into the market, what scanners could Invisalign customers use?

09:39 A. Well, they could use a number of scanners at that point in time.

09:39 Q. More than just iTero?

09:39 A. Yes, sir.

09:39 Q. And then as Align saw the competition coming, what did it do?

09:39 A. Once -- at that point in time, it made a

09:39 policy that it would only accept scans from the iTero.
09:39 Q. And what, sir, have we seen Align itself
09:39 saying about whether other scanners other than iTero
09:39 could be used by Invisalign customers?
09:39 A. Well, it's pretty clear. It says if you want
09:39 to do Invisalign, you're forced to buy the iTero and
09:39 live with it.
09:39 And then also in -- another correspondence
09:39 said they want to do Invisalign and not use physical
09:39 impression, which is PVS, so they buy the iTero
09:39 scanner.
09:39 Q. What other clear aligner companies other than
09:39 Align have this type of policy limiting customers to
09:39 just one scanner?
09:40 A. Oh, none of the other companies do that.
09:40 Align's the only one. The industry standard is that
09:40 everything's open.
09:40 Q. All right. So Invisalign customers need a
09:40 scanner, and they have to buy the iTero. What do you
09:40 mean that iTero impairs choice in clear aligners?
09:40 A. Well, what they do is they make it very easy
09:40 to submit -- and Dr. Taylor talked about this at some
09:40 length yesterday and kind of walked through the
09:40 process. But they made it very easy to use it with
09:40 Align Invisalign and very difficult to use it with any

other brand.

Q. And you mentioned this, sir, but we heard Dr. Taylor yesterday explain that customers need just a few steps to use iTero with Invisalign, right?

A. Correct. Yes, sir.

Q. And then he explained how that compares to the number of steps that customers would need to use iTero with other aligners, correct?

A. Yes, sir. That's correct. And he -- the diagram's up here again, but he walked through all these steps step-by-step.

Q. And what did Align say about this process of trying to use iTero with other aligners?

A. Well, in some of the documents that -- that we've been able to review, one statement was while customers could potentially use iTero for submitting a scan to any company today, the workflow is not simple. And we would, of course, not support it or facilitate it.

Q. What evidence, Dr. Perryman, have you seen that Align could have made this process easier, made the process of using iTero with other -- other aligners easier?

A. Well, they -- they do it with their own, for one thing. They do it with restorative dentistry.

Other types of scans, they make it easy. All the other companies make it easy. So there's -- there's no reason that it couldn't be done.

Q. And ultimately what did Align say as to whether doctors would use the iTero with other clear aligners as a routine part of their business?

A. Well, again, in another internal e-mail, they said that the process is highly manual and time consuming and thus will never be widely adopted.

Q. Now, are you aware of Align conducting any analyses to determine the percentage of doctors that actually do use iTero to export scans to other companies?

A. Yes, sir. I am.

Q. And when Align looked at that, what did they find?

A. Well, what they found was that one-half of 1 percent of doctors will -- are actually using this globally and in the United States to export their files. So one out of every 200 doctors are using it.

Q. So even according to Align, what choice does an iTero customer have for a clear aligner to buy?

A. Well, realistically, and Dr. Taylor talked about chair time and that sort of thing, not much of a choice. Internally they've said an iTero customer is a

09:43 locked-in Invisalign customer and that we should be
09:43 locking in every Invisalign customer into iTero now.
09:43 Q. And how is that type of conduct
09:43 anticompetitive?
09:43 A. Well, it causes the market to be foreclosed,
09:43 creates this thing we called choice friction, which
09:43 makes it much harder to make a choice.
09:43 So they've put -- they basically created a
09:43 situation where anyone that wants to supply the
09:43 market-dominant product has to have this scanner. And
09:43 if you have this scanner, it's going to be very, very
09:43 difficult to do anything else. So it shuts off some of
09:43 the market.
09:43 Q. And to be clear, Dr. Perryman, are you saying
09:43 that no ClearCorrect customers use iTero?
09:43 A. Oh, no. There are a few. Just like this we
09:43 just saw, one out of every 200 dentists does use it
09:44 for -- to at least do some scans other than Invisalign.
09:44 Q. And we saw a document during Ms. Sterling's
09:44 testimony with the number of scans from various
09:44 scanners.
09:44 Do you recall this?
09:44 A. Yes, sir. I do.
09:44 Q. And Align argued that this shows that there
09:44 were thousands of scans that ClearCorrect customers got

09:44 from iTero, correct?
09:44 A. Yes, sir. There were a few thousand every
09:44 year.
09:44 Q. And how do you respond, sir?
09:44 A. Well, there -- there were a few thousand every
09:44 year out of a total of 1.5 million over the same time
09:44 period. So only about 3.3 percent of the scans that
09:44 are -- of the sales that ClearCorrect had cases were
09:44 through the iTero -- or I'm -- yeah, through the iTero.
09:44 Q. And how does the number of ClearCorrect orders
09:44 that came through iTero compare to the number of
09:44 Invisalign orders that came through the iTero?
09:44 A. Well, it's not much of a comparison. The
09:45 green line you see down here at the bottom would
09:45 represent on this particular scale the few -- the few
09:45 that ClearCorrect got, while at least for the last
09:45 several years, Invisalign's been getting over a million
09:45 every year.
09:45 So it's well over a million compared to just a
09:45 few thousand.
09:45 Q. Now, you said that 3.3 percent of ClearCorrect
09:45 orders come from iTero?
09:45 A. Yes, sir.
09:45 Q. What percentage of total clear aligner
09:45 revenues in the U.S. market come through iTero?

09:45 A. About 76 percent at this point.
09:45 Q. Now, Align has argued that the iTero is an open system, right, sir?
09:45 A. I heard them say that. Yes, sir.
09:45 Q. If the iTero were really an open system and there were no impediments to using it with other clear aligners, what would you expect to see in terms of the percentage of iTero orders that ClearCorrect receives?
09:45 A. Well, it should -- ClearCorrect's order should also be getting up pretty close to 70 percent or a little more. Certainly a lot more than 3.3 percent.
09:46 Q. Let's take an example, Dr. Perryman. If we consider traffic in a road.
09:46 A. Yes, sir.
09:46 Q. There's three lanes, and let's imagine no impediments. What would we expect to see in terms of the percentage of cars going through each toll booth on each of those lanes?
09:46 A. Well, assuming they all use a toll tag and it's easy to go through there, you would expect to see about the same number going through each -- each lane.
09:46 Q. But now let's imagine that in the middle lane, instead of having a lane that you can go through with a pass, they only take cash. Okay?
09:46 A. Yes, sir.

09:46 Q. And let's imagine that in that middle lane, it's not the same percentage of cars going through, but it's much, much less, like 3 percent of the traffic going through that middle lane.

09:46 A. Yes, sir. If that was the type of thing you'd have to stop and get your wallet out and do all that, obviously it's going to slow down considerably. That's the type of impediment situation we're talking about here.

09:47 Q. And tell us more. How does that apply to what we see with the percentage of ClearCorrect orders coming through iTero?

09:47 A. Well, we see -- as Dr. Taylor told us yesterday, we see the very easy way, just a couple of clicks, that you can send the Align. That's like the toll lanes that take the toll tag.

And then you've got this one that's very cumbersome and complex which would be analogous to the one where you have to stop and take out your money and make change and all that sort of thing.

And so it just -- it illustrates that when you have these technical impediments, that you make it much more difficult and you begin to foreclose some of the market and create this choice friction.

09:47 Q. All right. Now, Dr. Perryman, did you also

perform any statistical analyses to determine whether Align's iTero policies actually cause doctors to buy Invisalign as opposed to a competitive aligner?

A. Yes, sir. I did.

Q. What analysis did you do there?

A. Well, it's something we call an event study. And it's -- again uses regression. It's a little more complicated than the last one.

But you look at what impact one event has on other types of activity. In this case, the one event would be the purchase of an iTero scanner.

Q. And if we go to 8.56, you said you looked at the purchase of an iTero scanner?

A. Yes, sir.

Q. And why did you use that as the event in your event study?

A. Well, I want to see what impact that's having on the marketplace. So I was able to get a lot of data. I found doctors that prior to buying the iTero were using both ClearCorrect and Invisalign.

They may have been using others too. We only had this granular data for ClearCorrect and Invisalign, but they were using both. They'd buy the iTero, and then what happens to their usage afterwards.

Q. And you mentioned you looked at doctors that

had previously purchased iTero -- I'm sorry, from Align and ClearCorrect?

A. Yes, sir.

Q. Why'd you look at that group of doctors?

A. Well, that gave me kind of a control group to analyze. In other words, they certainly had no objection to using ClearCorrect. They had been using ClearCorrect.

And then -- then I have the event that we're analyzing here. You purchase the iTero. And once you get it installed and operating, you can see what happens to that percentage of sales that go to the two companies.

Q. How many orders did you consider in your event study?

A. Well, across the entire study, there were millions. But in this particular piece of it with the iTero and the ClearCorrect, it was about 287,000.

Q. And again, what time period did you look at?

A. For this, we had data where we could look at it from 2016 through 2024. So we had a long time period to cover a lot of the purchases of iTeros.

Q. All right. So when you did this analysis and you performed another regression --

A. Yes, sir.

09:50 Q. -- what was the result?
09:50 A. Well, the result of this analysis was that the purchase of the iTero, after you control for everything else -- we've heard about a lot of other things. After you control for everything else, the iTero leads to about a 15 percent share of revenue going over to Align.
09:50 Q. So if we break that down for a moment, use an example --
09:50 A. Yes, sir.
09:50 Q. -- if we imagine that before buying the iTero, the revenue split for doctors that you analyzed was 82 percent Align and 18 percent ClearCorrect?
09:50 A. Yes, sir.
09:50 Q. Then the doctor buys iTero, right?
09:50 A. Yes, sir.
09:50 Q. And then what happens?
09:50 A. Well, then, basically, you have a 15 percent shift in revenue. So the gap becomes 97 percent and 3 percent. That is, one gains 15 percent, one loses 15 percent once the iTero is purchased.
09:51 Q. And how -- Dr. Perryman, how do we know that it's the iTero and not something else that's causing doctors to shift to Invisalign?
09:51 A. Well, this particular approach we use --

again, it's -- the math is fairly complex, but it controls for all of the other factors. And we're able to look at things and see how in some cases for years the providers have used about the same percentage no matter what was going on with the marketing or any other things we've heard about, complaints, that type of thing.

So we were able to control for all of that and then see just this one single event, what impact it had. And there were a large number of statistical tests we could do that it passed with flying colors.

Q. Now, Align has argued that your analysis here was flawed because you used doctor addresses as opposed to doctor names.

Are you aware of that?

A. Yes, sir. I remember them saying that.

Q. Are they right?

A. No, sir.

Q. Tell us why.

A. Well, again, the whole dataset we used, all the sales of both companies for eight years, millions of observations, we had to sort of clean that data before we could use it. And what you find is that, with regard to the names, they're very inconsistent.

Like, you know, a good example, Dr. Taylor

09:52 mentioned yesterday himself and another doctor in his
09:52 practice. Might be one name. Might be the other. The
09:52 order might say Dr. Taylor. It might say Brazos
09:52 Braces. And so you have no way to really sort out
09:52 who's getting what that way.
09:52 So we had to use addresses to do it rather
09:52 than names because there's a lot more consistency in
09:52 the addresses. And strangely enough, the thing people
09:52 get right more than anything else is a ZIP code, for
09:52 some reason.
09:52 Q. All right. So at the end, sir, how does your
09:52 event study in your quantitative analysis, how does
09:52 that compare what Align itself said as to the effect of
09:53 buying an iTero?
09:53 A. Well, first of all, I did want to mention -- I
09:53 should have mentioned this. There were a couple of
09:53 places where -- or a few places where two doctors had
09:53 the same address. That's fairly unusual that you'd
09:53 have two competing doctors at the same place, but there
09:53 were a couple of them -- or a few of them.
09:53 And that -- we did a lot of statistical
09:53 testings to show that made absolutely no difference,
09:53 which it typically doesn't when you have hundreds of
09:53 thousands of observations. But I did want to mention
09:53 that, and I should have mentioned it before.

09:53 But, basically, Align said the same thing that this analysis shows, basically. And I think you've got the wrong slide up here.

Q. All right. Well, we can move on, sir.

A. Okay.

Q. And I want to --

A. I apologize. I apologize.

Q. That's all right.

A. It's one that we looked at before. It says: An iTero customer is a locked-in Invisalign customer.

Q. Thank you.

You mentioned a couple moments ago foreclosure?

A. Yes, sir.

Q. What -- briefly, what does "foreclosure" mean in the context of an antitrust analysis?

09:54 A. Well, in antitrust, what foreclosure is, it's a piece of the market that is shut off from -- effectively from everybody else. And what that means is if you're trying to enter the market, you're not going to be able to get to those folks at all.

And if it's a large enough number, that means it's going to be very difficult to enter, build scale, become profitable and that sort of thing.

Q. And did you calculate in this case the amount

of foreclosure in the clear aligner market that results from Align's iTero policies?

A. Yes, sir. I did.

Q. And what'd you find?

A. Basically, what I found was it's about 76 percent of the market.

Q. Now, you heard --

MR. HIRSCH: And we can go to 8.60.

BY MR. HIRSCH:

Q. You heard Mr. Coss' testimony yesterday?

A. Yes, sir. I did.

Q. And Mr. Coss explained that typically scanners can last three to four years.

Did you hear that?

A. Yes, sir.

Q. The foreclosure that you calculated, how long does that last?

A. Well, that tends to -- that tends to last a long time. And, you know, the government's told us anything above about 40 percent is considered to be -- to be excess foreclosure in market. In other words, it constrains that market.

But in this case, if you buy a scanner, it lasts three, four, five years, and it's time to buy another scanner. You're facing exactly the same

09:55 1 situation.
09:55 2 If you want to use -- if you want to provide
09:55 3 Invisalign, you have to buy the iTero again. So the
09:55 4 process can just continue in the current environment.
09:55 5 Q. Yesterday, Dr. Perryman, we heard some
09:55 6 testimony about Align's contracts with its customers.
09:55 7 Did you hear that?
09:55 8 A. Yes, sir.
09:55 9 Q. Did you analyze Align's contracts?
09:55 10 A. Yes, sir. I did.
09:55 11 Q. And what did you find that was relevant to
09:55 12 your analysis?
09:55 13 A. What I found was -- and we reviewed and did
09:55 14 key word searches and that sort of thing on thousands
09:55 15 of them. And what I found was there were a lot of
09:55 16 elements to those contracts that would harm competition
09:55 17 and harm competitors.
09:56 18 Q. Now, let's take an example. If we turn back
09:56 19 to Align's contract with Heartland Dental that we saw
09:56 20 yesterday --
09:56 21 A. Yes, sir.
09:56 22 Q. -- what does that agreement say regarding what
09:56 23 a doctor must do to stay in good standing with Align?
09:56 24 A. Well, in order to stay in good standing, the
09:56 25 doctor has to -- has to not -- basically, not direct

any patient toward any scanner other than the -- or any product other than Invisalign.

Q. And what evidence is there, sir, that these contracts that have these types of provisions harmed ClearCorrect and other companies in the clear aligner market?

A. Well, we did a lot of analysis of that, and what you found was the market share that Align has in the -- among those -- among those doctors is -- you know, those organizations that have these contracts is even higher than the market share they have with others.

So it's definitely, again, serving to move things over to Align and make it more difficult for others to enter and compete.

Q. Now, there's also been testimony about Align's loyalty program, right?

A. Yes, sir.

Q. Did you consider that as part of your analysis?

A. Yes, sir. I did look at that.

Q. And what did you find?

A. Well, again, the way it's structured, it -- Align itself says it creates a barrier to switching. And the way it's structured, again, it makes it very

09:57 difficult for a practice to even sell one or two units
09:57 of something else. And Dr. Taylor explained this to
09:57 some extent yesterday.
09:57 Q. Now, Align showed in their opening a slide
09:57 that has airline and coffee loyalty programs.
09:57 Do you recall that?
09:57 A. Yes, sir. I do.
09:57 Q. And they've argued that their pricing is just
09:57 like these other loyalty programs?
09:57 A. Yes, sir.
09:57 Q. Do you agree with that?
09:57 A. No, sir. I don't.
09:57 Q. Tell us why.
09:57 A. Well, the way their program works is how many
09:57 you sell in one six-month period determines the price
09:58 on every unit for the next six months. So if you were
09:58 to sell one less than your tier, that could cost you
09:58 hundreds of dollars for every one you sell for the next
09:58 six months.
09:58 And so what that means is there's a big --
09:58 Dr. Taylor talked about this. There's a big risk.
09:58 You're always chasing that goal, chasing that thing, a
09:58 big risk to selling even one of the others. Even if
09:58 they gave it to you, there's a big risk.
09:58 These other programs are loyalty programs to

encourage loyalty. That's certainly a good thing. But they don't do it that way.

I mean, I fly a lot in my business, as you can probably imagine. And I have that American Airlines AAdvantage one that -- that's on this chart. I also have Southwest. I also have Delta.

And when I make a -- when I book a flight -- if I book a Southwest Airlines flight, that doesn't mean I have to pay more for every American flight that I book for the next six months. And so it -- it -- these programs are very different than the type of program that Align has in place.

Q. All right. Now, you said, Dr. Perryman, that the next step in your analysis was to analyze whether Align's anticompetitive conduct caused injury to ClearCorrect, right?

A. Yes, sir.

Q. And we'll get into the numbers, but first, tell us, sir, what'd you conclude?

A. My conclusion was that it has caused injury to ClearCorrect.

Q. Now, if we go to 8.65, Align's argued that it wasn't its conduct that caused harm to ClearCorrect but, rather, the quality of ClearCorrect's products, right, sir?

09:59 A. Yes, sir. I heard them say that.
09:59 Q. Did you analyze the rate of complaint for ClearCorrect's aligners as compared to the aligners made by Align?
09:59 A. Yes, sir. I did.
09:59 Q. What'd you find?
09:59 A. They both have very, very low complaint rates overall. I mean, if you sell a lot of units, you're going to have some complaints. But they both -- they both make good products, evidently.
09:59 Q. And what does that indicate as to whether there was some product quality issue that could explain why ClearCorrect has been foreclosed in the market?
10:00 A. Well, it indicates that that was not the issue, and our model was also able to control for that and many other factors.
10:00 Q. And in fact, what did Align itself say regarding competition with ClearCorrect?
10:00 A. Well, Align said back in 2019 that they were the best competitor that we have.
10:00 Q. Did you also analyze, Dr. Perryman, if we go to 8.68, ClearCorrect's sales outside of the United States?
10:00 A. Yes, sir. I did.
10:00 Q. And when you looked outside of the United

10:00 States, what'd you find?

10:00 A. Well, if you look at these bars briefly, the red one is the United States in -- over the three years we had data. The blue is Canada. The kind of yellow color is EMEA, which is Europe, the Middle East, and Africa. And the LATAM, the green one, is Latin America.

10:00 In every other market, they tended to have pretty significant increases in revenues in the markets other than the United States.

10:01 Q. Now, outside of the United States, what scanner policies does Align have?

10:01 A. Well, they make -- they make Invisalign available on other scanners outside of the United States. It's only in the United States that it's restricted to iTero.

10:01 Q. So if we -- if we make that one change, sir, if we get rid of the Align iTero policies, what's the impact on ClearCorrect's success?

10:01 A. Well, obviously they do quite well in that context.

10:01 Q. All right. Finally, sir, what about pricing? How do we know that customers weren't choosing Align because it had a better price than ClearCorrect?

10:01 A. Well, there's a whole lot of different

versions of these products, but I took the Comprehensive package that Invisalign sells and a couple of packages that Align sells that basically do the same thing, provide the same levels of service. And I looked at the average effective prices, so getting rid of all the discounting and that type of thing and just looked at the average price that they actually charge. And Align's were actually a little bit lower -- I'm sorry, ClearCorrect's were actually a little bit lower.

Q. All right. Let's go now, sir, to your damages calculation.

A. Yes, sir.

Q. And that was the last issue you said you looked at, correct?

A. That's correct. Yes, sir.

Q. All right. Now, I want to start with the Align iTero policies.

A. Yes, sir.

Q. Did you calculate damages that ClearCorrect suffered as a result of Align's iTero policies?

A. Yes, sir. I did.

Q. All right. And let's talk about how you did that, if we go to 8.74.

A. Yes, sir.

10:02 Q. And first, Dr. Perryman, I want to ask you about doctors who previously purchased ClearCorrect and Align, okay?

10:02 A. Yes, sir. Yes, sir.

10:02 Q. Did you calculate damages for that group?

10:03 A. Yes, sir. I did. I looked at what -- basically for that group and others what the profits that ClearCorrect would have made if it had but for the conduct that we're talking about here with the iTero.

10:03 Q. And remind us. After that group of doctors that had previously purchased from both ClearCorrect and Align, after they purchased an iTero, what happened?

10:03 A. After they purchased an iTero, the lower 15 percent of the revenue -- market revenue shifted over to Align for each of the -- for each of those instances.

10:03 Q. Now, to calculate the damages number for this group, what time period did you use?

10:03 A. I used a period from July of 2020 through -- and with the data itself through August of 2024. That's the latest data that we had.

10:03 Q. All right. And how did you determine damages for this group of doctors?

10:03 A. Well, the first thing I did was I looked at

10:03 1 Align's revenues, and then I looked at the fact that
10:04 2 this policy caused 15.14 percent of that revenue to
10:04 3 shift over to Invisalign once you bought the iTero and
10:04 4 got it installed. So that told me the amount of
10:04 5 revenue that shifted.
10:04 6 Then all of that wouldn't have been profit.
10:04 7 It would have cost them something to produce those,
10:04 8 those extra units. So I just multiplied by their
10:04 9 profit margin in order to take out the cost associated
10:04 10 with that. And then putting that together gave me a
10:04 11 total of $93.5 million.
10:04 12 Q. All right. And just briefly to break this
10:04 13 down.
10:04 14 A. Yes, sir.
10:04 15 Q. Why do you start with that 15.14 percent?
10:04 16 A. Well, that's the shift that we were able to
10:04 17 measure with our -- with the event study that we talked
10:04 18 about before.
10:04 19 Q. And why are you multiplying that number by
10:04 20 Align's revenues?
10:04 21 A. Because that's how much revenue actually
10:04 22 shifted over to Align. So we got a 15 percent shift.
10:04 23 Q. And then why is that last step are you
10:04 24 multiplying by ClearCorrect's profit margin?
10:04 25 A. Well, because ClearCorrect lost that much

revenue, but it would have cost them something to produce that many aligners. And so I wanted to just only allocate the part that would have been profit to ClearCorrect.

Q. Now, let me ask you about another category of doctors, sir.

A. Yes, sir.

Q. Did you also calculate damages for doctors who did not previously buy from ClearCorrect?

A. Yes, sir. I did.

Q. And why were those folks included in your calculation?

A. Well, there were several different groups we looked at. There was one group that gave an indication that they actually chose the iTero after they'd used something else. So they may have -- they may have really liked Align. So I didn't give any damages to those. I took those out completely.

And then we had the other group that we could observe, and there's several different categories. But basically we know that we only have data for ClearCorrect and Align. We know there's all these others. We know that they had a lot of -- not a lot of sales, but compared to ClearCorrect, they had a number of sales. And we weren't able to measure that. And

10:06 so -- and so we know some of that would have been
10:06 picked up by Align as well.
10:06 So we were able to put all that together and
10:06 measure how much profit would have been gained by those
10:06 who in the database didn't actually use any -- didn't
10:06 actually use ClearCorrect but only Align between those
10:06 two companies.
10:06 Q. All right. If we go to 8.77. What was the --
10:06 how'd you calculate damages for this group and what was
10:06 the result?
10:06 A. Well, it's very similar. There's one more
10:06 step. I -- after I took out the ones that I didn't
10:06 feel were appropriate, I again shifted 15.14 percent of
10:06 the revenue to Align to count how much revenue was
10:06 involved. I did ClearCorrect's profit margin. But
10:06 then I also said in that case, ClearCorrect may have
10:06 gotten some of that. Spark may have gotten some of it.
10:06 Angel may have gotten some of it.
10:07 So for that piece of it, I only accounted
10:07 ClearCorrect's market share among the group other than
10:07 Align.
10:07 Q. And what was the result of your calculation?
10:07 A. The result of that one was $121.5 million in
10:07 loss.
10:07 Q. All right. So for the total damages that you

10:07 calculated for just the iTero policies --
10:07 A. Yes, sir.
10:07 Q. -- what was the total through August 2024?
10:07 A. The total, if you just add those two numbers up, was $215 million.
10:07 Q. And did you also look at the period after August 2024?
10:07 A. Yes, sir. I did.
10:07 Q. And what'd you find there?
10:07 A. Well, we needed to carry this out to the end of 2025, and we didn't have the data. But we do know the market has been growing some over time. So basically I just took the average daily amount for the data that I had and then extended that out from August 2024 out through the end of 2025.
10:07 Q. And what was the total?
10:07 A. The total goes up to 289 million.
10:08 Q. All right. Now, how, sir, does this number -- how does this include any -- any harm that ClearCorrect suffered as a result of those contracts, those Align contracts that we discussed?
10:08 A. None. It doesn't include any of that.
10:08 Q. And how does this number include any harm that ClearCorrect suffered as a result of those Align loyalty programs that we talked about?

10:08 A. It doesn't include any of that either. Those had not existed. Just the iTero would have generated this much loss.

10:08 Q. All right. To conclude, Dr. Perryman, the beginning of the day yesterday when we first began talking --

10:08 A. Yes, sir.

10:08 Q. -- you told us about a competitive market and how that would look.

10:08 A. Yes, sir.

10:08 Q. Do you recall that?

10:08 A. I do.

10:08 Q. And remind us how that compares to the real-world market that we actually see today?

10:08 A. Yes, sir. Well, again, the competitive market would have different people's shares going up and down, gaining, losing, new people coming in, different people making profits, innovation. A lot of activity.

10:08 What we actually see here, as we've seen this a couple of times now, is one company dominating and everybody else kind of fighting over the scraps. And none of them have been able to make a profit in the United States.

10:09 Q. Now, Dr. Perryman, I want to zoom in for a moment on just ClearCorrect, okay?

10:09 A. Yes, sir.
10:09 Q. And I want to focus on that 2020 period and beyond, okay?
10:09 A. Yes, sir.
10:09 Q. And if we look at ClearCorrect's performance, in the world where Align didn't have its iTero policies, do you have that in mind?
10:09 A. Yes, sir. I do.
10:09 Q. What's the difference between where ClearCorrect is today and where they would have been if Align didn't have its iTero policies?
10:09 A. Over that time period, it would have been a total of $289 million.
10:09 Q. And even here, sir, even in this market where Align doesn't have its iTero policies, where's Align?
10:09 A. Well, basically ClearCorrect right now has around 3, 4 percent of the market. With this, they would have gone up to 9, 10 percent of the market. Align would still be up there above 80 percent of the market. So they would be way off this chart, way up there.
10:10 Q. Last question, sir.
10:10 A. Yes, sir.
10:10 Q. Why does all this matter? Why should we want to get closer to that competitive market even if it's

10:10 just that little bit?
10:10 A. Well, as I think most of you know, this
10:10 weekend we'll be celebrating a pretty special day, our
10:10 250th anniversary as a country. And we were actually
10:10 the first country in the history of the world -- people
10:10 don't realize this -- but we were the first county in
10:10 the history of the world to be founded and organized
10:10 around market principles for our economy. And that is
10:10 people having an opportunity to come in and compete and
10:10 succeed and ultimately work to the benefit of
10:10 consumers, and not -- no guarantee of success but a
10:10 guarantee of an opportunity to try for success.
10:10 And when you have markets that interfere with
10:10 that, you're destroying that process and you're also
10:10 ultimately hurting the consumers of these products.
10:11 MR. HIRSCH: Thank you for your time,
10:11 Dr. Perryman.
10:11 I pass the witness.
10:11 THE WITNESS: Thank you.
10:11 CROSS-EXAMINATION
10:11 BY MR. TUBACH:
10:12 Q. Good morning, Dr. Perryman.
10:12 A. Good morning.
10:12 Q. My name is Michael Tubach. I'm going to have
10:12 some questions for you today, okay?

10:12 A. Yes, sir.
10:12 Q. We met first time briefly out there on the street?
10:12 A. Briefly in the humidity, yes, sir. We did.
10:12 Q. Yes. Thank you.
10:12 Now, you've testified here you're an expert in economics, right? We can all agree on that.
10:12 A. Yes, sir.
10:12 Q. Okay. You're not a medical doctor, though, right?
10:12 A. Oh, I'm not a medical doctor. No, sir.
10:12 Q. And you're not here to offer any opinions about the relevant quality of any of the products that have been talked about here today, right?
10:12 A. Oh, no, sir. That would not be my role.
10:12 Q. You testified that your hourly rate is $900, correct?
10:12 A. I did. Yes, sir.
10:12 Q. And you testified that you were not just working at The Perryman Group, you own The Perryman Group, right?
10:12 A. I do. Yes, sir.
10:12 Q. You're 100 percent owner, right?
10:12 A. That's correct.
10:12 Q. Okay. So how much has The Perryman Group been

10:12 paid to date for your work in this case, all told,
10:12 patent case and the antitrust part?
10:12 A. I'm not sure. It'd be quite a bit, because
10:12 we've been working about a year and -- maybe a little
10:12 over a year, and we've had a number of people working
10:12 on it. I mean, I don't have a number. I haven't added
10:13 that up. But it would be a substantial amount.
10:13 Q. Well, can you give us -- I mean, you own the
10:13 place. You presumably have to pay taxes on all that
10:13 money, right?
10:13 A. All of it I don't spend on my employees and
10:13 other business expenses, I suppose.
10:13 Q. Of course. Only on the profit, right?
10:13 So give us -- give us your best estimate of
10:13 how much money The Perryman Group has made on this
10:13 case.
10:13 A. I'm really -- again, we don't -- that's not --
10:13 I don't track it in that way. We don't -- it's
10:13 individual projects in my own head. I would say
10:13 several hundred thousand dollars, certainly.
10:13 Q. Well, you alone, sir, have spent several
10:13 hundred hours working just on the antitrust case,
10:13 right?
10:13 A. I believe that's correct. Yes, sir.
10:13 Q. Okay. So just you alone would be several

10:13 hundred thousand dollars, right?
10:13 A. Yes, sir. Multiplied by my rate, it certainly would. Yes.
10:13 Q. Okay. So that doesn't include all -- how many folks have you had working on this case?
10:13 A. We've had two or three that have worked extensively on it and several others that did some work.
10:14 Q. So the total's going to be quite a bit higher than several hundred thousand dollars, isn't it, sir?
10:14 A. I'm not sure. I mean, it would -- we've been paid a substantial amount. I don't quibble with that.
10:14 Q. Now, you testified today about the loyalty discount program that we've heard a bit in court today, right?
10:14 A. Briefly, yes, sir.
10:14 Q. And we'll come back to it, but I just want to make sure, you're not offering any damages analysis at all related to that loyalty discount program, right?
10:14 A. That's correct. Only the impediments from the iTero.
10:14 Q. Thank you.
10:14 And you're not offering any damages analysis at all relating to any of those contracts that we've talked about. Remember, Mr. Mueller put the boxes.

10:14 You were here for that, right?
10:14 A. I saw that, yes.
10:14 Q. Okay. You're not offering any damages analysis for any of those contract provisions either, correct?
10:14 A. No. That would have been an additional amount. Yes, sir.
10:14 Q. Now, when you submitted your report, Dr. Perryman, before you did that -- you submitted a formal report, right? That's what happens in court?
10:15 A. Yes, sir. I did.
10:15 Q. Okay. And all the experts here have done formal reports. And I see yours right here, okay?
10:15 A. Okay. I'll take your word for it.
10:15 Q. Yeah, yeah. Before you submitted that report, you didn't talk to any dentists, did you?
10:15 A. I don't believe so. No.
10:15 Q. And you didn't talk to any orthodontists?
10:15 A. I don't think I did. No, sir.
10:15 Q. You didn't do any surveys of doctors or orthodontists, right?
10:15 A. No. I didn't conduct any surveys. No, sir.
10:15 Q. And you didn't look at any scanners before your report?
10:15 A. No. Not the actual physical scanner.

10:15 Q. You didn't look at the iTero here, right?
10:15 A. No. I looked at materials that had pictures of them and how they operated, but I did not look at one. That's true.
10:15 Q. And this export process that we've talked so much about, where you're exporting the scan from the iTero to somewhere else, you didn't watch anyone -- you didn't do that process yourself, right?
10:15 A. Definitely not. No, sir.
10:15 Q. And you didn't even watch anyone do it, did you, before you issued your report?
10:15 A. No. I did not.
10:16 Q. You did read Dr. Taylor's expert report, though, right?
10:16 A. Yes. I did.
10:16 Q. Okay. Now, I want to start at the beginning. In the late '90s, if you wanted to get your teeth straightened, there was really only one option, right?
10:16 A. As far as I know, that'd be correct. Yes, sir.
10:16 Q. That was braces, right?
10:16 A. Yes, sir.
10:16 Q. And many of us in this room probably had braces. I certainly did.
10:16 A. I endured them in the '60s.

10:16 Q. Well, I endured it a little later than that but also well before the '90s.

So when you wanted to get your teeth straightened, you had to go get braces, right?

A. Yes, sir.

Q. Okay. And the first company to come along and offer something, an alternative to braces, was Align, right?

A. Well, there have been aligners around for -- since the '40s, I think. They were the first company to commercialize it on a significant scale, to my understanding. Yes, sir.

Q. We've heard like the -- I understand that, Dr. Perryman. Someone had thought of the idea of a plastic aligner. Maybe a few people had made some.

But Align was the first company that really brought it out into the market, right?

A. I think that's a fair statement. Yes, sir.

Q. And at that point, it was very difficult for Align to break in to the doctors' and the dentists' and the orthodontists' offices to get them to start prescribing these, using these products, right?

A. I would assume so. Yes, sir.

Q. Because you would imagine that the dentists and the orthodontists would be very used to using

10:17 braces because that's all they'd ever done, right?
A. Orthodontists in particular. Yes, sir.
Q. And it would be very hard to get them to switch over to doing something that no one had ever shown them before, right?
A. Oh, I would think it would be -- there'd be some challenges with that. Yes, sir.
Q. Pretty risky proposition?
A. I would think so.
Q. And Align was the only one that took that risk, wasn't it?
A. They were the first company to -- at any significant scale in the market. Yes, sir.
Q. And for almost 20 years, Align was the only company that took that risk at any scale, right?
A. That's about right. Yes, sir.
Q. And you would agree with me, Dr. Perryman, wouldn't you, that that gave Align a significant head start in selling aligners?
A. Oh, certainly. Yes, sir.
Q. I mean, it's what you've called "the first mover advantage," right?
A. Yes, sir. It's a very common term.
Q. Common term. I'm not saying you invented it, but you certainly used it, right?

10:18 A. Absolutely, yes.
10:18 Q. And one of the advantages that the first mover gets is that they can spend a lot of money on research and development to make their product really good, right?
10:18 A. That's an opportunity that they have, certainly.
10:18 Q. And they can do that while there's nobody else out there selling the same product that they're selling, right?
10:18 A. Yes, sir. At least at that point in time, Align could. Yes.
10:18 Q. And in fact, just since -- and you've been in court. You've seen this already.
10:18 Just since 2017, Align has spent over $2 billion on research and development, correct?
10:18 A. Yes. I did see that number.
10:18 Q. Now, another advantage that a first mover gets is that they can market themselves to the -- out there to the public so that they start identifying the product with them, right?
10:19 A. Yes, sir.
10:19 Q. And as you've also heard in court, you've sat here diligently throughout the whole trial, just since 2017, Align has spent over $1.4 billion on marketing

and education, right?

A. I believe that was the number I saw. Yes, sir.

Q. And as a result of all this spending on R&D and on marketing, they have developed what you call strong brand loyalty, right?

A. Oh, yes, sir. They do.

Q. And "strong brand loyalty" means that customers know the product, identify the product, like the product, and want to get the product, right?

A. I'm not sure that's a formal definition, but yes. In general, you would tend to see those things.

Q. Now, I want to talk just a little bit about the iTero, the scanner?

A. Sure.

Q. Align was the first company that really commercialized the digital scanner for use with Align -- with aligners, right?

A. They were among the first. I'm not certain. They may have been first. I'm not sure.

Q. And one of the things that you as a company that sell both a scanner and aligners want to do is create a seamless experience for both the patient and the doctor in using this product to get aligners, right?

10:20 A. I would think they'd want to make it easy to get aligners. Yes, sir.

10:20 Q. And a lot of companies have done that, right? There are a number -- strike that.

10:20 A number of companies sell both the scanner and an aligner, right?

10:20 A. Oh, yes, sir. Absolutely.

10:20 Q. Okay. Well, let's look at PDX-10. Well, our first slide here, PDX-10.4, please.

10:20 A. Okay. Yes, sir.

10:21 Q. We'll put it up on the screen. I think it might be in your binder there, but I don't even try --

10:21 A. I'd love for you to put it on the screen.

10:21 Q. Okay. So what we have here is on the left is Dentsply Sirona. That's an aligner manufacturer, right?

10:21 A. Yes, sir.

10:21 Q. And they also sell a scanner, right?

10:21 A. Yes, sir. They do.

10:21 Q. It's called the Primescan. Yeah?

10:21 A. That's correct.

10:21 Q. And SureSmile is the brand name for the aligner that they sell, correct?

10:21 A. That's correct. Yes, sir.

10:21 Q. And Align, of course, we have in the middle.

10:21 We've heard probably enough about that. I don't need to go through that. They sell both the iTero scanner --

10:21 I'm getting the red light. I've got to slow down on my speaking. Sorry about that.

10:21 They sell both the iTero scanner and Invisalign, right?

10:21 A. Yes, sir.

10:21 Q. Okay. And then Straumann on the right there, they sell the SIRIOS scanner, and they sell ClearCorrect, right?

10:21 A. Yes, sir. That's correct.

10:21 Q. Now, before they came out with the SIRIOS, they had that other scanner called Virtuo Vivo. You've heard testimony about that?

10:21 A. I have. Yes, sir.

10:21 Q. That one -- that one didn't do very well, right?

10:21 A. Oh, was that a question?

10:22 Q. Sorry. That one didn't do very well, right?

10:22 A. My understanding is that that is no longer available.

10:22 Q. Yeah. And each of these companies is trying to create that seamless experience that we talked about just a minute ago, right?

10:22 A. I think all the companies want their -- their scanners to be easy to use. Yes, sir.
10:22 Q. And easy to use specifically to buy their own product, right?
10:22 A. Well, I'm sure they want to buy their own product, but they also make it easy to buy other products as well.
10:22 Q. Okay. But I want to make sure you answer my question, though, Dr. Perryman.
10:22 They want to make it easy to buy their product, right?
10:22 Do you agree with that?
10:22 A. That's part of it. Yes, sir.
10:22 Q. Okay. Now, let's look at PTX-3042.
10:22 A. Yes, sir.
10:22 Q. Again, we'll put this up on the screen for you.
10:22 MR. TUBACH: And if you go to Page 1, it's that blue -- actually, right at the very top there, maybe if you could just blow up the very top.
10:23 A. Okay.
10:23 BY MR. TUBACH:
10:23 Q. And this is -- this is Dentsply Sirona, correct?
10:23 A. Yes, sir. That's correct.

10:23 Q. And what they say is the Primescan intraoral scanner, an ideal match for the SureSmile clear aligner workflow.

Do you see that?

A. Yes, sir. I do.

Q. Okay.

MR. TUBACH: Let's go to PTX-3045.

BY MR. TUBACH:

Q. This is a page from the Straumann website.

And where it says: The Straumann SIRIOS scanners have been optimized for Straumann solutions, including ClearCorrect.

Do you see that?

A. Yes, sir. I do.

MR. HIRSCH: Object. These are not in evidence. The witness is being shown -- they're being published.

THE COURT: What is it the jury is seeing?

MR. TUBACH: The jury is seeing demonstratives. I'm explaining to him about how -- the seamless experience.

THE COURT: You have to -- you still have to tether in the record the demonstrative. So if you'll let --

10:24 MR. TUBACH: I'll go back and do it. Thank you, Your Honor. Apologies.

BY MR. TUBACH:

Q. If we go back to PTX-3042.

A. Yes, sir.

10:24 MR. TUBACH: Go to the second page, please.

BY MR. TUBACH:

Q. This is a -- this is a page from the -- from the website of the -- of Dentsply Sirona relating to the Primescan scanner, right?

A. I'll take your word for it.

Q. Thank you.

And PTX-3045 is from Straumann's own website about how to --

MR. HIRSCH: Your Honor, again, there's no foundation with this witness. It's a web page. There's no basis to ask the questions about it.

THE COURT: I think he just said -- you just said where it came from, right?

MR. TUBACH: Yes, Your Honor.

THE COURT: And so what is your objection?

MR. HIRSCH: There's no foundation with this witness. It's a hearsay document, and there's

10:25 been no foundation.

THE COURT: Well, he's an expert, so that's okay. But what is -- what is your concern?

MR. HIRSCH: My concern is just putting the document that Dr. Perryman hasn't seen or relied on or --

THE COURT: Dr. Perryman, as an expert, I'm sure will let us know if he hasn't seen it and if he has any issues. You're overruled.

MR. TUBACH: Thank you, Your Honor.

BY MR. TUBACH:

Q. And PTX-3045, I think we've gotten that also. That's the Straumann website that we've already been through, right?

A. Yes, sir. I don't know that I'd seen the other one before, but I'm happy to talk about it.

Q. Okay. Thank you.

And this is -- we've already talked about how this is the -- optimized for Straumann solutions.

Now, let's look at the Align iTero website. This is PTX-3061.

MR. TUBACH: Let's go to Page 4, if we could.

BY MR. TUBACH:

Q. And the sentence at the bottom that says:

Seamlessly integrated with Invisalign treatment planning, iTero technology enables clinicians to simulate outcomes, track progress, and deliver personalized care with confidence.

Do you see that, sir?

A. Yes, sir. I do.

Q. And you agree with all these statements that these scanner companies and aligner companies are trying to create this seamless experience, right?

A. Oh, I would think they want to make it as easy as possible to use their scanners. Yes, sir.

Q. Seamless is good, right?

A. I would think seamless is better than not seamless.

Q. And there's -- and there's nothing wrong -- you're not suggesting, are you, sir, that Align has to create that same seamless experience for someone to order a ClearCorrect aligner, right? The same experience?

A. I don't think I've expressed an opinion about that. I have talked about the technical impediments that come into the context we're talking about here.

Q. Sir, that's not the question I asked you, with all respect, and I apologize for cutting you off.

My question's not about ordering other

10:26 scanners just with the STL export process. My question
10:27 is that seamless experience where, for example, if
10:27 you're going to order Invisalign with an iTero, they
10:27 can now show you what your face is going to look like
10:27 with your fixed teeth.
10:27 That's pretty cool, right?
10:27 A. It's cool. I understand a few doctors use it.
10:27 Yes, sir.
10:27 Q. And you're not suggesting that -- and Align,
10:27 you realize that would have taken quite a bit of time
10:27 and effort to develop the software and expertise to be
10:27 able to create that image of a patient's own face with
10:27 their fixed teeth.
10:27 You understand that?
10:27 A. I would certainly assume so. Yes, sir.
10:27 Q. And you're not suggesting that Align has to
10:27 make that kind of data or software available for
10:27 ClearCorrect, right?
10:27 A. That -- the image thing you're talking about?
10:27 Q. Yes.
10:27 A. I'm not aware that they would have to do that.
10:27 No, sir.
10:27 Q. And you wouldn't expect that they would want
10:27 to do that, right?
10:27 A. That would be their decision. I really don't

10:27 know one way or the other.
10:27 Q. And if you've invested a lot of money in
10:28 helping to make that experience so good, that's a good
10:28 thing for the patient and a good thing for the doctor,
10:28 right?
10:28 A. Potentially it could be used. Yes, sir,
10:28 absolutely.
10:28 Q. Now, you talked a little bit about what
10:28 happened since 2017, since --
10:28 MR. TUBACH: Actually, you can take that
10:28 down.
BY MR. TUBACH:
10:28 Q. Since 2017, a lot of companies have started
10:28 selling aligners in the United States, correct?
10:28 A. There have been several that have tried to
10:28 enter the market. Yes, sir.
10:28 Q. Well, not just tried. There are more than two
10:28 dozen that have actually come in and started selling
10:28 clear aligners, right?
10:28 A. Not profitably, but yes, sir. They've entered
10:28 the market.
10:28 Q. Sir, more than two dozen companies have come
10:28 in and started selling aligners, right?
10:28 A. I think that's right. Yes, sir.
10:28 Q. And you keep saying they're not profitable.

10:28 And you've heard that -- I heard that a couple times earlier in your testimony.

10:28 You haven't done any analysis of whether Dentsply Sirona is profitable in selling its aligners, have you?

10:29 A. I think I just looked at the overall financials, I believe.

10:29 Q. You have not looked at any financial data from Dentsply Sirona that shows that their sale of aligners is not profitable, have you?

10:29 A. I honestly don't remember. We looked at so much information. I've looked at some of their data. I just -- I don't remember off the top of my head.

10:29 Q. You can't recall any financial data you looked at that suggests that Dentsply Sirona is not profitable in selling aligners. Is that a fair statement?

10:29 A. I'm not recalling one way or the other. That's correct. Yes, sir.

10:29 Q. And you haven't looked at any data -- you didn't get any special financial data from Dentsply Sirona or Ormco or -- right?

10:29 A. Oh, no, sir. We did not.

10:29 Q. That would have allowed you to calculate whether or not those companies are profitably selling clear aligners, right?

10:29 A. Yeah. We did not get their very detailed financials. That's correct.

10:29 Q. And so fair enough.

10:29 You can't tell us whether Ormco is profitable in selling its clear aligners, right?

10:30 Fair statement?

10:30 A. Only -- only to the extent it was available in public information.

10:30 Q. Okay. And you haven't pointed to anything in the public information that says that, right?

10:30 A. I don't think so. No, sir.

10:30 Q. Same thing with Dentsply Sirona. We just covered that?

10:30 A. I believe that's correct.

10:30 Q. And that's the same with all the other clear aligner companies. You didn't get any financial data to test whether they are profitably in this business, right?

10:30 A. Unless it was in their public filings, no, sir.

10:30 Q. Okay. Now, even some braces companies have gotten in on the action in the last ten years, right?

10:30 A. I believe so. Yes, sir.

10:30 Q. So Henry Schein, for example, they introduced -- they've introduced three different types

of clear aligners in the last ten years, right?

A. They've -- they've been in the market. Yes, sir.

Q. Angel is another company that's come in, big Chinese company, right?

A. Yeah. Very big Chinese company. Yes, sir.

Q. And they've come in and started selling clear aligners in the United States also, right?

A. They -- they are selling some. Yes, sir.

Q. And they just announced last year that they're going to build a 50,000-square-foot facility near Milwaukee, Wisconsin. Did you know about that?

A. Seemed like I read something about it. Yes, sir.

Q. Now, you wouldn't expect that these sophisticated companies, like Dentsply and Ormco and Angel, would enter into a business to sell aligners if they thought they couldn't make any money at it, do you?

A. Well, I think there are a number of them trying to enter the market and trying to gain scale. Yes, sir.

Q. And the reason -- the only reason those big companies would try to enter the clear aligner business is because they thought they could make money on it.

10:31 Is that -- does that seem fair to you?
10:31 A. They would certainly hope to make money, yes, sir.
10:31 Q. Okay. Now, over the years since 2017, these companies have taken a fair amount of market share away from Align, haven't they?
10:32 A. Align's market share's dropped from something over 90 percent to about 84 percent. Yes, sir.
10:32 Q. Right. And so in your testimony yesterday and today, you said that Align's share fluctuated and -- that was yesterday. And then today. You say: It changed a little bit over time.
10:32 Do you recall that?
10:32 A. Yes, sir.
10:32 Q. And you weren't meaning to suggest that Align's market share sort of was going up and down over these years, were you?
10:32 A. No, sir. It's dropped a little bit as other firms have entered.
10:32 Q. A little bit. It's dropped 16 percent since 2017; isn't that right, sir?
10:32 A. Well, I guess from 100 percent to 84 percent --
10:32 Q. 84.
10:32 A. -- is 16 percent. Yes, sir.

10:32 Q. Every single year, since new companies have come in to start selling aligners, Align's market share has gone down, down, down, down, fair?

10:32 A. Well, obviously from when they were the only one. Yes, sir.

10:32 Q. But not just -- every single year it's gone down, true?

10:32 A. I believe that's right. Certainly that's been the trend.

10:33 Q. But at the same time, aligner sales as a whole have gone up a lot, haven't they?

10:33 A. Yes, sir. Aligner sales have increased.

10:33 Q. And in fact, the sales of aligners in the last ten years have -- just of the companies' data that you got, that we all got, have more than doubled in the last ten years, fair statement?

10:33 A. I believe that's right. Yes, sir. COVID was a big push. Yes, sir.

10:33 Q. Now, not every company has grown in the last five, six years, have they?

10:33 A. It's been some variation. Yes, sir.

10:33 Q. Yeah. And the main variation in the companies that you looked at has been ClearCorrect; is that true?

10:33 A. I saw some data you put up from -- starting in 2019 that showed that. If you do a longer period, it

10:33 doesn't. But yes, sir. I'm -- I'm aware that they've had some years of declining revenue.

Q. We'll get back to that.

But from 2019 to 2023, of the companies that -- whose data you looked at, ClearCorrect's the [redacted]?

A. In terms of revenue, that's correct. Yes, sir.

Q. And it went down about 50 percent during that time, right?

A. It was pretty significant. They've had a rough time in this market. Yes, sir.

Q. It's gone down about 50 percent in that time, right?

A. That sounds about right.

Q. Now, talk a little bit about other types of ways to straighten your teeth here. Braces has sort of gotten into the act of trying to be less visible.

Do you think that's a fair statement?

A. I've seen some of the clear braces. Yes, sir.

Q. Right. So since aligners have come on the scene, braces, now they have ceramic braces.

Have you heard of those?

A. I've seen some of those. Yes, sir.

Q. And clear braces?

10:34 A. I've seen some of those.
10:34 Q. You saw some photos of those, right, up on the screen?
10:34 A. I've seen pictures of them at least.
10:35 Q. And there are now even things called smart braces or something called self-ligating braces. Have you heard of those?
10:35 A. I've heard of some of the digital technologies. Yes, sir.
10:35 Q. And those are ones where you don't even have to go back to the orthodontist to get them adjusted. This was a, for anyone who remembers, a terrible process where you had to go back to the orthodontist, tighten them up again. It'd be painful for a couple days, right?
10:35 Do you remember that?
10:35 A. I remember it well.
10:35 Q. And probably not fondly?
10:35 A. That's right. Yeah.
10:35 Q. Same.
10:35 And now they have braces that can self-adjust, right?
10:35 A. That's my understanding, is there are some that can. Yes.
10:35 Q. And that suggests, doesn't it, that braces is

10:35 trying to do what it can to compete with aligners?
10:35 A. That could be a situation where they're trying
10:35 to -- trying to create some substitution the other
10:35 direction.
10:35 Q. Now, there are also other advances going. For
10:35 example, now you can even 3D print aligners in the
10:35 orthodontist's own office, right?
10:36 A. Yes, sir.
10:36 Q. So that just bypasses Align and ClearCorrect
10:36 altogether, right?
10:36 A. In some circumstances, yes, sir.
10:36 Q. And you can even now -- this is -- the world
10:36 is going crazy. You can even 3D print braces in the
10:36 orthodontist's office, right?
10:36 A. I think I've seen something about that. It
10:36 would not surprise me at all, given what my grandkids
10:36 do with a 3D printer.
10:36 Q. And the company that does that is LightForce,
10:36 right?
10:36 A. Yes, sir.
10:36 Q. Okay. Do you know what percentage of
10:36 orthodontists have a 3D printer in their office?
10:36 A. I may have seen that number. I don't remember
10:36 it.
10:36 Q. Does 17 percent sound right? I'm happy to

show you a document.

A. I'll accept your representation. That's fine.

Q. Now, over this whole time period, we've been talking about 2017 to going forward, the average price for Invisalign has gone down, right?

A. The average effective price has gone down. Yes, sir.

Q. Right. And you're an economist. So you -- I would expect you wouldn't just say price.

"Average effective price" means the price that the doctor actually pays, right?

A. On average, it's gone down. Yes, sir.

Q. On average, which is you got to include the discounts and whatever else they're getting, and the price they actually write the check for on average has gone down from 2017 to 2024?

A. Yes, sir. It has.

Q. In fact, in 2016, the Invisalign Comprehensive package -- that's their main flagship product, right?

A. Yes, sir.

Q. -- that was $1,513. You may not remember this exactly, but you did this analysis in your report?

A. Yes, sir. I believe that's correct.

Q. And in fact, the decrease since 2017 has been about [redacted] for that package, right?

10:37 A. I don't recall, but I know I made those
10:38 calculations. That's fine.
10:38 Q. And in the same time as we've all experienced,
10:38 what's happened to prices generally in the economy?
10:38 A. Generally, we've had inflation, particularly
10:38 in the last few months here. But generally, it's been
10:38 a little bit of inflation for most of that time period.
10:38 Q. Yeah. And so between 2017 and -- you know,
10:38 2017, you know, 2024 -- sorry. Since 2016 and 2024, in
10:38 that time period, inflation's been about 30 percent,
10:38 hasn't it, if you add it all up?
10:38 A. That sounds about right. Yes, sir. That
10:38 would encompass the period around COVID. So that
10:38 sounds about right. Yes, sir.
10:38 Q. So while the prices out there generally are
10:38 going up 30 percent, Invisalign's price has gone down
10:38 [redacted], fair?
10:38 A. I think that's -- in terms of the average
10:38 effective price, that's correct.
10:38 Q. I'm going to ask you some questions about the
10:38 relevant market. We've been talking about this
10:38 already.
10:38 You testified early, right at the start this
10:39 morning, I think, that sort of "relevant market" is a
10:39 special term that antitrust economists and lawyers use,

10:39 right?
10:39 A. Yes, sir.
10:39 Q. And that's not necessarily the way
10:39 walking-around people would refer to a market, right?
10:39 A. Yeah. We all use the term loosely, I think.
10:39 Q. And I think even executives use the term
10:39 loosely, fair?
10:39 A. I think so. At times, yes.
10:39 Q. Now, braces can treat all cases that aligners
10:39 can treat, right?
10:39 A. As you point out, I'm not an orthodontist, but
10:39 I believe that is correct. Yes.
10:39 Q. And aligners now, now, can treat -- we heard
10:39 testimony yesterday -- 98 percent or more of the cases
10:39 that braces can treat, fair?
10:39 A. I heard that testimony. Yes, sir.
10:39 Q. And you heard a bit about the trucks and the
10:40 cars. I wanted to ask you some questions about that.
10:40 A. Okay.
10:40 Q. Can trucks do things that cars can't do?
A. Yes.
10:40 Q. They can haul -- like Dr. Taylor says, he
10:40 hauls his lawn mower?
10:40 A. Yes.
10:40 Q. You're probably not going to put a lawn mower

10:40 in the back of your sedan, right?
10:40 A. That's correct. Yeah.
10:40 Q. And that's not true of braces and aligners,
10:40 right? There aren't really things that braces and
10:40 aligners do that the other can't do, right?
10:40 A. They do them in different ways, but they both
10:40 are about straightening teeth.
10:40 Q. Right. Now, we looked at a website yesterday.
10:40 I think you were here for that. It might have been the
10:40 day before.
10:40 MR. TUBACH: If we could pull up
10:40 PDX-10.1, please.
BY MR. TUBACH:
10:40 Q. This is the Dr. Lowe website. And I just have
10:40 a question for you.
10:40 It's your testimony that braces and aligners
10:41 are not in the same market, right?
10:41 A. Yes, sir. That's what my analysis shows.
10:41 Q. Okay. And is this --
10:41 MR. TUBACH: Could we run this?
10:41 (Video played.)
10:41 BY MR. TUBACH:
10:41 Q. This is -- sort of runs in the background of
the website, and two girls taking --
A. Yes, sir.

10:41 Q. -- photos, selfies --
10:41 A. I see that.
10:41 Q. -- and they're smiling, just like no one's photographing them, which of course they are being photographed.
10:41 And so is it your testimony, Dr. Perryman, that the girl on the left wearing aligners is in a different market than the girl on the right wearing braces?
10:41 A. A different antitrust market, yes, sir.
10:41 Q. Now, let's talk a little bit about direct to consumer.
10:41 A. Oh. Yes, sir. Sure.
10:41 Q. Direct to consumer is basically a way of cutting out the middleman in a way, right?
10:41 A. I guess you could say that, if you view the doctor as a middleman.
10:42 Q. I wouldn't say that to any doctor, but that's basically what the direct-to-consumer companies are trying to do, right?
10:42 A. Yes, sir. I think that's a fair statement.
10:42 Q. Because they want to sell their product directly to the consumer without going through doctors?
10:42 A. That's my understanding. Yes, sir.
10:42 Q. Now, let me show you PDX-10.2-3.

10:42 It's going to be like Let's Make A Deal, if you remember that game.

A. I'm old enough to remember that. Yes, sir.

Q. All right. So you -- can you tell me if any of these aligners are direct-to-consumer or doctor-directed?

A. Oh, I would -- I would not be the person to do that. No, sir.

Q. It's because it's the same product, right?

A. Again, that would be a technical question. I wouldn't be the person to ask that.

Q. Well, you --

A. They're both aligners. I mean, I understand that.

Q. Okay. Why don't we go to the next slide.

There's SmileSet. That's a direct-to-consumer, right?

A. Yes, sir. It is.

Q. And the other two are doctor-directed, correct?

A. Yes, sir.

Q. Okay. Now, let's look at DDX-8-19.

A. Yes, sir.

Q. This is a slide that you went through.

MR. TUBACH: If I could have the ELMO,

please, Mr. Lee.

A. Yes, sir. It is.

BY MR. TUBACH:

Q. There we go now.

Now, this is a -- this is a slide that -- a slide that you talked through with Straumann's counsel on your direct testimony, correct?

A. Yes, sir. It is.

Q. And this was comparing the doctor-directed clear aligners versus braces, right?

A. Yes, sir.

Q. Now, if we put -- if we put DTC up here, would you agree with me that they are transparent?

A. Yes, sir.

Q. Would you agree with me that they're removable?

A. Yes, sir.

Q. Would you agree with me that there are no emergency visits?

A. I wouldn't think so.

Q. And would you agree with me that there are no damage to the teeth?

A. Again, without the doctor overseeing, I'm not sure, but not in the same sense as braces.

Q. So at least on your chart, doctor-directed

10:44 clear aligners and DTC have the same functional -- the
10:44 same functions as you've described on this chart,
10:44 correct?
10:44 A. Well, they're both aligners.
10:45 Q. Well, no, not just aligners. They have these
10:45 same functional differences that you used to describe
10:45 the difference between braces and doctor-directed;
10:45 isn't that right?
10:45 A. I would assume so. Again, I'm making a little
10:45 bit of a assumption about the -- leaving the doctor
10:45 out, but I would assume so.
10:45 Q. Now, there are a lot of companies that have
10:45 sold direct-to-consumer over last ten years, correct?
10:45 A. There are several. Yes, sir.
10:45 Q. One of them we may have referenced earlier is
10:45 called Smile Direct Club, right?
10:45 A. Correct. Yes, sir.
10:45 Q. And do you know how much -- what Smile Direct
10:45 Club's revenue was in 2020?
10:45 A. I don't recall. They were -- they were very
10:45 successful. I know that genre did pretty well during
10:45 COVID.
10:45 Q. And their revenue, I'll represent to you, was
10:45 $656 million in 2020.
10:45 A. Okay.

10:45 Q. I can show you their 10-K if you'd like to see it.

10:45 A. I'm more than happy to accept your representation.

10:45 Q. Do you know what ClearCorrect's revenue was during that year?

10:46 A. I don't recall. No, sir.

10:46 Q. In your report, you say 49 million roughly. Does that sound about right?

10:46 A. No reason to doubt that.

10:46 Q. Okay. But you didn't include the 656 million in revenue in your market definition, correct?

10:46 A. Oh, it wasn't in the proper antitrust market. No, sir.

10:46 Q. Okay. Now --

10:46 THE COURT: Counsel, we're going to take a short recess for the morning.

10:46 Ladies and gentlemen of the jury, if you'd please remember my instructions not to discuss the case, and we'll be back in ten minutes.

10:46 THE BAILIFF: All rise.

10:46 (Jury exited the courtroom.)

10:47 THE COURT: I'm sorry. Thank you. You may step down, sir.

10:47 I'm sorry. I couldn't find a good place

10:47 to break for you.
10:47 MR. TUBACH: I was going to ask when you
10:47 wanted to take a break.
10:47 THE COURT: Is there anything we need to
10:47 take up?
10:47 MR. TUBACH: Not from my point of view,
10:47 Your Honor.
10:47 MR. MUELLER: No, Your Honor. Thank you.
10:47 THE COURT: So for your planning --
10:47 This doesn't need to be on the record.
10:47 (Off-the-record discussion.)
10:47 (Recess taken.)
11:02 THE BAILIFF: All rise.
11:02 THE COURT: Please remain standing for
11:02 the jury.
11:02 (Jury entered the courtroom.)
11:02 THE COURT: Thank you. You may be
11:02 seated.
11:02 BY MR. TUBACH:
11:02 Q. With apologies to all, including the Court and
11:03 Dr. Perryman, I'm going to switch gears for just a few
11:03 minutes.
11:03 A. Sure.
11:03 Q. And talk about -- she doesn't want me to move
11:03 from the microphone -- and talk about the patent case,

11:03 if I could.
A. Sure.
Q. Just a few minutes, okay?
Because you testified about that on your direct examination.
A. Briefly, yes, sir.
Q. Yes. And we're going to touch it briefly here.
You agree, sir, don't you, that using a reasonable royalty in a hypothetical negotiation is a proper way to calculate patent damages, correct?
A. I don't want to be giving legal opinions, but that's the framework I understand.
Q. And you've testified many times in patent cases, right?
A. I have. Yes, sir.
Q. Including for the plaintiffs, right?
A. Plaintiff and defendant. Yes, sir.
Q. And you've used this hypothetical negotiation model many times on both sides as a way of determining what the damages might be?
A. Yes, sir. Sure.
Q. Okay. Perfect.
Now, the hypothetical negotiation we're talking about here is between Align and Straumann,

correct?

A. That's my understanding. Yes, sir.

Q. And you and Mr. Lasinski I think both agree that the date that you would do this hypothetical negotiation is April 13, 2021?

A. Yes, sir. We did.

Q. Okay. Now, this negotiation, Align would have been negotiating for the price it was willing to take to let Straumann compete against it, right, using its technology?

A. Well, to use its technology. Yes, sir.

Q. Yeah. And to be clear, they were going to use the technology to sell clear aligners, right?

A. Assuming validity and infringement. Yes, sir.

Q. And I should have added that. Thank you. You reminded me.

For the -- for the hypothetical negotiation, you have to assume that the patent is valid, right?

A. Correct. Yes, sir.

Q. And you have to assume that the product is infringing?

A. That's correct. Yes, sir.

Q. Okay. And so what we have here is this hypothetical negotiation which never happened in the real world but we all assume it might have, which is we

11:05 have to imagine that Align is going to have to figure
11:05 out how much it's going to need in money to license its
11:05 patents to a direct competitor to compete against it
11:05 head to head, right?
11:05 A. Yes, sir. That would be one of the factors.
11:05 Q. And the other one would be on the other side
11:05 what Straumann would have been willing to pay for the
11:05 right to have the technology to compete against Align,
11:05 fair?
11:05 A. Yes, sir.
11:05 Q. Now, on the -- on the Align side, Align had
11:05 spent -- you heard this testimony earlier in the
11:05 trial -- about eight years developing the SmartTrack,
11:05 right?
11:05 A. Developing what? I couldn't hear the last
11:05 part.
11:05 Q. Developing the SmartTrack. My apologies.
11:05 A. Oh, yes, sir. Yes, sir.
11:05 Q. And that took a lot of man-hours, fair?
11:05 A. I would presume so.
11:05 Q. A lot of development effort. You heard Dr. Li
11:05 testify about that, correct?
11:05 A. I would presume so. Yes, sir.
11:06 Q. And Align spent all that money so it could
11:06 compete against its competitors, right, better?

11:06 A. I would assume so. Yes, sir.
11:06 Q. And it did -- would not want to give away that competitive advantage for cheap, would it?
11:06 A. Again, it would be a reasonable -- they would want a reasonable royalty for it.
11:06 Q. But they wouldn't want to just give it away, though, having spent eight years to develop a product to compete against their competitors. They wouldn't give that away for cheap. Would you expect them to do that?
11:06 A. Again, that would be one of the factors in determining the reasonable royalty.
11:06 Q. Now, on the other side, on the Straumann side of the table, we know that Straumann was relatively new to the clear aligner market, correct?
11:06 A. Yes, sir.
11:06 Q. They bought ClearCorrect in 2017?
11:06 A. That's correct. Yes, sir.
11:06 Q. And they bought Bay Materials. Was it 2019?
11:06 A. I believe so. Yes, sir.
11:06 MR. TUBACH: And, Mr. Smith, can we turn to, please, PTX-0075-4?
11:07 BY MR. TUBACH:
11:07 Q. You see that up on the screen?
11:07 A. Yes, sir. I do.

Q. This is an internal ClearCorrect document.

MR. TUBACH: I don't know if it's been admitted, Your Honor, but I'll move its admission just for safety.

MR. HIRSCH: No objection.

THE COURT: Admitted.

BY MR. TUBACH:

Q. And if you look at that top left, the two bullet points --

MR. TUBACH: If we could pull those out, please.

BY MR. TUBACH:

Q. This is what ClearCorrect was saying, that the ClearCorrect current material is less competitive compared to other aligners' materials, correct?

A. Yes, sir. I see that.

Q. And then below that, it says: The new material will allow us to compete head to head with Invisalign.

You see that?

A. Yes, sir. I see that.

MR. TUBACH: And you can take that down.

BY MR. TUBACH:

Q. So this is ClearCorrect's statement about its intent to launch aligners made of ClearQuartz, which is

made of Zendura FLX, correct?

A. I believe so. Yes, sir.

Q. And that's what they were looking at to compete head to head with Align, fair?

A. I would think that was one of the purposes. I know they wanted to use that material.

Q. So being able to sell and use Zendura FLX would have been important to Straumann and to ClearCorrect.

Is that a fair statement?

A. I know that's something -- a direction they were moving.

Q. Well, let's look at PTX-548, if we could.

A. Yes, sir.

Q. And again, feel free to find it in your binder.

A. I'm very happy to use this.

Q. This is an internal e-mail from a gentleman we've heard about before in this case, Guillaume Daniellot. And it relates to Zendura.

MR. TUBACH: And I offer its admission, Your Honor.

MR. HIRSCH: No objection.

THE COURT: Admitted.

MR. TUBACH: If you could zoom in on the

part --

BY MR. TUBACH:

Q. This is in June of 2020. So now this is just eight -- ten months before that hypothetical negotiation we're about to have, right, Dr. Perryman?

A. Yes, sir. That's correct.

Q. Okay. So let's zoom in on the part that says "As we are not yet."

As we are not yet at the top with our entire clear aligner solution value proposition (meaning software plus treatment planning material plus training and education), this is very important for our ortho franchise to generate growth with our most important asset.

That's what he said there, right?

A. Yes, sir. It is.

Q. And so now in this hypothetical negotiation, you heard Doctor -- you heard Mr. Lasinski say what he believed the fair, reasonable royalty was, right?

A. I did. Yes, sir.

Q. And you haven't offered any number at all about what you think these two large companies would have agreed on to allow one to compete against the other with the patented technology?

A. I did not present a number today. That's

correct.

Q. But what do you think the fair number is, sir?

A. I'm sorry?

Q. What do you think the fair number is?

A. Based on evidence I saw in the course of working on the case, somewhere around $6.5 million.

Q. Now, that's not an opinion that you provided on direct examination, is it?

A. No, sir. It's not.

Q. And is it your testimony that Align Technology would have agreed to take $6.5 million to allow one of its competitors to compete against it head to head for a fully paid-up license to use their technology that they spent eight years developing, that Align would have taken that for $6.5 million? Is that your testimony?

A. Based on all the market evidence that I was able to review during my work in this matter, yes, sir, that was the number I came up with.

Q. We're done with the patent business, sir.

A. Okay.

Q. Now, let's get back to the antitrust case we were talking about before we switched gears.

A. Yes, sir.

Q. You testified on direct examination and we put

11:11 up a chart that compared the prices of Invisalign with
11:11 the prices of ClearCorrect.
11:11 Do you remember that chart?
11:11 A. For one -- for one product, yes, sir.
11:11 MR. TUBACH: And let's pull that up.
11:11 That's DDX-8.69.
BY MR. TUBACH:
11:11 Q. This is the chart that we looked at, right?
11:11 A. Yes, sir. It was.
11:11 Q. And this is comparing the price. At the
11:12 bottom there, the purple one is Align's Comprehensive
11:12 package.
11:12 Do you see that?
11:12 A. Correct. Yes, sir.
11:12 Q. And the other two there, the blue and the
11:12 green lines, are Two (ClearCorrect) and then Three
11:12 (ClearCorrect), right?
11:12 A. Yes, sir.
11:12 Q. You're not suggesting that the Two and the
11:12 Three are the same as Comprehensive, are you?
11:12 A. A similar treatment. My understanding, it's a
11:12 similar treatment protocol. I'm not sure if they're
11:12 identical or not.
11:12 Q. Well, it's all about the number of aligners
11:12 that you're going to need in the course of your

11:12 treatment, right?
11:12 A. I think that's part of the pricing.
11:12 Q. And the Comprehensive package, you get lots and lots of aligners, fair?
11:12 A. Yes, sir.
11:12 Q. And if you have a very simple case, you don't need as many aligners, right?
11:12 A. That's correct. Yes, sir.
11:12 Q. And so the Two and the Three that we have here for Straumann -- for ClearCorrect, those are simple cases, fair?
11:12 A. Those are ones that we identified to be the most comparable.
11:12 Q. Well, let's look at -- this is -- let's look at the chart that you actually put in your report, Dr. Perryman.
11:13 A. Sure.
11:13 Q. This is DTX-2244, right?
11:13 MR. TUBACH: If we could zoom in.
11:13 A. Yes, sir.
11:13 BY MR. TUBACH:
11:13 Q. That's the same chart we just looked at, but now we've added in other products for ClearCorrect that are more comparable to the Comprehensive package; is that fair?

11:13 A. I'm not sure I would say "more comparable." There's some other products in here.
11:13 Q. Well, the other products are One and Unlimited, right?
11:13 A. Correct. Yes, sir.
11:13 Q. And as you sit here, you realize a Comprehensive allowed for lots of -- lots of different aligners as you went through your treatment, fair?
11:13 A. Yes, sir.
11:13 Q. And the same with Unlimited, right?
11:13 A. Yes, sir.
11:13 Q. And those prices, you can see the purple one and that dark blue one are almost -- they're very similar, aren't they?
11:14 A. Those two are. Yes, sir.
11:14 MR. TUBACH: Okay. We can take that down.
11:14 BY MR. TUBACH:
11:14 Q. Now, you agree, though, sir, that the -- in determining the relevant market, one question you want to look at is what is the price that the patient's going to pay, fair?
11:14 A. Well, the relevant market has a very specific test and protocol, but the consumer payment is clearly a relevant issue in our analysis.

11:14 Q. Right. So the price that the -- the price that the patient pays is one thing you'd want to look at to see whether braces and aligners are in the same market, fair?

A. If you had granular patient by patient, you could make that comparison. It's -- again, it's not part of the test, but --

Q. That's not my question, whether you have the data, sir.

I'm just asking as a general matter -- I'm sorry to cut you off. I'm on the clock here, so I got to make sure I get my stuff out.

A. I understand totally.

Q. On -- between -- if you're trying to figure out what the relevant market is, one of the things you want to do is look at what patients pay for clear aligners and for braces, fair?

A. It would not be unreasonable to look at that if you had the data that would allow you to view it on a case-by-case type of basis.

Q. Is that an economist's way of saying yes?

A. Not exactly.

Q. Okay. Well, you didn't -- you compared -- the only price comparison you made, sir, was the cost to the doctor of the braces and the aligners, right?

11:15 A. I had that information to look at. Yes, sir.
11:15 Q. And that's the only comparison you did on price between braces and clear aligners, fair?
11:15 A. I believe so. Yes, sir.
11:15 Q. And that's not really an apples-to-apples comparison, is it, the cost to the doctor of the aligners and the braces?
11:15 A. I'm not sure what you mean by that.
11:15 Q. Let me ask you another question.
11:15 A. Okay.
11:15 Q. When the patient gets the aligners, they can just stick them in their mouth, right?
11:16 A. Correct.
11:16 Q. They don't need anybody's help?
11:16 A. That's correct. Yes, sir.
11:16 Q. The doctor doesn't have to stick it in for them, right?
11:16 A. That's correct. Yes, sir.
11:16 Q. In fact, one of the advantages is you don't have to have the doctor stick it in your mouth, right?
11:16 A. Yes, sir.
11:16 Q. Okay. What about the braces? So you looked at the cost of the actual brackets and the wires, sure, right?
11:16 A. I did. Yes, sir.

11:16 Q. Now, is that doctor just going to hand the patient the brackets and the wires and say: Good luck, sir; see you in three weeks?

A. I wouldn't think so. No, sir.

Q. Wouldn't think so. They're going to have to spend time gluing each of the -- I've lived through this -- gluing each of these brackets on each tooth, right?

A. Yes, sir. That's correct.

Q. And then they have to run the wire through, right?

A. Yes, sir.

Q. And then they have to tighten it up?

A. Yes, sir.

Q. And that takes a lot of doctor time, doesn't it?

A. It does. Yes, sir.

Q. So the real true comparison, even to the cost of the doctors, would be not just how much they paid for the wires and brackets but how much their time was worth for putting those wires and brackets on the patient's -- in the patient's mouth; is that fair?

A. Depending on the context you're looking at, that's something I'm sure the doctors consider. Yes, sir.

11:17 Q. Well, something that you would want to consider in deciding whether or not braces and aligners are in a relevant market?

11:17 A. Well, again, the appropriate test for the relevant market is the one that I did.

11:17 Q. I'm asking you, sir. You've heard of the Brown Shoe factors, just to get a little technical here?

11:17 A. Yes, sir. I have.

11:17 Q. Okay. And we've all been talking about some Brown Shoe factors here. It's a Supreme Court case that lists all of the factors you can look at in trying to decide whether two things are in the same market, fair?

11:17 A. Correct. Yes.

11:17 Q. Okay. And one of those is price?

11:17 A. Yes, sir. It is.

11:17 Q. Okay. So it is relevant, the price to the doctor includes his time to put those braces on the patient, right?

11:17 A. Oh, certainly.

11:17 Q. And you didn't do any analysis about that, about the cost to the doctor, including his time, to put those braces into the patient's mouth, fair?

11:17 A. Well, again, we didn't need that for the

analysis we were --

Q. Sir, I'm not asking whether you needed it.

I'm sorry to interrupt. I just need you to answer my question.

You didn't do that analysis, fair?

A. I apologize. I'm trying to give you a full answer.

Q. They can -- they can ask you all the questions they want on redirect.

A. I understand.

THE COURT: Counsel, just ask him a question.

THE WITNESS: I understand. Yes, sir. Yes, Your Honor.

BY MR. TUBACH:

Q. Channel Judge Albright. Because you've been -- we're doing cross-examination.

There's no question pending, sir.

A. Okay.

Q. Now, I want to ask you some questions about your hypothetical monopolist test, okay?

A. Yes, sir.

Q. That's not a sentence I thought I would ever say in a courtroom.

A. You and me both.

11:18 Q. Now, the way you're supposed to do a hypothetical monopolist test is you start with one brand, right?

11:18 A. Correct. One product. Yes, sir.

11:18 Q. Like you did. Like the Ford truck, you started with the Ford truck in your hypothetical, fair?

A. Yes.

11:18 Q. And you do an analysis, and you run your test to see if that brand is its own market, fair?

11:19 A. That's what -- that's one step. Yes, sir.

11:19 Q. That's the way you do it.

11:19 And then if -- as you would expect, you run Ford through there. It says, nope, not its own market. You got to add one more. And then you run a test again, right?

11:19 A. Yes, sir.

11:19 Q. And then you keep adding them until you get to the point where if one company owned all of the truck makers in the United States, they would be their own market. Is that about right?

11:19 A. Yes, sir. That's correct.

11:19 Q. Okay. Now, that's how you described the hypothetical monopolization test when you did the Ford -- you know, the Ford trucks, right?

11:19 A. Yes, sir.

Q. Okay. But that's not what you did when you ran a hypothetical monopolization test on aligners, right?

A. Well, I looked at the market for aligners specifically.

Q. My question is you didn't start with one brand --

Let me finish my question.

You didn't start with one brand like Ford as you did in your hypothetical. You didn't start with one brand of aligners when you did your hypothetical monopolization test, did you?

A. I did not start with one brand. That's correct.

MR. TUBACH: Let's pull up -- wow, I can't read that. DDX-8.30.

BY MR. TUBACH:

Q. What you did instead was you -- the only test you ran was on four different companies all at once, true?

A. Representing the clear aligner market. That's correct. Yes, sir.

Q. Right. And you would agree with me, sir, that if you run this test on -- strike that.

In the Ford hypothetical that you gave with

11:20 1 the trucks, Ford would have been either Invisalign,
11:20 2 ClearCorrect, SureSmile, or Henry Schein; is that fair?
11:21 3 A. Yes, sir. I believe that's fair.
11:21 4 Q. And that's the way you describe it above when
11:21 5 you first explained the hypothetical monopolization
11:21 6 test, how one should go about doing it, right?
11:21 7 A. Yes, sir.
11:21 8 Q. Okay. But when you got to the clear aligners,
11:21 9 that's not what you did, right?
11:21 10 A. Well, I did the -- I did the single product
11:21 11 test. That's correct.
11:21 12 Q. Right. The single product is single brand,
11:21 13 right?
11:21 14 Before you said it was Ford trucks, and that
11:21 15 was the way to do it, fair?
11:21 16 A. Correct. Yes, sir. In the illustration.
11:21 17 That's correct.
11:21 18 Q. And you would agree with me, sir, that if you
11:21 19 run your model on just, say, ClearCorrect and it shows
11:21 20 that ClearCorrect is in its own market -- is its own
11:21 21 market, that there's something wrong with the model; is
11:21 22 that fair?
11:21 23 A. Again, I would have to do the analysis and
11:21 24 look at it, but I would think so. That would certainly
11:21 25 raise a flag.

11:21 Q. Right. Because we all can agree that
11:21 ClearCorrect is not a monopolist, is not its own
11:22 market, right?
11:22 A. It's not -- it doesn't have 100 percent of the
11:22 market. No, sir.
11:22 Q. It -- and the same would be -- so if you run
11:22 the test and it says, hey, ClearCorrect, you're your
11:22 own market, you'd want to -- you'd think there's
11:22 something wrong with the model. That seems fair,
11:22 right?
11:22 A. That would be something you would want to
11:22 examine. Certainly.
11:22 Q. Now, we've talked a lot about the scanner
11:22 market, about the scanners. I just want to make sure
11:22 one thing's clear. Straumann and ClearCorrect here
11:22 aren't seeking any damages for lost sales of any
11:22 scanners, right?
11:22 A. That's correct. Yes, sir. That's my
11:22 understanding.
11:22 Q. It's just in the aligner space, right?
11:22 A. That's my understanding. Yes, sir.
11:22 Q. Okay. Now, you testified -- I think we
11:23 established that you hadn't looked at how long it took
11:23 to export a scan before you submitted your report. You
11:23 didn't personally look at that, right?

11:23 A. I didn't personally try to export one. No, sir.

11:23 Q. And you've testified here that it is -- that you've heard testimony it takes a couple of minutes, right?

11:23 A. I'm not sure I testified to that, but I heard -- heard Dr. Taylor say that yesterday.

11:23 Q. Yes, sir. I didn't mean to suggest you had said that.

11:23 Other witnesses here in court have testified it takes a couple of minutes, right?

11:23 A. Yes, sir.

11:23 Q. Okay. Now, one of the reasons why -- why the steps you have to go through is because there's some drop-down menus that allow you to choose different options, fair?

11:23 A. He went through some drop-down menus in the process. Yes, sir.

11:23 Q. And the drop -- one drop-down menu, just to pick an example, is you get to choose which type of file you want to use to send your scan somewhere else, right?

11:24 A. Yes, sir. That was one of them.

11:24 Q. And there's STL. I believe there was OBJ. I think there was PLY maybe.

Do you remember that?

A. I remember there were several.

Q. Okay. And you would agree with me that that's giving the doctors the choice about what kind of file type they're going to use to export that scan wherever they're going to send it, fair?

A. I presume they could click any one of those. My understanding, the STL is what they use. But sure, that's my -- I suppose they could click any of them.

Q. Well, the STL, your understanding, is used to export for the making of aligners, right?

A. Correct. Yes, sir.

Q. But you know that the iTero is used for lots of things other than aligners, right?

A. Oh, yes. Scanners in general are. Yes, sir.

Q. All kinds of things. You can do crowns, implants, any number of things that you might want to use that scan to do, right?

A. Correct. Yes, sir.

Q. And you might want to use a different file type if you're ordering something other than an aligner, right?

A. That's getting out of my area of expertise, but I would presume so.

Q. Well, and so basically what that drop-down

menu is is giving doctors a choice, right?

A. Well, again, they can pick which file. Yes, sir.

Q. Yeah. And that's a good thing giving doctors the choice of what file type they want to select; isn't that fair?

A. Other things equal, that would be -- that would be a true statement.

Q. Now, I want to talk to you about the damages that you have testified about here.

A. Yes, sir.

Q. You testified on direct examination that -- about two different groups of doctors, correct?

A. Correct. Yes, sir.

Q. And the one group is the group that bought ClearCorrect and Invisalign before they had an iTero?

A. Right. And possibly other brands as well.

Q. And possibly other brands. Thank you.

And then they buy an iTero, right?

A. Yes, sir.

Q. And then they keep buying ClearCorrect and Invisalign after they get the iTero, right?

A. Yes, sir.

Q. Okay. And for that group -- then there's another group where you see them only ordering

Invisalign ever, right?

A. Correct. Yes, sir.

Q. Okay. And that group, the second group, you divided that into two different categories, right?

A. Essentially. Yes, sir.

Q. So the one group is a group of doctors who had never ordered any aligners that we knew of from anyone?

A. Right.

Q. They buy the iTero, and they only ever order Invisalign, right?

A. Correct.

Q. And there's another group. Now, for that group you've assigned damages of $41.6 million.

Does that sound right?

A. I believe that's correct. Yes, sir.

Q. Okay. Now, those folks never bought any ClearCorrect, right, those doctors?

A. That's correct.

Q. Okay. And that other group they were talking about of the folks who only ever bought Invisalign, they bought Invisalign before they had an iTero. So they're doing the goop, right?

A. Right.

Q. And they buy an iTero?

A. Yes, sir.

11:27 Q. And then they keep buying only Invisalign, right?
11:27 A. Well, only between ClearCorrect and Invisalign, only Invisalign.
11:27 Q. Yeah. But that's all the data you looked at, right?
11:27 A. That's all I had. Yes, sir.
11:27 Q. And so for that group, you believe that Straumann and ClearCorrect are entitled to damages of $79.9 million; is that right?
11:27 A. I believe that was the right number. Yes, sir.
11:27 Q. Now, you would agree with me, sir, that the iTero made it easier to order Invisalign; is that fair?
11:27 A. Yes, sir.
11:27 Q. Okay. So let me try an analogy on you here.
11:27 In that group, this -- the folks who only ever bought Invisalign, before they had the iTero, then they get the iTero and then they only ever buy Invisalign afterwards, okay?
11:27 Let me -- let me run a hypothetical by you, an analogy, if you will.
11:27 A. Okay. If I could, I don't -- by that you mean they don't buy any other brands at all?
11:28 Q. We're just on your analysis, sir. This is the

11:28 one you did.

You called them the Invisalign only?

A. Right. But that did include other brands besides ClearCorrect. I just want to make sure I understand the hypothetical.

Q. My hypothetical is the one that you used in your -- in your report. Okay?

A. Okay.

Q. Now, let's say there's a group of people. They love Dr. Pepper.

A. Okay.

Q. They only ever drink -- there are some of those, right?

A. Well, in Waco, there's a lot of them.

Q. Absolutely. They only ever buy Dr. Pepper. They never buy anything but Dr. Pepper. Okay?

A. Yes, sir.

Q. And then Dr. Pepper comes along and makes it easier to buy Dr. Pepper, okay?

A. Yes, sir.

Q. And then after they make it easier to buy Dr. Pepper, those folks still buy only Dr. Pepper, okay?

A. Yes, sir.

Q. And it's your testimony, sir, that in that

11:28 example, those folks, after Dr. Pepper made it easier,
11:28 would have started buying Mr. Pibb; is that right?
11:28 A. No, sir. That's not the structure of my
11:29 analysis.
11:29 Q. That's exactly what you concluded, sir, that
11:29 because the iTero -- when -- after the iTero was
11:29 purchased, those folks would have started buying
11:29 ClearCorrect, right?
11:29 A. Well, they would have -- they'd already been
11:29 buying other brands. They weren't all Dr. Pepper
11:29 users.
11:29 Q. Sir, you don't know that in your analysis.
11:29 You're just assuming that now, right?
11:29 A. Well, I know that there were sales of those
11:29 other products out there. Yes, sir.
11:29 Q. Sir, that cohort that you looked at, you have
11:29 no idea whether they bought any other brands, right?
11:29 Let's focus on your analysis here, okay?
11:29 In your hypothetical, the folks who got the
11:29 iTero after only ever buying Invisalign, they would
11:29 have bought ClearCorrect. That's your -- that's how
11:29 you determined damages, right?
11:29 A. You haven't characterized it correctly. No,
11:29 sir.
11:29 Q. So it's your testimony that they wouldn't have

bought ClearCorrect after they bought the iTero for that group?

A. That ClearCorrect would have had an opportunity to get a piece of the part of the market that was -- that was not Invisalign.

Q. I see. And your piece of that market gives them $79.9 million, right?

A. I believe that was -- for that particular group, I believe that's correct. Yes.

Q. Yeah. And so that's just not a hypothetical ability to compete. You're saying they should get $80 million because you believe that those folks, those Dr. Pepper lovers, would have started buying Mr. Pibb, right?

A. Well, again, in my dataset, they weren't -- they weren't all Invisalign lovers. They'd used many other brands as well.

MR. TUBACH: Now, let's pull up -- the Court's indulgence.

BY MR. TUBACH:

Q. While we're pulling up the right chart, I just want to ask you, sir, all these things that you've talked about here today that you say were impediments to ClearCorrect succeeding in this business --

A. Yes, sir.

11:31 Q. -- all of those were faced by Dentsply Sirona, right?
11:31 A. Yes, sir.
11:31 Q. They faced the same export scan issues that you've testified about, right?
11:31 A. Yes, sir.
11:31 Q. They faced the same loyalty program that you've testified about?
11:31 A. Yes, sir.
11:31 Q. And they faced the same contract provisions that have been testified about here today?
11:31 A. Yes, sir.
11:31 Q. Okay. And [redacted], if you compare the one number to the other, right?
11:31 A. That's correct. Yes, sir.
11:31 Q. So this is just saying between 2019 and 2023, just looking at those two numbers, [redacted], right?
11:32 A. Yes, sir. That's correct.
11:32 Q. And ClearCorrect -- ClearArc and Clarity and Spark, they all face the exact same -- and Angel Aligner, they all face the exact same obstacles that you claim prevented ClearCorrect from competing in this market, right?

11:32 A. Yes, sir.

11:32 Q. And yet [redacted] and ClearCorrect was not.

11:32 Fair statement, sir?

11:32 A. That's correct. Yes, sir. That chart is correct for that time period.

11:32 MR. TUBACH: Pass the witness.

11:32 REDIRECT EXAMINATION

11:32 BY MR. HIRSCH:

11:32 Q. Dr. Perryman, just a few more for me.

11:32 Quickly let's go back to the patent -- patent damages.

11:32 A. Yes, sir.

11:32 Q. To be very, very clear on it --

11:32 A. Yes, sir.

11:32 Q. -- if there's no infringement, if there's no patent infringement, what's the patent damages number?

11:32 A. It's zero.

11:32 Q. If the ladies and gentlemen of the jury find that the Zendura FLX hard-soft-hard does not infringe, what's the damages number?

11:33 A. It's -- they're zero.

11:33 Q. All right. Now, I want to level set on the antitrust side.

11:33 A. Yes, sir.

MR. HIRSCH: So let's pull up DDX-8.8.

BY MR. HIRSCH:

Q. You said this was the market for doctor-directed clear aligners, right?

A. Correct. Yes, sir.

Q. How, sir, is this market competitive?

A. Well, it's not. You have a dominant player, and none of the others were able to gain sufficient scale.

Q. And you were just shown a graphic about some of those other companies in the industry, right, sir?

A. Yes, sir.

Q. Where are they on this market share chart?

A. Well, all of them are down there at the very bottom, the ones that you can -- that you can barely see down there at the very bottom over that entire time period.

Q. And what's their market share, sir?

[redacted]. What's their market share?

A. Well, combined, everyone else in the market only has at most about 16 percent.

Q. Now, you weren't asked any questions by counsel for Align challenging any of the accuracy of these calculations, were you?

11:34 A. No, sir. I was not.
11:34 Q. But counsel did ask you whether Align's market share is going down, right?
11:34 A. Yes, sir.
11:34 Q. What's their market share now even after going down slightly?
11:34 A. The last data we have is about 84 percent.
11:34 Q. And what's the threshold that economists like yourself look at to determine whether there's a monopoly?
11:34 A. Well, economists and the justice department have typically looked at somewhere in the range of 60 to 70 percent. I've never seen higher than 70.
11:34 Q. And what's happened to Align's revenues over that same period, sir?
11:34 A. Well, as you can see here, they've -- they've increased significantly.
11:34 Q. You also talked about foreclosure. You showed us that calculation, right?
11:34 A. Yes, sir. I did.
11:34 Q. If we go to 8.60 -- sorry, 6-0.
11:34 What's happened to Align's -- to the portion of the market that Align has foreclosed over the same period?
11:35 A. Well, as you can see, that number has gone

11:35 steadily up and is now at about 76 percent.

MR. HIRSCH: All right. We can go back to DDX-8.8.

BY MR. HIRSCH:

Q. Sir, you were asked a few questions about braces.

A. Yes, sir.

Q. And different types of braces you can print with a printer.

Do you recall that?

A. Yes, sir.

Q. How -- sir, how can you take off your -- from your own teeth, how can you take off any of those new types of braces?

A. Well, you can't.

Q. You were also asked a couple questions about direct-to-consumer aligners, true?

A. Yes, sir.

Q. What did -- yesterday, what did we see Joe Hogan himself say about the status of the direct-to-consumer market?

A. He said it blew itself up and it's basically going away.

Q. And, sir, in Texas, how, if at all, can a patient get a clear aligner without going to a doctor?

11:35 A. Well, in Texas, you can't. Texas has made it illegal to use the direct-to-consumer, as have several other states, because of the risk and concern.

11:36 Q. You were also asked about prices, sir?

11:36 A. Yes, sir.

11:36 Q. You were asked about the effective price of Align's aligners?

11:36 A. Yes, sir.

11:36 Q. Talk to me for a moment about the list prices, okay?

11:36 A. Yes, sir.

11:36 Q. A new doctor that comes in that doesn't have existing Align orders, they pay the list price or the effective price?

11:36 A. Well, when they first came in, before they had any of these other programs, they would pay the list price.

11:36 Q. And that list price for Align's aligners, has that gone up or down?

11:36 A. It's gone up.

11:36 Q. All right. Finally, sir, you were asked a number of questions about Align being a first mover?

11:36 A. Yes, sir.

11:36 Q. And you were asked about the amount that Align has spent on marketing and R&D, true?

11:36 A. Yes, sir.
11:36 Q. The gap that we see here in the market between Align and everybody else --
11:36 A. Yes, sir.
11:36 Q. -- how, if at all, is that gap the result, in your view, of Align being a first mover?
11:37 A. Well, what you -- what you find is -- and there was some discussion of this with Ms. Sterling and others, I think, in the last few days here.
11:37 To get into the market, you have to make substantial investments in marketing and in research and development and manufacturing and all the other things. And it's very difficult to do that if there's a -- so much of the market foreclosed that you can't get to scale.
11:37 Q. How, if at all, is the gap that we see between Align and everybody else the result of R&D spending or marketing spending?
11:37 A. Well, it really goes the other way around. I mean, it's basically because of the impediments to the market, the other companies are not able to do the kinds of things you would have to do to -- if they could access the full market, they would be able to do some of those things.
11:37 Q. Now, you quantified for us, sir, the harm that

11:37 ClearCorrect incurred as a result of Align's iTero
11:38 policies, correct?
11:38 A. Yes, sir.
11:38 MR. HIRSCH: And if we pull up DDX-8.79.
BY MR. HIRSCH:
11:38 Q. And remind us, sir, what was your damages
11:38 number for just the iTero policies from July 2020 to
11:38 December 31st, 2026?
11:38 A. Just for the iTero policies, it was
11:38 $289 million.
11:38 Q. And to be clear, sir, what's your view on
11:38 whether Align's exclusionary contracts harmed
11:38 ClearCorrect?
11:38 A. They did. Yes, sir.
11:38 Q. And what's your view as to whether Align's
11:38 loyalty program harmed ClearCorrect?
11:38 A. It did. Yes, sir.
11:38 Q. But to be conservative, sir, what categories
11:38 of harm did you quantify today?
11:38 A. Only the one from the iTero.
11:38 Q. And if you had included the harm from Align's
11:38 exclusionary contracts, if you had included the harm
11:38 from Align's loyalty program, what would have happened
11:38 to your damages number?
11:38 A. It would have gone up.

11:39 MR. TUBACH: Objection, Your Honor. It's beyond the scope of cross. He's offered no opinion at all about any damages related to those other things. Now he's trying to get into this.

THE COURT: Can you tell me how it relates to what he was asked on cross?

MR. HIRSCH: He was asked specifically about whether there was any harm on these issues. I'm not going to elicit any number. That was -- I wanted to elicit exactly what Dr. Perryman said, that there is a harm.

MR. TUBACH: He was asked -- he was asking whether he suffered additional damages, and that's what I'm objecting to.

THE COURT: Overruled.

BY MR. HIRSCH:

Q. Do you have the question, sir?

A. If you could repeat it, it'd be great.

Q. Sure. If you had included the harm from Align's exclusionary contracts and the harm from Align's loyalty program, what would happen to your damages number?

A. Oh, it would go up substantially.

MR. HIRSCH: If we go to DDX-8.83.

BY MR. HIRSCH:

11:39 Q. One last time, Dr. Perryman. What's your conservative estimate of the harm to ClearCorrect from July 2020 to December 31st, 2026?

11:39 A. Making a number of very conservative assumptions in this analysis and not looking at any other impediments, $289 million.

11:40 MR. HIRSCH: Thank you, sir.

Pass the witness.

RECROSS-EXAMINATION

BY MR. TUBACH:

11:40 Q. Just a few follow-up questions, if I might.

A. Yes, sir.

11:40 MR. TUBACH: Let's pull up DDX-8.8, if we could.

BY MR. TUBACH:

11:40 Q. This is the chart that Straumann's counsel just showed you, right?

A. Yes, sir. It is.

11:40 Q. And you understand that Align's market share has gone down every single year from 2017 until today, correct?

11:40 A. Yes, sir. We talked about that. It started at 100 percent, and it's gone down. Yes, sir.

11:40 Q. And you're not offering any opinion that Align had almost 100 percent of aligner sales in the United

States as of 2017, that there was anything wrong with that at all, right, sir?

A. I did not offer any opinions about that. No, sir.

Q. Right. And so when you have a bunch of companies coming in to sell aligners, you would expect it's going to take some time for them to take market share away from Align, wouldn't you?

A. It's been several years, but yes, sir.

Q. And in fact, that's exactly what's happened. They've taken away 16 percent of market share away from Align and to themselves, right?

A. Well, Align sales have gone up significantly, but percentage-wise --

THE COURT: Doctor, Doctor, just answer his question.

THE WITNESS: Yes, sir.

BY M. TUBACH:

Q. Percentage-wise that's correct, right, sir?

A. Yes, sir. Yes, sir.

MR. TUBACH: You can take that down.

BY MR. TUBACH:

Q. You testified about list prices going up just now.

A. Yes, sir.

11:41 Q. That's the first time we've heard list prices. How much did they go up during this period?

11:41 A. I don't recall the exact number. It was -- it wasn't a huge amount, but I can't remember exact numbers.

11:41 Q. It was less than 10 percent, wasn't it, sir?

11:42 A. I believe so. Yes, sir.

11:42 Q. And this is the same period of time over which you testified that prices generally in the economy have gone up 30 percent, right?

11:42 A. Yes, sir. That was during the COVID period.

11:42 Q. Now, you also testified that the problem here with ClearCorrect is that they can't get to sufficient scale to invest and become better. That was roughly your testimony; is that fair?

11:42 A. Not exactly, but I know what you're talking about. Yes, sir.

11:42 Q. Close enough for a non-economist?

11:42 A. That's fine.

11:42 Q. Okay. Now, one of the advantages of being acquired by a large company like Straumann is that you have the backing of a well-resourced company to help you invest in your business, fair?

11:42 A. If Straumann thinks that that type of investment is appropriate, they do have some resources.

11:42 Q. Well, presumably they wouldn't have even bought the business if they didn't think it was worth investing.

Is that a fair statement?

A. They purchased the business in order to enter that market. Yes, sir.

Q. Yeah. And it took -- it took Align a number of years to become profitable when it first started selling aligners, right?

A. I believe so. Yes, sir.

Q. And, sir, just to be clear, your testimony here about damages has nothing to do with those contracts that Mr. Mueller put on this table, and it has nothing to do with the loyalty discount that we spent so much time talking about, fair?

A. That's fair. I did not quantify those today.

MR. TUBACH: I have no further questions.

Thank you, Your Honor.

MR. HIRSCH: Nothing further.

THE COURT: Thank you, Doctor. You may step down.

MR. MUELLER: Your Honor, at this point, ClearCorrect rests.

THE COURT: Thank you, sir.

Ladies and gentlemen of the jury, we are

11:43 1 going to take our lunch recess. It is 11:45. If you
11:44 2 all would be back at -- we have to do some work on the
11:44 3 charge that I'm going to read to you tomorrow. So if
11:44 4 you all will be back by 1:15, that should give us the
11:44 5 opportunity to get that work done. And we'll see you
11:44 6 at that time.
11:44 7 THE BAILIFF: All rise.
11:44 8 (Jury exited the courtroom.)
11:44 9 THE COURT: Thank you. You may be
11:44 10 seated.
11:44 11 MS. DURIE: Good morning, Your Honor. We
11:44 12 have a motion -- sorry.
11:44 13 THE COURT: Yes, ma'am. I'm sorry.
11:45 14 MS. DURIE: We have a motion under
11:45 15 Rule 50. There is a portion of that motion that is
11:45 16 directed to the allegations of fraud on the Patent
11:45 17 Office in connection with Walker process and enablement
11:45 18 that I will address. And then Ms. Aguilar will address
11:45 19 the remaining antitrust-related issues.
11:45 20 With respect to fraud on the Patent
11:45 21 Office, the standard for fraud for a Walker process
11:45 22 claim is essentially the same as the standard for an
11:45 23 inequitable conduct.
11:45 24 So there must be a statement that is
11:45 25 false or misleading. It must be material. There must

have been an intent to deceive. And then in the context of Walker process, there also must be damages that flow from that material misstatement.

Here, the evidence fails at each of those steps.

There was no evidence of a statement that was false. Dr. Li testified that each of the statements that she made were factually true.

In addition, there was absolutely no evidence with respect to the materiality of the alleged misstatements.

Those statements were made in connection with a declaration that was submitted to overcome pending rejections relative to prior art to Chen and DeSimone.

THE COURT: So I have not dealt -- I've dealt with a couple of these matters as a lawyer. I've not had a case and I -- whose job is it, meaning mine or the jury's --

MS. DURIE: Right.

THE COURT: -- to determine whether or not I believe, or not, that the statement was false and whether I believe or whether the jury believes the statement is material?

MS. DURIE: So we had previously moved

11:46 for a summary judgment on this issue, and the Court had deferred ruling.

I think it is fair that in the context of Walker process, this is a jury issue. But there still has to be substantial evidence in order to allow the issue to go to the jury.

And particularly with respect to materiality, there has to be evidence tying the alleged misstatement for but-for causation to the proposition that the patent would not otherwise have issued.

THE COURT: Now, in the old days, the bad old days I think, there was the whole the more material it was, the more likely it was on purpose and all that. And that was a sliding scale that allowed either the judge -- the judge to kind of wing it and say -- so.

Here, again, if it's up to me to determine whether or not something meets the threshold -- I guess it's -- you're saying reaches the threshold that I find it sufficiently material to allow the jury to hear it?

MS. DURIE: I would say there must be a plausible theory pursuant to which it was but-for material to the issuance of the patent. And the problem --

THE COURT: I'm sorry. That -- you said

something I -- so in -- because I want to make sure I'm right, and I may not be.

There's a difference in my head of whether or not -- and I'll make sure we're saying -- meaning the same thing by "material."

There is a difference in my head between whether or not what was given to the Patent Office was material or -- I think what you just said, and I want to make sure I understand it -- that it was material to the allowance meaning but-for it -- that particular statement or whatever was done was given, it would not have been issued.

Are those the same thing, or am I --

MS. DURIE: If I understand Your Honor correctly, they are not, and the law is the latter.

So under U.S. Water Services, Inc. versus Novozymes, this is 843 F.3d 1345, a Federal Circuit case from 2016 --

THE COURT: Okay.

MS. DURIE: It said: To prove the element of materiality, a party claiming inequitable conduct -- but it is the same standard for Walker process -- ordinarily must show that the patentee withheld or misrepresented information that any absence of the withholding or misrepresentation would have

prevented a claim -- a patent claim from issuing.

THE COURT: Okay.

MS. DURIE: So it is a but-for materiality test.

The problem here is that the issue the examiner was considering when the declaration was submitted was a prior art issue. It was whether the claim should issue over Chen and DeSimone.

The declaration was submitted. There was a rejection. There was continued prosecution. Ultimately, the claims issued.

Defendants are making no argument here that the claims are invalid as a function of Chen and DeSimone. The only argument they're making is an enablement argument. There was no pending enablement rejection.

So there is no potential theory of materiality pursuant to which that declaration was the but-for cause.

THE COURT: I'm sorry. I didn't mean to interrupt you. So if there was no pending issue on enablement --

MS. DURIE: Correct.

THE COURT: -- then it would follow, from your perspective, that whatever was cited in this case

would not have been the material -- what was material to the issuance of the patent.

MS. DURIE: Correct.

In other words, in order to make out this claim, they would need to show both that the statements in the declaration were false and to advance in this case a theory of invalidity, proving that what was provided in the declaration was material to that theory of invalidity --

THE COURT: Right.

MS. DURIE: -- and that the claims would not otherwise have issued. There was another failure of proof on that.

In addition, with respect to intent to deceive, as the Court knows, the standard for intent to deceive is that an intent to deceive has to be the single most plausible inference. And here, again, that standard has just not been met.

An intent to deceive --

THE COURT: I'm sorry to keep interrupting you. Hopefully my questions are --

MS. DURIE: Your questions are the most helpful.

THE COURT: So with respect to that element, why is that issue the -- whether or not it was

11:51 to deceive, why is that a jury issue at all, and why is that not for me to decide as an equitable matter?

MS. DURIE: So I think the issue here is because this is an antitrust case --

THE COURT: Uh-huh.

MS. DURIE: -- and there is a jury issue with respect to Walker process fraud, I think it is correct that that predicate becomes a jury issue because the defendants are seeking damages for their claim.

THE COURT: Okay.

MS. DURIE: Having said that, the standard for intent to deceive remains that there must be evidence that is separate and apart from the mere fact of the misrepresentation, if there were one, right?

There must be additional evidence from which an intent to deceive is the single most reasonable inference, rather than merely one of the inferences that might be drawn.

THE COURT: So that's where I play the role as a gatekeeper to decide whether or not there's sufficient evidence to allow the jury --

MS. DURIE: Correct.

THE COURT: -- to debate and find one way

11:52 or the other.

11:52 MS. DURIE: That is exactly right, Your Honor.

11:52 THE COURT: Okay.

11:52 MS. DURIE: And finally, I would note there has also been a complete failure of proof with respect to damages for this claim.

11:52 No number has been put forward with respect to what damages were incurred specifically as a function of Walker process fraud.

11:52 THE COURT: So why -- why is it necessary for them -- and I'm not arguing for them. I'm going to get to hear from someone, Mr. Mueller or someone.

11:52 But I think I recall them putting in evidence that showed how they were -- I'm not saying they were damaged. It's not my call. But I heard the evidence that I assumed they were putting on to prove how they were damaged by loss of -- to me, it was sort of -- a lot of it was a loss of potential sales.

11:53 What -- why do they have to -- A, do you think they put on sufficient evidence -- leaving aside the second they didn't give a number, do you think that they put on sufficient evidence from which a jury could determine a number, which is one question? And then also, if you want to argue why they had to give a

11:53 number. I see those as two different things.
11:53 MS. DURIE: Understood. Let me take the
11:53 second question first, if I may.
11:53 THE COURT: Okay.
11:53 MS. DURIE: Damages for Walker process
11:53 fraud are the harm that flow specifically from having
11:53 to defend against the patent infringement allegations.
11:54 So it is typically attorneys' fees. That would be the
11:54 damages for Walker process fraud.
11:54 Here, there was conclusory testimony that
11:54 was elicited that simply said the witness was being
11:54 compensated for his work on the case.
11:54 But no testimony was elicited with
11:54 respect to any specific quantum of fees that was
11:54 attributable to the defense of the case, and that would
11:54 have needed to be proffered in order to make out a
11:54 viable damages claim specifically for Walker process
11:54 fraud.
11:54 THE COURT: Okay. So if you're right,
11:54 why would the fact that it is a Walker process claim
11:54 get it, take it out of the norm that ordinarily I would
11:54 think it would be me who would determine what those
11:54 fees were?
11:54 Now, I could see the jury answering yes
11:54 in favor of the allegation. And then it would be up to

11:55 me to determine the attorneys' fees that were relevant
11:55 to -- and that would be done on affidavit and --
11:55 MS. DURIE: Right.
11:55 THE COURT: -- and what was attributable
11:55 to that and not the patent case.
11:55 MS. DURIE: I think that is generally
11:55 true when one is seeking fees as a remedy as -- for
11:55 fees as such, but here, the fees are the damages.
11:55 THE COURT: Okay.
11:55 MS. DURIE: And so I think they would
11:55 need to have put forward sufficient evidence at trial
11:55 from which a jury could determine that there was
11:55 quantifiable damages.
11:55 THE COURT: So your position is that they
11:55 would have had to at least enter into -- I'm sorry --
11:55 enter into evidence some evidence of the -- and maybe
11:55 even more in this case because there was a total number
11:55 of fees that they've expended having to defend the
11:55 patent claim.
11:55 But there would be separate fees for
11:55 prosecuting the -- now that I've said that, let me ask
11:55 you this: Would it be fair for plaintiff -- for the
11:56 defendant in this case to ask for all of the fees that
11:56 they spent both in defending the patent case and
11:56 prosecuting the Walker process claim? Because it's

11:56 one -- it's one and the same.

MS. DURIE: So I would say -- I would say not exactly and certainly not what it spent prosecuting the rest of its antitrust case.

THE COURT: Sure. I get that.

MS. DURIE: And I would just say -- and this is the agreed-upon portion of the jury instructions. As Your Honor knows, there's a lot we don't agree about, but this one thing we do agree about.

In arriving at the amount of the award, you should include any damages suffered by ClearCorrect because of lost profits, meaning profits ClearCorrect would have made, or fees or costs that it incurred in defending against any patent that you may find to have been procured from the Patent Office by fraud.

THE COURT: And your argument is that they did not put on any evidence that a jury could -- and I'm leaving aside they didn't put on a number, but that they didn't even put on sufficient evidence from which the jury could calculate a number.

MS. DURIE: Correct.

And this is -- I think you can think of it like any tort damages. Here, the damages for the Walker process antitrust are the fees. The jury would

have to have a reason to base this in the record to arrive at that damages award, and there is none.

I also, Your Honor, want to make a Rule 50 motion on enablement, but I don't know whether I should move forward or whether it would be helpful to do this piecemeal.

THE COURT: Go ahead.

MS. DURIE: So with respect to enablement, Your Honor, we're moving under Rule 50(a) for judgment as a matter of law on enablement.

Dr. Spiegelberg's testimony on this point was conclusory. He testified generally that there were a large number of possible combinations of the claim, but he failed to tie any asserted difficulty in constructing those combinations to any claim --

THE COURT: I'm going to deny the one on enablement. I'm going to deny your motion on enablement. I may take it up post trial depending on what the jury does. But for now, I'm going to deny that.

MS. DURIE: Understood.

And presumably we can supplement the record --

THE COURT: Of course.

MS. DURIE: -- with respect to the bases.

THE COURT: Yes.

MS. DURIE: Thank you.

Then I will hand it over to my colleague to address the antitrust issues. Thank you.

THE COURT: Okay.

MR. MUELLER: We just need to address that first before the remaining issues or --

THE COURT: I'm not sure what the remaining issues are. So I'm -- let me go ahead and take that up all at once and then --

Yes, ma'am.

MS. AGUILAR: Good afternoon, Your Honor. Diane Aguilar on behalf of Align Technologies.

Your Honor -- excuse me one moment, Your Honor.

Your Honor, just to briefly address your question, I have a Rule 50(a) motion that we want to present on Align on the antitrust anticompetitive conduct. That's the iTero, the contracts. It's a bit lengthy. So I actually think that for efficiency sake, it might be better for co-counsel to address Ms. Durie's arguments.

THE COURT: That's fine too. Give me just one second.

(Off-the-record bench conference.)

11:59 THE COURT: I'm sorry. Thank you.

11:59 Yes, sir.

11:59 MR. MUELLER: Yes, Your Honor. So with respect to the Walker process claims, if I could just briefly step through what we believe the evidence has shown and why that is sufficient to get to the jury on those issues.

11:59 The first is we believe that no reasonable jury could fail to find and certainly a reasonable juror, singular, could find that Align fraudulently procured the materials patents, and those are the '613, '384, '090, and '091.

12:00 Your Honor saw extensive testimony last week about declarations that were submitted to the Patent Office in 2016 and 2019. The event that happened between those two declarations was the announcement of the Zendura FLX material in 2018.

12:00 There is voluminous evidence about the reaction within Align to the announcement of Zendura FLX. Your Honor has seen document after document identifying it as a competitive threat to SmartTrack, which is the plaintiff's material. Those statements came from the chief executive officer on down.

12:00 After the reaction to Zendura FLX internally, Align went back to the Patent Office and

Dr. Li submitted a new declaration. I won't walk through all the differences, but Your Honor saw there's difference after difference in the text of the 2016 versus the 2019.

And in particular, the grammar of the 2019 declaration was broadened. In the 2016 declaration, there was explicit crystal-clear language referring to the discovery of SmartTrack and how that material met the performance criteria of Align and in particular the soft-hard-soft configuration.

That language was changed. And as Dr. Spiegelberg walked through methodically last week, the broader language would have covered 23 materials that did not meet the testing metrics of elongation, time stress-relaxation, durability, and thermoform ability. In fact, some of those materials performed worse than the control sample.

Dr. Spiegelberg testified from a scientific perspective, based on his years of experience and all his work on this case, that those representations to the Patent Office in the 2019 declaration were not accurate. And I'm quoting from the trial transcript. This is at Page 782 (sic), Line 22, through 719, Line 12. He was asked:

Question: Now, having reviewed the

12:02 actual testing data -- this is the Align testing
12:02 data -- that wasn't submitted to the Patent Office,
12:02 what, if anything, did you conclude about the accuracy
12:02 of the statement we're looking at in the revised
12:02 declaration?
12:02 Answer: It is not accurate.
12:02 Question: What are the reasons it's not
12:02 accurate?
12:02 Answer: The various materials do not
12:02 have superior properties over the previous material.
12:02 And his testimony continued. But we put
12:02 on ample scientific evidence of the technical
12:02 inaccuracy of the representations made in the 2019
12:02 declaration, again, which was made against the backdrop
12:02 of the internal communications at Align expressing
12:03 clear concern about the competitive threat posed by the
12:03 new Zendura FLX product announced in 2018.
12:03 As another example, in the 2018
12:03 declaration, there was that sentence Your Honor may
12:03 recall that began, "Only," "Only, only the materials
12:03 that were developed that corresponded to the SmartTrack
12:03 material met the performance criteria."
12:03 That sentence was reworded in the 2019
12:03 declaration to try to make it broader.
12:03 Now, the easiest way for the Patent

12:03 Office to be able to assess the technical accuracy of
12:03 2019 would have been to have the testing data. It
12:03 wasn't submitted. In 2019, there was no reason it
12:03 couldn't have been.
12:03 I'll note parenthetically Mr. Lahlouh,
12:03 the developer of Zendura FLX, did submit his testing
12:03 data comparing his hard-soft-hard material to
12:03 SmartTrack. So it certainly was possible to submit it
12:03 to the Patent Office, but Dr. Li and Align did not.
12:04 So we think this record of clear
12:04 misrepresentations against the backdrop of --
12:04 THE COURT: So jump ahead, if you would,
12:04 or at least address, if you would, the -- counsel's
12:04 argument that you can establish that this was a, my
12:04 words, but-for reason that the patent was allowed.
12:04 MR. MUELLER: And the answer to that,
12:04 Your Honor, is DTX-323, which is the notice of
12:04 allowance for the first patent where the declaration
12:04 was made, the '613.
12:04 And the notice of allowance cites
12:04 Dr. Li's declaration. Dr. Li's declaration says: The
12:04 applicant's affidavit -- if we scroll down -- the
12:04 applicant's affidavit was also found persuasive in the
12:04 reasons for the notice of allowance.
12:04 And, Your Honor, if I may have a moment.

12:04 THE COURT: Sure.

12:04 MR. MUELLER: So Ms. Durie mentioned some rejections. Well, the easiest way to see if this was material is to look at the actual allowance which, of course, followed all of the rejections that Ms. Durie mentioned.

12:05 If we cut to the end of the story, and that's right here, here's the notice of allowance. And the notice of allowance at the end, at the end of the prosecution events that Ms. Durie mentioned, stated: The applicant's affidavit was also found persuasive. In particular, attention to the statement of, quote, the appliances recited in the claims of the '665 application exhibit unexpectedly positive results over previously known appliances.

12:05 These unexpected results are evidenced by clinical studies that were performed comparing the efficacy of orthodontic appliances as described and claimed in the '665 application with that of previously known appliances.

12:05 That is precisely the section of the declaration that Dr. Spiegelberg found to be scientifically false and inconsistent with the testing data that was not submitted to the Patent Office.

12:06 So if we look at the string of events

here, we have the CEO expressing concern over a new material. We have the company going back to the Patent Office. We have a declaration being changed in significant ways. We have testing data that contradicts that new language not being submitted to the Patent Office. We have the examiner relying on the new language and the notices of allowance.

This is more than enough for a reasonable juror to find --

THE COURT: Okay. So let's jump ahead to something that makes sense to me. On the verdict form, the question will be did -- what is the question you will want me to ask them about the Walker process? Does it just say did they violate -- what will the question be?

MR. MUELLER: Yes, Your Honor.

So the way we have it worded, and the parties have agreed that a proposed structure for Your Honor's consideration would first list the patent merits questions, noninfringement and so on.

THE COURT: Right.

MR. MUELLER: And then Section 2, which would follow Section 1 --

THE COURT: And put a pin in that.

If the answer to the question did they

12:07 infringe, do you infringe, if that's found yes, does that necessarily mean then there's no -- that you can't win on your Walker -- can --

MR. MUELLER: No.

THE COURT: So there's no -- regardless of how they answer infringement, yes or no, they still are going to continue to answer this question?

MR. MUELLER: That's exactly right. That's exactly right.

And in a nutshell, the reason why, Your Honor, is that we think this evidence is a very, very clear attempt to broaden the claims beyond where they should have been.

THE COURT: Okay.

MR. MUELLER: But we don't think the broadened claims reach our products.

THE COURT: Okay. But you're not -- you don't have an -- so you don't have an invalidity claim that they're going to answer, right?

MR. MUELLER: We do. The enablement claim will be in the first half.

THE COURT: Oh, got it.

MR. MUELLER: Yeah. So it would be noninfringement and enablement as Section 1, and willfulness if they reached it.

12:08 THE COURT: And so they will go through, and the first question they'll answer is do they infringe -- do you infringe?

MR. MUELLER: Correct.

THE COURT: Next question will be is the patent valid?

MR. MUELLER: The next one is willfulness if they find infringement.

THE COURT: Okay.

MR. MUELLER: The third one is invalidity.

THE COURT: Okay. And are you all objecting to the inclusion of the willfulness question?

MR. MUELLER: You know, Your Honor, we might be, at the conclusion of the evidence, moving ourselves on Rule 50 if there's been, we think, no evidence of intent. And the way it's structured, that would be the same.

THE COURT: Okay. Typically I -- it's pretty rare anyone has made it to a jury question about willfulness.

Okay. Let's leave that aside. So infringement, then willfulness, and then is the enablement question next?

MR. MUELLER: Correct.

12:08 THE COURT: Okay. And that's a regardless also?

12:08 MR. MUELLER: Absolutely.

12:08 THE COURT: Because you have a -- I assume you have a counterclaim of --

12:08 MR. MUELLER: I'm not sure if -- I'm actually forgetting if we have a counterclaim.

12:09 THE COURT: So typically -- well, here's my -- what I've done in the past. If you have a counterclaim -- and you'll figure this out. If you have a counterclaim of enablement, then regardless of the finding on infringement, I'll submit it.

12:09 If you don't have a counterclaim, if it's just a defense to infringement in your affirmative defenses, then I'm not going to have them answer the validity question.

12:09 MR. MUELLER: We have no objection to that, Your Honor.

12:09 THE COURT: Okay. So I'm not -- eventually I'm going to get to the question we're trying to answer.

12:09 So let's say infringement, yes or no; willfulness, yes or no; invalidity, yes or no. What comes next?

12:09 MR. MUELLER: Next, Your Honor, would be

this Walker process section.

THE COURT: Okay.

MR. MUELLER: And basically both sides have been discussing a special interrogatory in that section. The wording is a little bit different. The basic difference is that we have it worded as a single question that refers to Align, the company, because for Walker process it's an institutional claim. Inequitable conduct, which would be for Your Honor post trial is Dr. Li.

THE COURT: Right.

MR. MUELLER: But for the -- for this particular claim, it's the company.

THE COURT: Could -- could I find inequitable conduct on her part if the jury finds no on the Walker process claim?

MR. MUELLER: I mean, that would be for Your Honor. That'd be for Your Honor. But --

THE COURT: As a matter of law. But it would be -- it would be something I would consider.

MR. MUELLER: Absolutely.

THE COURT: Got it.

MR. MUELLER: Absolutely.

And then in the question of damages which Ms. Durie mentioned, if I could just say a few words

about that.

So the damage for the Walker process claim is the fact that ClearCorrect and Straumann have had to defend themselves against these patents which we believe were procured by fraud for anticompetitive effect.

And so it is correct that one measure of such damages would be attorneys' fees. We have not presented that evidence to the jury, but we presented -- and we were very careful about this -- that there was cost to the company. And the particular costs that we identified was -- this morning was when Dr. Perryman testified that he had billed time for his work responding to the materials patents. He also noted Dr. Spiegelberg had done the same. Those are costs to the company.

Now, do we need the jury to make a specific finding on those costs? We don't. And in fact, we might ask the jury for $1 on principle. But that gets us to the jury as a matter of evidence. We have put on concrete proof of harm to the company, economic harm, associated with these very patents.

THE COURT: And so the failure to put on evidence of damages does not prevent you from being able to put on the case.

12:11 MR. MUELLER: Well, we did present evidence, and we could ask for --

12:11 THE COURT: No. I'm saying -- but I didn't hear any evidence -- I mean, I heard what he said, but -- and I -- eventually he -- the other side beat out of him, you know, how much he made per hour, but there wasn't, I think, any tethering to how much time of that -- and with Dr. Perryman, it was unlikely they would have ever gotten that.

12:12 So -- but I am -- I don't know how -- if you went the $1 route, I understand that. I don't see how -- I don't know that I heard anything from Dr. Perryman that would allow the jury to accurately --

12:12 MR. MUELLER: We're happy to do the $1 route. We're happy with the $1 route, and certainly there's ample evidence to support the $1.

12:12 THE COURT: Yeah. I get that. And I think that might take care of it. So we've dealt with that.

12:12 Is there anything else you need to argue?

12:12 MR. MUELLER: Not unless Your Honor has any further questions.

12:12 THE COURT: I don't.

12:12 I'm going to deny the Rule 50 motion with respect to the Walker process claim.

12:12 Next?

12:12 And I'll get to you in one second.

12:12 Mr. Mueller, do you -- does your side have any Rule 50 motions after she's done?

12:12 MR. MUELLER: Your Honor, we'd just like to do a pro forma renewal of our earlier --

12:13 THE COURT: Why don't you just say you're renewing them right now, and I'll deny it.

12:13 MR. MUELLER: That'd be fair, Your Honor.

12:13 I would just note one -- two things very quickly. One, there's a willfulness issue that Your Honor has alluded to. We would like to take that up before the final jury charge.

12:13 THE COURT: And I will.

12:13 MR. MUELLER: Okay. And then the second thing is, and we can do this later as well, for some of the damages theories, they were actually contingent on intent. And that's bound up with the same willfulness issues. I think we can take those up later, but I did just want to make sure to reserve the rights --

12:13 THE COURT: I'd like to hear all of the evidence before I rule on the willfulness.

MR. MUELLER: Understood.

12:13 THE COURT: I'm sorry. You've gotten up twice. You've been very polite. Thank you.

12:13 MS. AGUILAR: Good afternoon again, Your Honor.

12:13 THE COURT: Yes, ma'am.

12:13 MS. AGUILAR: Diane Aguilar, that's A-g-u-i-l-a-r, on behalf of Align Technologies.

12:13 Your Honor, Align moves under Rule 50(a) for a judgment as a matter of law on Straumann's monopolization and attempted monopolization claims.

12:13 The monopolization claim has four elements. The parties have agreed on what those four elements are. Mr. Perryman walked through them. And Align respectfully submits that Straumann has failed to prove each of the elements as a matter of law.

12:14 I'm going to start with the monopolization claim, Your Honor.

12:14 The monopolization claim fails for multiple independent reasons. First, Straumann has failed to prove a legally cognizable market. Its proposed market, the market for doctor-directed clear aligners, excludes obvious teeth-straightening substitutes, including braces and direct-to-consumer alternatives.

12:14 Straumann has failed to present sufficient evidence that those products are not reasonably interchangeable with doctor-directed clear

aligners.

THE COURT: So I haven't done an antitrust case since I've been on the bench.

For the verdict form, is -- are you all going to get up in your closing arguments and say we've proven all of this, so answer yes or no on one antitrust question, or does the jury decide, for example, here whether or not there was this market? Who -- how -- what is my role in this?

MS. AGUILAR: Your Honor, the verdict -- there's a dispute in verdict forms. Align's position is that the jury should decide each four of the individual elements for both the monopolization claim.

The relevant market question is the same for both monopolization and attempted monopolization so that we wouldn't have the jury tick through it again when it gets to attempted monopolization.

THE COURT: The way you want to do it, if, for example -- would that be the first question they would answer?

MS. AGUILAR: Yes, Your Honor.

THE COURT: So are those questions conditional, meaning if they found "no" on that question, would they stop there or --

MS. AGUILAR: Yes, Your Honor. We

12:16 believe that that would end the inquiry, and they should sign the verdict form.

THE COURT: And if they were asked -- and this is saving us time back there. If they were to -- it would certainly allow on appeal the review of whether or not the jury found on each of those issues -- what they found on each of those issues.

MS. AGUILAR: That's correct, Your Honor. And we believe that's consistent with the ABA model verdict form.

THE COURT: Okay.

MS. AGUILAR: And, Your Honor, the second element of the monopolization claim is willful maintenance monopoly power in -- excuse me -- is that Align possesses monopoly power in a relevant market. That would be the second element that Straumann needed to prove, and we believe that Straumann has failed to put forward evidence that Align possesses monopoly power in any relevant market.

Straumann has not shown that Align has the power to control prices or exclude competition. We just heard from Mr. Perryman that there are something like two dozen new entrants into the market and that prices have been declining during the relevant time period.

12:17 THE COURT: Is that -- again, I'm -- Judge "Hippo" Garcia, who was on the bench starting in 1979, had an antitrust case. And he once told me he knew more about how to perform brain surgery than he did about antitrust. And I don't know that I'm in exactly the same position, but it's not far removed.

So here, again, on that particular question, does the fact that -- and Lino Graglia, who taught me antitrust law at UT, would be very sad at this.

But does the -- for example, does the fact that prices have gone down as a matter of law mean that there's not -- I mean, like I'm trying to come up with an analogy.

But, you know, like if AT&T's prices had gone down because of the entrance of other competitors, would that alone mean they are not monopolizing?

MS. AGUILAR: Your Honor, Align's position is yes. The definition of monopoly power -- and this is Supreme Court case law, this is United States versus DuPont -- holds that monopoly power -- that definition of monopoly power is the ability to control prices and exclude competitors.

THE COURT: Got it.

MS. AGUILAR: And I don't want to speak

12:18 out of turn because I know there's a charging
12:18 conference. But I believe that that's --
12:18 THE COURT: No, no, no. This is -- we
12:19 would be -- this is better because I want this on the
12:19 record. And this will help inform me about how to do
12:19 the verdict form. So this is great.
12:19 MS. AGUILAR: Okay. I love antitrust
12:19 law, Your Honor. So I'm happy to field all of these
12:19 questions.
12:19 THE COURT: That makes me a little sad.
12:19 (Laughter.)
12:19 MS. AGUILAR: I believe there is a jury
12:19 instruction that has that exact language that both of
12:19 the parties agree to.
12:19 THE COURT: Okay.
12:19 MS. AGUILAR: Okay. The third element of
12:19 a monopolization claim, Your Honor, is another
12:19 independent reason why Straumann's monopolization claim
12:19 fails. That is that they have failed to provide
12:19 evidence that is legally sufficient of anticompetitive
12:19 conduct.
12:19 THE COURT: I'd skip on to the next one
12:19 on that one.
12:19 MS. AGUILAR: If I may, just one point,
12:19 Your Honor.

12:19 In the Fifth Circuit, anticompetitive
12:19 conduct is defined as conduct that has no other
12:19 legitimate -- no other legitimate justification that is
12:20 rational.
12:20 THE COURT: I'd still keep going on that
12:20 one.
12:20 MS. AGUILAR: Okay. Your Honor, as to
12:20 the iTero --
12:20 THE COURT: I mean, you may win on --
12:20 when you argue that to the jury.
12:20 MS. AGUILAR: Of course, Your Honor.
12:20 THE COURT: I don't think it's a standard
12:20 for a Rule 50 motion.
12:20 MS. AGUILAR: Understood, Your Honor.
12:20 THE COURT: I can grant that.
12:20 I mean, who really knows what a moat is?
12:20 So.
12:20 MS. AGUILAR: Understood, Your Honor.
12:20 I do want to talk about Straumann's
12:20 argument that the iTero should have been designed
12:20 differently or to provide less choice friction.
12:20 That is squarely a refusal to deal
12:20 theory. And under Trinko, there is no duty to aid a
12:20 competitor. And there is a narrow exception to the
12:20 duty to deal, and that exception requires that Align

had abandoned a prior voluntary profitable course of dealing, and there has been no evidence that Align has done so.

THE COURT: I remember that evidence pretty well.

MS. AGUILAR: And, Your Honor, we would argue that any argument as to how the iTero was designed cannot as a matter of law make out an exclusive dealing claim.

THE COURT: Okay.

MS. AGUILAR: To the extent, Your Honor, that Straumann is seeking to advance a Microsoft-type exclusive dealing argument, we would argue that Straumann has failed to show that type product market is a competitive threat to the time product market, meaning the scanner does not compete with clear aligners.

And I can say a little bit more about that, Your Honor.

THE COURT: I actually understand that argument.

MS. AGUILAR: Second, Your Honor, Align's discounting programs are above cost loyalty discount programs, which as a matter of law are lawful and cannot constitute anticompetitive conduct. Align's

special markets or individual doctors' agreements fail for similar reasons.

And lastly, Your Honor, I want to address Straumann's position that it -- excuse me. I want to address that Straumann cannot prove the anticompetitive conduct element by aggregating lawful conduct.

Labeling independent lawful conduct as a course of conduct does not make it exclusionary. And at a minimum, we would ask that if the Court is not inclined --

THE COURT: I think that has to be true. I mean, whatever you just said has to be correct.

MS. AGUILAR: Yes.

THE COURT: But I'm not sure what you're asking me to -- if you're asking me I think to assume that there was evidence of any illegal conduct, I'll ask them.

But if what you all did, if each element was truly lawful and they tried to aggregate it to make it unlawful, they're not going -- even I can understand that.

And so I don't think you need to argue that one very -- I'll hear from them about why you're wrong that they're arguing that lawful conduct has been aggregated.

12:23 MS. AGUILAR: Well, Your Honor, this will come to a head during the jury instruction -- when we talk about the jury instruction conference. I believe Straumann has a position that a course of conduct in and of itself can be considered as anticompetitive.

We would argue that each theory of conduct has to be evaluated separately.

Yes, Your Honor.

THE COURT: Well, are they going to argue -- are they going to argue that there were parts of the prior course of conduct that were illegal?

Because what I hear you saying is that if -- that they can't come in and argue that you all's course of conduct was legal and then transform it into illegal monopolization. But -- so I may hear from them, but --

MS. AGUILAR: Yes, Your Honor. Let me give you an example.

THE COURT: Tell me -- give me the heads-up about what's coming in the charge conference.

MS. AGUILAR: Let me give you an example, Your Honor. If the jury were to find or Your Honor were to find that the Advantage Program, the discount program, there's nothing unlawful about that --

THE COURT: Right.

12:24 MS. AGUILAR: -- that should then not be considered in the sort of course of conduct theory, right? That needs to be set aside as a lawful business practice. Same for if --

12:24 THE COURT: So but in terms of the ultimate question that's being answered, I'm not sure what you're saying.

12:24 Are you saying, for example, on closing argument, they can't make an argument that -- about the fact you all had that program, which was legal but it ultimately led to a claim of monopolization, or what is it you're arguing to me?

12:25 I understand what you're saying, but I'm not understanding how it impacts the Rule 50 motion. If my question makes sense.

12:25 MS. AGUILAR: Yes, Your Honor. That makes sense.

12:25 If Your Honor were to now, for -- and I know your -- if Your Honor were to say that -- to rule that you agree with Align, that for example there's nothing unlawful about a low price above cost discount program, and that is all the evidence that Straumann has put forth with respect to some of the discount programs --

12:25 THE COURT: Then you win.

12:25 MS. AGUILAR: -- then we win, and that gets away from the jury.

12:25 THE COURT: I got it. That, I understand.

12:25 MS. AGUILAR: Okay. Thank you, Your Honor.

12:25 The fourth independent reason that a monopolization claim fails, that Straumann's monopolization claims fails is lack of substantial foreclosure.

12:26 Straumann has offered no reliable conduct-specific foreclosure number tied to the iTero, the Advantage Program, the special markets program, the individual doctors' agreements, or any other challenged practice.

12:26 The fifth independent failure is lack of evidence of harm to competition.

12:26 Straumann did not prove reduced market-wide output, higher consumer prices, diminished market-wide quality, or other competitive impairment. At most, Straumann has tried to prove harm to ClearCorrect that is legally insufficient. The antitrust laws protect competition, not a single competitor.

12:26 And the final independent reason the

12:26 monopolization claim fails, Your Honor, is that
12:26 ClearCorrect has failed to prove that any of Align's
12:27 conduct proximately caused injury to its business.
12:27 And there are several reasons for that.
12:27 Straumann cannot recover antitrust damages for losses
12:27 caused by its own product, service, leadership,
12:27 manufacturing, execution failures.
12:27 And, Your Honor, one important note here
12:27 is Straumann's expert, Dr. Taylor, on the stand
12:27 testified that in the end, he always used his
12:27 professional judgment when prescribing aligners. And
12:27 there has been no evidence that any doctor has set
12:27 aside their professional ethical obligations when
12:27 prescribing aligners and that that is not the reason
12:27 Align has always been what is prescribed.
12:27 Your Honor, I'm going to move on to
12:27 attempted -- the attempted monopolization claim.
12:27 As we -- as I discussed, the
12:27 monopolization claim fails because Straumann has failed
12:28 to prove a legally cognizable relevant market.
12:28 There's also no dangerous probability of
12:28 monopoly power. Again, that is the ability to increase
12:28 prices or exclude competitors. And there is no
12:28 anticompetitive conduct, and there's no causation.
12:28 There are additional reasons the

attempted monopolization claim fails.

First, Straumann has not proved specific intent to achieve monopoly power in the relevant market. The evidence Straumann relies on shows ordinary competitive intent. Align wanted to sell more Invisalign, improve iTero, protect its patents, retain customers, and compete for doctors and DSOs.

Second, Straumann has not proved a dangerous probability that Align would achieve monopoly power. And Straumann did not prove substantial foreclosure from any of the challenged practices.

Your Honor, because Texas antitrust law is construed in harmony with federal antitrust law, the Texas claim fails with the Sherman Act claims as well. And there are other independent reasons why the Texas claim fails.

The Texas statute is directed at competition occurring wholly within the state of Texas and to the benefit of Texas consumers. It does not support out-of-state injury absent a showing that the relief promotes competition within Texas and benefits Texas consumers.

Straumann has made no such showing. At most, the evidence shows that ClearCorrect manufactures aligners in Texas, but there has been no showing of

12:29 harm related to that facility, much less harm to competition in Texas.

Straumann did not present any evidence from a practicing doctor in Texas or a DSO in Texas that -- regarding the special market agreements or any of the agreements somehow prevented them from ordering ClearCorrect or any other competing aligner.

And with that, Your Honor, I rest.

THE COURT: So let me ask you the question I don't think we're supposed to ask in the secret page of the judge handbook. But that's the one that we always think about, which is, why wouldn't I be smarter to deny your motion now and see what the jury does and deal with this afterwards if the jury were to come back with, you know, a finding of no in your favor on all those issues. You'd be in much better position on appeal than you would be if I ruled in your favor.

MS. AGUILAR: Your Honor, there -- there are specific findings that the jury must make. And as Your Honor knows, what the jury deliberates, it's a black box. And we would not have visibility into exactly why --

THE COURT: Well, what I'm saying is two things.

One, I'm probably with you on the idea of

12:31 splitting out the questions for the jury. So to take
12:31 away -- I'm also a fan of the not black box. I know
12:31 there are -- you know, for example, that's why -- I
12:31 think I'm not going to be contradicted by what I've
12:31 done in the past. But I think that's why if there are
12:31 multiple claims being asserted in a patent, I think
12:31 I've always put all the claims in and not just said, do
12:31 they infringe a patent.
12:31 So I'm kind of with you there.
12:31 My question was slightly -- was very
12:31 different, which is, if the jury -- if I grant your
12:31 Rule 50 motion, then it goes up on appeal on a --
12:31 one -- not only one review in terms of error, but also
12:31 they sort of step into my shoes here.
12:32 If the jury comes back in your favor and
12:32 says no, no -- rules against defendant and everything,
12:32 that's a jury decision that is much more difficult.
12:32 And I would still have the power to, if I thought the
12:32 jury got it wrong, to make that decision.
12:32 So if you don't want -- you don't -- this
12:32 is a question I'll say you don't have to answer because
12:32 it's a tough question to answer because I know what
12:32 your client wants is for me to grant the Rule 50
12:32 motion. And they want you to say, no, Judge, you
12:32 should grant it.

12:32 But if you have any thoughts, I'd be happy to hear them.

12:32 MS. AGUILAR: Yes, Your Honor. Of course we would request that you grant our Rule 50 motion.

12:32 There's a -- there's a few issues with the -- a failure of proof for Straumann.

12:32 One is that they only have one damages number for the anticompetitive conduct. So they only have the --

12:33 THE COURT: I've dealt with that. I'm not persuaded by that because they're going to say -- they kind of admit that, so.

12:33 MS. AGUILAR: Okay. Thank you, Your Honor.

12:33 THE COURT: And so -- and the Circuit -- the Circuit can decide however they want to. If they get $1, you know, you all can fight over that.

12:33 But anything else?

12:33 MS. AGUILAR: There's nothing else, Your Honor. Thank you so much.

12:33 THE COURT: Okay. And, Mr. Mueller, are you up?

12:33 MR. MUELLER: Mr. Ford's going to address any questions you have on these issues, Your Honor.

12:33 THE COURT: Well, I think this is the

12:33 first time I've gotten to hear from him, so I'm
12:33 delighted.
12:33 But so everyone knows, clearly we're
12:33 running longer than I anticipated, which probably shows
12:33 a sign of bad judging on my part. So -- but I've
12:33 looked at the number of hours you have left, and I
12:33 think we're obviously on track to finish with the
12:33 evidence and be able to charge tomorrow.
12:33 So we're going to -- when we finish the
12:33 Rule 50 arguments, we're not going to do the jury
12:34 charge immediately -- conference immediately
12:34 afterwards. We're going to have the -- when the jury
12:34 gets back at 1:15, we'll resume evidence. And I'll let
12:34 the jury go at 4:00 today, and we'll take up and we'll
12:34 do the jury charge conference.
12:34 Now, you all think about this because I
12:34 again want to protect your record as much as possible.
12:34 We may have exhausted a lot of the issues, arguments.
12:34 You may have previewed for me a lot of the arguments
12:34 we're going to have over the jury charge by what we're
12:34 arguing about.
12:34 But given what we're -- what's gone on
12:34 here, I would be happy if you all would prefer to do
12:34 the charge conference on the record and out here as
12:34 opposed to the way I ordinarily do it and just let you

make objections.

Think about it. You don't need to tell me now. I'll do -- Kristie needs extra work anyway.

And so -- so you all think about what's best for you, and I'll be happy to do the charge conference out here, if you think that is better for your clients, or if you want to do it informally, it's easier to do it informally. And then you can just make your objections, but I'll do whatever you all think is best.

Yes, sir.

MR. FORD: Your Honor, Mark Ford. And actually, we have met. I've done some arguments for you --

THE COURT: Oh, no. I'm saying in this case. No. I remember you well. That's why I'm so eager to have you step up. I didn't -- I don't recall you being -- standing up in this trial, have you?

MR. FORD: I have not. I have not.

THE COURT: Okay. I was a little worried I was turning into Joe Biden there for a moment, so -- but...

MR. FORD: So I'm happy to go through each of the issues Ms. Aguilar met. But I thought I would first start with the one for which you had the

12:35 questions which concerning aggregating conduct.

12:35 We agree that if conduct is not
12:36 anticompetitive, that if a jury decides that one of the
12:36 three species of conduct is not anticompetitive, it
12:36 doesn't aggregate with the others, right?

12:36 The difference is this: For our claim,
12:36 what we have to show is that the conduct as a whole
12:36 resulted in substantial foreclosure, meaning reducing
12:36 marketplace opportunities to rivals by at least
12:36 40 percent. You saw Dr. Perryman put on a figure that
12:36 it was 76 percent.

12:36 Now, when it's that type of analysis,
12:36 what the Court -- the jurors don't separately evaluate
12:36 each piece of anticompetitive conduct to determine
12:36 whether it alone reached the 40 percent.

12:36 If the Court -- if the jury decides that
12:36 the iTero conduct was restricted, consumer choice was
12:36 anticompetitive, that the exclusionary conduct did as
12:36 well, that the Advantage Program did as well, the
12:36 instruction that -- is that you look at the overall
12:36 effect of all that conduct.

12:37 THE COURT: So let me challenge you there
12:37 a bit. Let's talk about the -- I'm saying bonus
12:37 points. I'm not sure exactly -- the program they had
12:37 where they -- essentially the six-month program.

12:37 So was there -- is there something
12:37 illegal about -- you said anticompetitive.
12:37 MR. FORD: Yes.
12:37 THE COURT: I mean, it seems -- why --
12:37 let me ask you this, try it this way: Why is that
12:37 anticompetitive as opposed to competitive?
12:37 MR. FORD: Sure. So this is a recent --
12:37 THE COURT: I mean, I have -- I fly only
12:37 on American Airlines, if I can, because I have all my
12:37 miles on American. I don't see -- so Delta is not
12:37 getting my business because American has made it better
12:37 for me through a miles program.
12:37 So I don't see that as anticompetitive.
12:38 I see that as competitive because it makes me as a
12:38 consumer happier.
12:38 MR. FORD: Yeah. And I think that
12:38 program is. But here, but American is not a
12:38 monopolist, and the American AAdvantage program
12:38 doesn't --
12:38 THE COURT: Well, now here's the deal.
12:38 I'm not going to let you get away with -- no offense --
12:38 saying they're a monopolist, therefore you look at
12:38 everything they did and they can't do that because
12:38 they're a monopolist.
12:38 And how do I prove they're a monopolist?

12:38 Well, you look at everything that they did and that makes them a monopolist.

So I'm going to start off: Why do you -- why do you start off that they are a monopolist?

MR. FORD: Sure. So the two steps to determine whether someone's a monopolist is, first, to define the relevant product market and then to determine within that market, do they have a dominant share supported by --

THE COURT: And have you all agreed on that market?

MR. FORD: We don't agree on that market.

THE COURT: I was going to say, in your world -- that's my point, is in your world, they are a monopolist. In the plaintiff's world, they're not --

Mr. Durst, you can just shake -- in your world, you're not a monopolist, right?

MR. DURST: In the real world, we're not a monopolist.

(Laughter.)

THE COURT: Understood. And so -- and so that's my problem, is, I get that I have to -- for you to move forward with the -- because they're a monopolist, when they do X, Y, and Z, you can combine those things.

12:39 And again, I know very little about antitrust law. I'm struggling here. But that seems to me by accepting your argument, I'm accepting your argument and that they are a monopolist. And that seems to me kind of why we're all here.

MR. FORD: Exactly.

So the first question the jury's going to answer is: Has ClearCorrect proven by a preponderance of the evidence that the relevant antitrust market is doctor-directed clear aligner markets?

If they say yes, they move on. If they say no, we agree that there's no liability. But if they say yes, then the jury has decided we have -- through Dr. Perryman's evidence and a host of other evidence, we have demonstrated that relevant antitrust market --

THE COURT: So how -- when you stand up -- one of you stands up to say, answer Question No. 1 yes, here is the evidence, what is the evidence you're going to put on?

MR. FORD: So if you could turn to Slide 3.

So the first piece of evidence we would put on is the econometric evidence that Dr. Perryman put in. The fundamental question for a relevant market

12:40 1 is whether that hypothetical monopolist, i.e., like a
12:40 2 company that hypothetically owned all of it, whether
12:40 3 they could profitably raise prices 5 percent.
12:40 4 Now, Dr. Perryman did an econometric
12:40 5 analysis that showed they could. They can challenge
12:40 6 it, but it's in evidence, and it is sufficient for a
12:40 7 jury. And that alone is enough for the jury to base it
12:40 8 on.
12:40 9 Then there are other factors a jury can
12:40 10 consider, like the characteristics of the products. So
12:40 11 here, where Dr. Taylor talked about all the various
12:41 12 differences. And importantly, how consumers, a lot of
12:41 13 the vast majority -- if you look at the last bullet --
12:41 14 the vast majority of patients that wanted clear
12:41 15 aligners wouldn't go to braces.
12:41 16 And so that supports the point that
12:41 17 someone who is a monopolist in the clear aligner space,
12:41 18 if that were the market, could raise the price.
12:41 19 You go to the next slide.
12:41 20 In addition to that, you look at the way
12:41 21 the companies themselves view the market. And so here,
12:41 22 we have admissions from the CEO of Align that what they
12:41 23 have is a market that is beyond -- in his words, beyond
12:41 24 the wire and brackets market. It focuses on the
12:41 25 hundreds of millions of additional patients.

12:41 THE COURT: So let me fast-forward just a little bit. Is what happens that you put on all this evidence -- I get what you're saying now.

12:41 To me, what you're saying now is different than what counsel for plaintiff was arguing, and what I mean by that is what you're saying now goes to answer Question No. 1, and -- which they are a monopolist. It seems to me if at that point, then you want to show -- then is it at that point where you say: And to further their monopoly, they had the program, they had these other things, which for a nonmonopolist, American Airline, would be okay. But if you find that they are a monopolist based on these factors, then look at this other conduct by them which otherwise would be legal, but as a monopolist, for them, it's not?

12:42 MR. FORD: That is exactly right. There is one step in between.

12:42 THE COURT: Okay. That's what I'm --

12:42 MR. FORD: Once we define the relevant market, that just says, okay. What is the market we're looking at?

12:42 We then -- ClearCorrect needs to prove that Align has a dominant share of that market and that there are barriers to entry and expansion.

12:43 THE COURT: So who decides what the

relevant market is? Do I decide that, or does the jury answer that?

MR. FORD: The jury answers that. That would be the first question that you instruct them when you're going over monopolization. You first have to define the relevant market. Here's how you do it. Here's what ClearCorrect alleges. Here's what Align alleges. Here's the standard that you can apply.

THE COURT: Okay.

MR. FORD: And then once -- the next is whether Align has monopoly power within that market that you found. Now, if they side for us, they move on to the next question.

And there it's a market share assessment largely.

And, you know, if we go to Slide 7, the evidence we have here is that Dr. Perryman did, frankly at this point, an unrebutted market share analysis, if the market is the doctor-directed clear aligner market, showing that throughout the relevant period, it is well above the threshold to be considered a monopoly.

And we also --

THE COURT: So let me ask you this -- and I may have you sit down for just a second and hear a response.

12:44 At the Rule 50 stage -- sorry. I'm trying to get this right. At the Rule 50 stage, if you have put on -- if defendant -- you're plaintiff -- you're counterplaintiff, whatever --

MR. FORD: Antitrust plaintiff.

THE COURT: You're the antitrust plaintiff. If you have put on sufficient evidence including what you just said that would allow the jury to define what the relevant market is, then at a minimum, in your opinion, it would be error on my part to grant a Rule 50 motion because at a minimum, you have evidence and the jury ought to be able to decide that because everything else cascades from that?

MR. FORD: That's exactly right. I would never accuse you of error, but what I will say is we have ample evidence --

12:45 THE COURT: Hey, I got reversed. I just found out a week or two ago the Supreme Court reversed the panel I was on, Federal Circuit, nine to zero. So how many district judges have been reversed nine to zero? You know, I mean, that's kind of a big deal.

MR. FORD: Just let it roll off your back.

So what I would say is we have more than sufficient evidence that a reasonable juror could find

12:45 in our favor.

12:45 THE COURT: Okay. Let me hear a response from opposing counsel, as I slowly peel the onion and my understanding.

12:45 Why shouldn't -- given the evidence that's in the record, why shouldn't the jury have the opportunity to answer the question of what the relevant market is, and why should I take it from their hands?

12:45 MS. AGUILAR: So, Your Honor, there are four elements to a monopolization claim. The first one is what is the relevant market?

12:45 And that may go to the jury to decide, is it the clear aligner market or is it the teeth-straightening market?

12:45 But the second element is does Align have monopoly power in a relevant market, whatever market -- in that relevant market.

12:46 So does -- that's where we think there is insufficient evidence. I mean, we think there's insufficient evidence on both. But the conversation we're having here --

12:46 THE COURT: So is it -- I'm sorry to interrupt.

12:46 Is it your position -- this may make more sense to me, then. Is it your position -- I get that

you don't think there's sufficient evidence if the relevant market is you all's relevant market.

Is your position that there is no -- is there's not sufficient evidence of monopoly even in what --

MS. AGUILAR: Correct, Your Honor.

THE COURT: Okay. I'm done with you.

MS. AGUILAR: I'm sorry.

THE COURT: I get, then, what your position is, and I'll go back to --

MS. AGUILAR: Your Honor, if I could just say one thing.

THE COURT: Sure.

MS. AGUILAR: The parties have agreed on what monopoly power is. The definition is the power to control prices and exclude competition.

And the parties have both agreed that market share alone is insufficient to prove monopoly power. And all the evidence that they have put forth is about market share, not the power to control prices or to exclude competition.

Thank you, Your Honor.

THE COURT: So but this at least limits you to only needing to argue why, under your evidence -- I'm sorry, under your relevant market what

12:47 evidence there is to show that there's monopolization because I understand their argument now.

MR. FORD: If you go back to 7.

So the -- what she just -- Ms. Aguilar just described is the definition of monopoly power. But it's not the test for how you prove monopoly power through what we call indirect evidence.

You know, we can't -- there's ample case law. So it's really difficult to figure out if they can do that directly. So what you do is you first see if they have a dominant share of the market. She hasn't rebutted that. We have presented evidence of that.

That is not alone enough. But the other piece, if you go to the next slide, is that that position is protected by barriers to entry which would prevent significant and quick entry and growth by other competitors.

THE COURT: And your argument here would be that we've heard testimony that at least 20 other companies have come in.

MR. FORD: Yes, but they haven't come in with any significant growth because we show many have come in, many have fallen off, few have -- none have reached any scale, right?

12:48 So you need to have the ability to come in and discipline the monopolist, right?

12:48 So Dr. Perryman's example of being the only hotdog stand in the neighborhood, he could probably raise prices. But it's easy to set up a hotdog stand the next day and discipline that.

12:48 THE COURT: What about the fact -- let me shift you over to something else that's -- what about the argument they made that the fact that -- you reminded me of it with the if they raise prices on the hotdogs. What about their argument -- I don't think you all debate that overall prices have come down despite the fact that they have monopoly.

12:48 I think I asked and I think I got the answer that that in and of itself would be, as a matter of law, proof that they're not a monopoly.

12:49 And do you have a response to that?

12:49 MR. FORD: It most certainly is not proof that they're not a monopoly.

12:49 If you listen closely to the definition, it is the power to raise prices, right? It doesn't mean you necessarily raise prices. A monopolist can own the market.

12:49 THE COURT: Well, but logically, I mean, you know, if I were a lawyer and I thought I could

raise my price, I would. And if I'm lowering my price, logically it seems to me that it's because I'm -- I can't get the price I want.

And if I were a monopoly, if I were the only lawyer, you know, then I -- so help me out here why it's just --

MR. FORD: Yeah. There's a few reasons, Your Honor.

One is in Align's case, creating a broader delta between --

THE COURT: I just couldn't hear you.

MR. FORD: Creating a broader delta between the list price and the effective price increases the power of their Advantage Program, right?

So the consequence of not hitting a tier is much more significant.

THE COURT: Okay. I got it.

MR. FORD: So that's one way you would do it.

The second way, candidly --

THE COURT: And the program, while maybe legal, is also having a downward impact on the revenue and price, right?

MR. FORD: The way they're executing the program has the effect of making it look like there's a

reduced average price, but that is a tactic to lock in the market.

The other reason you may show it is a monopolist may, for example, have -- may be the only seller in the market and may lower price just to demand, i.e., increase the number of people who can afford the product, right? They may have -- they may be the only aligner manufacturer in the world, and they may make a decision that if I lower the price $10, I'm going to get more volume.

But whatever their decision is, whether it's rational or not, the test is if -- this -- you'll see this in the instructions -- if we show they have substantial market share and they're protected by barriers to entry which avoid quick entry, they have what the law calls monopoly power.

So the next thing -- and I was going to move on to the anticompetitive conduct, but you had asked Ms. Aguilar to move on. So I can skip over it if you'd like.

THE COURT: If you'll hold on just one second.

MR. FORD: Okay.

(Off-the-record bench conference.)

THE COURT: Okay. I'm good. I'm going

12:52 to deny the plaintiff's Rule 50 motion.

MR. FORD: Thank you.

THE COURT: So now, so I've done the plaintiff's Rule 50 motion. Mr. Mueller, I think I've done your renewal of your motion, and we will take up willfulness at the end of all the evidence.

So -- and we'll resume the trial at 1:15 when the jury gets back and break at 4:00 and do the jury charge conference. Location to be determined by the lawyers.

I'll start with the plaintiff. Is there anything else we -- is there anything we need to take up before we --

MR. DURST: No.

MR. MUELLER: Not a question, Your Honor. I'll just note we're fine with the informal conference. We think that might be useful.

THE COURT: Mr. Durst?

MR. DURST: I was leaning the other way, but I probably need to talk to my experts.

THE COURT: Just let me know. And if I do -- if I do default, I'll default towards making a record if that's what one party or the other wants.

And so you're up -- you're up next?

MR. DURST: We are. We intend to call

12:53 our witness on validity, Your Honor.
12:53 THE COURT: Okay.
12:53 MR. DURST: Ms. Reitman, Dr. Reitman.
12:53 THE COURT: Oh, Reitman. Got it. Got it.
12:53 I can't wait for Berbalk and his seven minutes of fame. I think some of you at least are optimistic about how much time you have left and the witnesses that we have, but I'll let you figure that out. So.
12:53 MR. DURST: We are mindful, Your Honor.
12:53 MR. TUBACH: The only other issue, Your Honor -- sorry to keep prolonging this -- is we do have some 1006 exhibits that we are going to seek to -- move to admit.
12:54 THE COURT: Do you want to do that now?
12:54 MR. TUBACH: Not with this immediate witness but with the one after that, I believe.
12:54 THE COURT: Is there an objection to these?
12:54 MR. MUELLER: There is, Your Honor. These are -- we can go through them now or later, Your Honor. These are, I think you'll see quite clearly demonstratives, not proper 1006 exhibits. So we're happy to take it up now or later.

12:54 THE COURT: So the fight is over whether they come into evidence or just --

12:54 MR. TUBACH: That's exactly right.

12:54 THE COURT: Okay. Got it. And I'm even surprised I knew what 1006 meant. So which --

12:54 MR. TUBACH: It's a large number, Your Honor.

12:54 THE COURT: And it's not 1006 documents, right? Got it.

12:54 So just give me the nature of what the documents are and maybe an example.

12:54 MR. TUBACH: Absolutely, Your Honor. Give me just one --

12:54 THE COURT: If I were on their side, given the number of exhibits in this case, I would be begging you to add more to it. And so I'm not sure why he wants to keep them out.

12:54 MR. TUBACH: These are documents that summarize voluminous records, and that's the 1006 standard.

12:55 THE COURT: I got it. Okay. But if you give me an idea of just what they cover so I know why you want them in.

12:55 MR. TUBACH: So, for example, sales like revenue numbers, the chart, for example, at the end

12:55 with the -- that would be a 1006 summary because it's
12:55 summarizing lots of data, right?
THE COURT: Sure.
12:55 MR. TUBACH: So that's the kind of thing
12:55 that we're seeking to introduce. I'm not sure why they
12:55 think it's not voluminous, but we think it is.
12:55 MR. MUELLER: I can show some examples,
12:55 Your Honor.
THE COURT: Okay.
12:55 MR. MUELLER: So these are very similar
12:55 to Dr. Perryman's demonstratives. These are all
12:55 demonstratives.
12:55 THE COURT: This is not a 1006 exhibit.
12:55 MR. TUBACH: Your Honor, can I at least
12:55 make the pitch?
12:55 THE COURT: You can make the pitch, but
12:55 do your best. But that's -- that's not, in my opinion,
12:55 a 1006.
12:55 MR. TUBACH: Well, for example, this one
12:55 is --
12:55 THE COURT: Well, put on the record which
12:55 one it is.
12:55 MR. TUBACH: Oh, sorry. PTX-3064. Thank
you, Your Honor.
12:56 This is one line which looks like it's

12:56 real simple, but it's actually annual revenue of five
12:56 or six different companies over a period of two, four,
12:56 six, seven years.
12:56 Now, I don't think anyone is suggesting
12:56 that we would have to introduce all of that evidence
12:56 separately and then talk to the jury about that
12:56 separate evidence rather than introducing this as a
12:56 voluminous summary. Voluminous doesn't mean it has to
12:56 be a garage full.
12:56 THE COURT: I'm not going to allow you to
12:56 admit these as -- you can use them as demonstratives
12:56 but not as exhibits. I'm not -- I'm not going to
12:56 permit you to enter them as exhibits.
12:56 And so you're -- if you're making a
12:56 motion to allow that, I'll overrule it. But you can
12:56 use them as demonstratives.
12:56 MR. TUBACH: Okay. So I think we have
12:56 made the motion. I'll just -- formally we do move to
12:56 admit all of those.
12:56 THE COURT: Okay. Why don't you do this.
12:56 Why don't you get -- if Jen will let you do it this
12:56 way. Why don't you get me a formal list of what you
12:56 would wish to offer by number. And -- I just want to
12:57 protect your record.
12:57 MR. TUBACH: Thank you. I really

appreciate it. I think we already filed a two-page.

THE COURT: If you have filed that, check with Mr. Mueller, who's never, ever agreeable. But if he was willing to agree on this one issue, that we can do it this way as opposed to you doing it a longer way, then your record is protected.

If we have it, they agree that we have it. And I'm overruling, I'm not going to permit them to be admitted as exhibits but only as demonstratives.

MR. TUBACH: Thank you, Your Honor.

THE COURT: As long as the record's clear as to which documents those are, then I'm good.

MR. TUBACH: Thank you.

THE COURT: Anything else?

MR. MUELLER: Nothing else from us, Your Honor. Thank you.

THE COURT: Okay. Thank you.

(Recess taken.)

THE BAILIFF: All rise.

THE COURT: Please remain standing for the jury.

(Jury entered the courtroom.)

THE COURT: Thank you. You may be seated.

Counsel, you may call your next witness.

01:17 MR. HUNG: Your Honor, we call Dr. Maureen Reitman back to the stand.

01:17 And while she's walking up, Your Honor, I forgot to admit DTX-384 -- sorry -- PTX-384. And there's no objection to its admission.

01:18 MR. MUELLER: No objection, Your Honor.

01:18 THE COURT: They'll be admitted.

01:18 MR. HUNG: Thank you.

01:18 DIRECT EXAMINATION

01:18 BY MR. HUNG:

01:18 Q. Dr. Reitman, welcome back.

01:18 A. Thank you.

01:18 Q. I understand that you're here to respond to Dr. Spiegelberg's opinions on validity and inequitable conduct; is that right?

01:18 A. Yes.

01:18 Q. Do you agree with his opinions?

01:18 A. No. I do not.

01:18 Q. And to be clear for the jury, we're back on the patent case, right?

01:18 A. Yes.

01:18 Q. All right. Let's start with the validity. There are four patents that we looked at, and let's just remind the jury. Just give me a second.

01:18 There are four patents that we looked at,

01:18 right?
01:18 A. Yes. There are.
01:18 MR. HUNG: If we go to Slide 48,
01:18 Mr. Smith.
01:18 BY MR. HUNG:
01:18 Q. Did you hear Dr. Spiegelberg testify that the
01:18 material patents are invalid if they are infringed?
01:19 A. Yes. I did.
01:19 Q. Do you agree with that opinion?
01:19 A. No. I do not.
01:19 Q. Why not?
01:19 A. The invalidity issue and the infringement
01:19 issue, validity and infringement are different issues
01:19 in this case.
01:19 Q. Well, can you remind the jury what the
01:19 infringement issues are? And let's go to Slide 49 to
01:19 help.
01:19 A. Yes. So there are 4 patents and 11 claims,
01:19 and for all of them, the infringement issue is
01:19 basically if the soft layer of Zendura FLX has an
01:19 elongation at break greater than 200 percent.
01:19 Q. And now let's go to Claim 1 of the '090
patent.
01:19 Are there any other arguments for
01:19 noninfringement?

01:19 A. Yes. But they're limited to these two patents. So for these two patents, there's the question of blending of the layers. That's the "consisting of" term.

01:19 Q. Are those the only two noninfringement issues in this case?

01:20 A. Yes.

01:20 Q. For these four patents, are there any other noninfringement issues?

01:20 A. No.

01:20 Q. Do those issues have anything to do with whether the patents are valid?

01:20 A. No.

01:20 Q. What's the issue on validity?

01:20 A. The question on validity is enablement, and that's basically do the patents tell you how to make the materials to make the aligners.

01:20 Q. Okay. I want to make sure the jury understands what the validity issues are. We've heard a lot about written description, whether Align's 2012 and 2017 applications describe materials with the hard-soft-hard configuration.

01:20 Is that one of the issues for validity?

01:20 A. No. In this case there is no issue of written description.

Q. Did the patent examiner find that the original application described the full scope of the claims, described the full scope of the claims that Align is asserting here?

A. Yes. They did.

Q. Is Straumann challenging that finding?

A. No. They are not.

Q. So to confirm, do the patent applications that Align filed before Zendura FLX describe a multi-layer material that is one soft layer, one hard layer, and a third layer that can be hard or soft?

A. Yes. They did.

Q. Did the examiners consider whether the claimed inventions were new and nonobvious when Align filed its patents?

A. Yes. That is one of the things they considered and determined.

Q. Is Straumann challenging those determinations?

A. No.

Q. Okay. Let's turn to the core issue on validity and enablement. Okay?

Do the examiners consider that issue, whether the materials patents taught one to make and use the patented invention?

A. Yes. They considered it as they were deciding

to issue the patent.

Q. Do you think they got it right?

A. Yes.

Q. Why do you think the patents enable someone to make and use the claimed invention?

A. Well, because the claims tell you the materials you want for the layers. They tell you that you grab a Layer 1 material. That's a copolyester with certain properties, including -- with certain properties, and then the TPU elastomer layer with certain properties, and then the third layer. So they tell you what to pick.

And then to make the multi-layer sheet from that is just a matter of standard polymer processing. And then to thermoform the sheet is, again, just standard thermoforming.

Q. Now, we have Claim 1 of the '090 up. So let's just stick with this.

And using this claim, can you just describe what you just said?

A. Yes. So the claim tells you that you need a multi-layer sheet. It tells you that you need a first layer. That's the hard copolyester. And it has properties, including, for example, an elongation at break of greater than 70 percent.

01:23 And then there's the second layer. They tell you it's the TPU elastomer. That's the soft layer. And among the properties that it needs is the elongation at break of greater than 200 percent.

And then you need a third layer.

Q. Okay. Let's do a hypothetical. Pretend you're using these inventions to make SmartTrack.

How would you do it?

A. Well, I would follow the instructions. So I would first go to like a polymer database. That's often how we pick the materials. And I'd be looking for the first layer.

So I would set my filters at copolyester. Then I would add flexural modulus greater than 150,000 PSI. Then I'd add an elongation at yield of greater than 4 percent.

Then I'd add tensile modulus greater than 150,000 PSI. Then I'd add tensile strength at yield between 400 and 6,500 PSI. And then I'd add elongation at break of greater than 70 percent. And then I'd get a list, and I could pick from that narrowed-down list.

Then I'd go do the same thing for the second layer. I'd switch my material to TPU. I would filter on ultimate tensile strength greater than 5,000 PSI and elongation at break greater than 200 percent.

01:24 Then I'd also put in a filter for hardness in the range of 60A to 85D on the Shore scale, and then I'd get my list and I could pick those.

01:24 So once I have those materials, for SmartTrack, my third layer, I could pick the TPU again. So I know the materials I'm going to use. Then I just go make the sheet using standard polymer processing.

01:24 So if I have the material -- if I have the equipment myself, I can -- I can actually just make it. If I don't have the equipment, I can use a contract or a toll manufacturer to do that for me because it's a standard approach.

01:24 Q. All right. I want to take us back to Dr. Spiegelberg's "if" opinion. Okay?

01:25 When he said the patent claims are invalid if they're infringed, what did you understand him to be saying?

01:25 A. Basically, he says you have to do undue experimentation because you have to wait until after you make a sheet of something you think might work and then run the test on the sheet and then back out the properties and see if you got what you wanted and that's difficult.

01:25 Q. In your binder is PTX-959.

01:25 Can you take a look at that and let me know if

you recognize that, ma'am?

A. Yes. I recognize this.

MR. HUNG: Can we offer this?

MR. MUELLER: No objection.

THE COURT: Admitted.

MR. HUNG: Now, let's put this up, Slide 3. This is PTX-959.

BY MR. HUNG:

Q. Using this document, which is TREX discussing SmartTrack, explain why Dr. Spiegelberg's approach to enablement is wrong.

A. So this is a test report on TREX, which is the SmartTrack material, and it shows you that if you test the multi-layer sheet, you don't get the right values for the individual layers.

So you can see here, elongation is recorded as 92 percent. And what's happening there is the copolyester is breaking. It's the weak link when you pull on it. And, therefore, you're not getting the measure of properties of the second layer.

So if you do this, the values you get give you the wrong information for the layers. And the reason we know that -- one of the reasons we know that this is not the way to do it is because the patents are covering SmartTrack. And so with this number, it would

say the patents don't cover SmartTrack. And so it doesn't make sense to do it this way. So that's how we know.

Q. Okay. After you've selected the materials, we just talked about that, what do you do next?

A. Well, as I said, you would make the multi-layer either directly or with a contract or toll manufacturer.

Q. Okay. Help the jury understand, what's a contract or toll manufacturer?

A. These are companies -- manufacturing companies that manufacture things for other people. So the reason we like them is because they have the equipment, and the equipment is expensive.

So you can go to them. So you don't have to buy and maintain and operate the equipment yourself or try and keep the equipment fully loaded.

Also, the contract manufacturers have the know-how, the standard know-how, and so it's very efficient to go to them for the portion of time, machine time, that you need.

Q. Is it common to use these kind of companies?

A. Yes. In fact, Align and Bay Materials both use these types of companies.

MR. HUNG: Let's go back to that claim,

Slide 2, Claim 1 of the '090 patent.

BY MR. HUNG:

Q. We've heard lots of discussions about development criteria. Do you have to meet specific criteria when making the multi-layer sheet and then the aligner?

A. Well, no. The claims are not about multi-layer sheet properties. It's really about the layer properties. So the criteria are related to layers, not the end sheets or the aligners from them.

Q. Now, Dr. Reitman, Bay Materials, and Mr. Lahlouh were able to make a multi-layer material, right?

A. Yes.

Q. How does that inform your opinion on whether making the patent materials is hard?

A. Just as an example of the -- it's standard polymer processing, so it was not difficult to do.

Q. Take a look at PTX-46.

How does that -- it's been admitted. How does this support your opinion that it's not hard to make the claimed materials?

A. So this is a report from Mr. Lahlouh, and you can see that he said that he looked at Invisalign's patents which tells him that it's a three-layer

construction with a hard copolyester and a soft TPU, and that based on that information, he and Ray -- so that's Ray Stewart, his boss -- predicted and then built three SmartTrack simulate constructions.

Q. All right. Let's take a look at another document, PTX-51.

Do you recognize this document?

MR. MUELLER: May we approach at sidebar?

THE COURT: Sure.

(Bench conference.)

MR. MUELLER: Your Honor, this is a document we discussed with you yesterday morning, and you may recall -- I can show it to you.

It's a very short e-mail between John Lahlouh and Ray Stewart. It's from Ray Stewart. Notably it's dated 2019. There's a reference to a knockoff.

We know one thing. It had nothing to do with the product in this case which was released the year before in 2018. Your Honor told Align if it had any basis to link this to enablement, to give us a cite. They never did. It's not in Dr. Reitman's report. The only reason they're trying to use it is to object that we're not offering it.

MR. HUNG: So, first of all, they filed a

MIL on this, and they lost in the MIL. That's why it should come in. It's cited twice, cited in Paragraphs 146 right here and --

MR. MUELLER: Sir, it's not enablement.

MR. HUNG: And it's also here.

THE COURT: I'll allow it in.

(Bench conference concludes.)

BY MR. HUNG:

Q. Dr. Reitman, turning back to PTX-51 in your binder, the exhibit I just mentioned, can you see whether you recognize that e-mail?

A. Yes, I do.

Q. And what is it?

A. It is an e-mail between Mr. Lahlouh and Ray Stewart, the two that were just talking, and it shows that they are talking about just basically changing layers around, that they know how to place different layers in different positions.

MR. HUNG: We'd offer it.

MR. MUELLER: Nothing further on this one, Your Honor, beyond what we've said.

THE COURT: Admitted.

MR. HUNG: All right. Let's publish it.

THE COURT: I'm sorry, I thought I'd already admitted it at the bench. So apologies.

BY MR. HUNG:

Q. Dr. Reitman, can you walk through this document and explain how this informs your opinions that it's not hard to make the claimed -- the patented invention?

A. So this e-mail basically says that they know that they can move the TPU around as layers. They're saying what if we put the TPU on the outside to make a knockoff of SmartTrack. And that's putting TPU on the outside of a copolyester.

Q. Now, let's go to -- thank you.

MR. HUNG: Let's go to Dr. Li's declaration. That's DTX-84, already admitted.

BY MR. HUNG:

Q. Dr. Spiegelberg offered certain opinions where he says this is hard to make because, look, you see headings like "not predictable," "no reasonable expectation of success," "unexpected efficacy."

Do those headings and these discussions that you see in Dr. Li's declaration affect your view that one knows how to make the patented inventions?

A. No. I mean, these headings reflect what people understood before the invention.

So before the invention, it was hard to predict if it was going to be a good aligner material,

01:32 1 if you were going to get better results. But the
01:33 2 patent actually teaches you, gives you instructions for
01:33 3 how to make something that does give you the improved
01:33 4 performance.
01:33 5 So these headers make complete sense for
01:33 6 before the invention, and then with the invention you
01:33 7 get -- you have an expectation of improved results.
01:33 8 And that's actually borne out in the data.
01:33 9 Q. All right. Let's switch to the second topic,
01:33 10 Dr. Li's declaration. Dr. Li, who's still sitting
01:33 11 patiently in the gallery.
01:33 12 MR. HUNG: And let's pull up PTX-32.7.
13 BY MR. HUNG:
01:33 14 Q. And can you walk through what you understand
01:33 15 Dr. Spiegelberg's opinions to be on this second issue?
01:33 16 A. So on the second issue, Dr. Spiegelberg
01:33 17 basically says that Dr. Li lied in her declaration and
01:33 18 that she withheld data from the Patent Office with the
01:33 19 intent to deceive them.
01:33 20 Q. Do you agree with those opinions?
01:33 21 A. No. I do not.
01:33 22 MR. HUNG: All right. Let's pull up
01:33 23 DTX-422, which is the red line copy that defendants
01:34 24 created of comparing the two declarations.
25 BY MR. HUNG:

Q. Dr. Spiegelberg says: Look, her declaration language changed between 2017 and 2019.

What do you say on that?

A. Well, the 2019 declaration is actually a different declaration on a different set of claims responding to a different set of questions from the examiner. So I would expect it to be different.

Q. In your experience, is it unusual to submit different sets of claims from an original application?

A. No. That's pretty common.

Q. Now, let's look at that declaration from Dr. Li without the red line. And can you remind -- actually, let's take a step back.

You read this, right, the whole declaration?

A. Yes.

Q. Did anything trouble you in this declaration?

A. No. It all seemed reasonable.

Q. Can you remind the jury, now focusing on Paragraph 2, why was she submitting this declaration to the Patent Office?

A. Basically the Patent Office had rejected the claims, and she was explaining that the declaration is because the Patent Office thought that her coworkers' work, Chen and DeSimone, was similar.

And so this declaration is to show that the

01:35 invention is actually different than the work of Chen
01:35 and DeSimone, her coworkers.
01:35 Q. You were here again when Dr. Spiegelberg
01:35 testified on this declaration, right?
01:35 A. Yes.
01:35 Q. Is he challenging every sentence of this
01:35 12-page declaration?
01:35 A. No. I think it's just two sentences.
01:35 Q. Right. Let's look at the first sentence.
01:35 Thank you.
01:35 This sentence refers to -- begins "We found."
01:35 Can you explain to the jury why this sentence is true?
01:35 A. Well, the invention is the multi-layer
01:35 materials with hard and soft polymer layers that give
01:36 you beneficial properties. And I looked at the
01:36 underlying data. I actually analyzed all the
01:36 information, and this is what the data tells you.
01:36 Q. Does every multi-layer material, according to
01:36 the claims, need to meet all of these characteristics
01:36 you see here, the elongation, time stress-relaxation,
01:36 durability, thermoform ability?
01:36 A. No, the improvement is for the properties on
01:36 balance. So what we're looking to do is to make a
01:36 better overall product, and so it's the combination
01:36 that matters.

01:36 Q. Did you test Dr. -- did you look at Dr. Li's spreadsheets to see if her statements were consistent with her testing?

01:36 A. Yes. I did.

MR. HUNG: Can we put up PTX-1746? I understand it's just a demonstrative. We're not going to offer it. The spider graphs.

MR. MUELLER: No objection, Your Honor.

MR. HUNG: As a demonstrative.

THE COURT: Admitted.

BY MR. HUNG:

01:36 Q. Now, these are spider graphs. Can you explain what these are and -- yeah, what they are?

01:37 A. Okay. There's a lot on here. But I think these are really helpful because this is a way to look at comparisons when you care about multiple things at the same time.

So you can see that the graphs, they're five-sided. That's because I'm looking at things -- five things at a time.

On the left-hand side, I have a graph that's for dual-layer materials. That's the two layers.

On the right-hand side, I have the three-layer materials. But the setups are basically the same.

MR. MUELLER: And, Your Honor, I'm sorry,

01:37 just one note for the record. These are
01:37 demonstratives, not for admission.
01:37 THE COURT: Correct.
01:37 A. So the five things that I care about here, and
01:37 I've done a lot of other analysis as well, but I'm
01:37 showing you this. The two at the bottom, elongation at
01:37 break and elongation at yield, that actually is for the
01:37 whole sheet. And that relates to durability.
01:37 In the middle, the working range and the
01:37 stress relaxation, that relates to tooth positioning.
01:38 And at the top, the tensile modulus, that
01:38 relates to comfort. Okay. So these are five of the
01:38 things that we care about.
01:38 The red dotted line is for EX30. That's the
01:38 state of the art. That's where we're starting. And it
01:38 was a pretty good material for some of the things, but
01:38 we know that it's not as good as we want it to be in
01:38 stress relaxation.
01:38 So you can see a green arrow that's going to
01:38 take that red dotted line out toward the edges. I want
01:38 to make that higher.
01:38 We also know that EX30 is uncomfortable. We
01:38 would like to bring the tensile modulus down. So
01:38 that's why at the top you see the green arrow where
01:38 it's coming down towards the middle.

01:38 So our goal is to take the red and to reshape it to get something on balance that's better.

01:38 The blue line is SmartTrack. So you can see that SmartTrack did that. It got better at stress relaxation. It got better in working range, and it reduced the tensile modulus. So that was better.

01:38 But what you can see in this -- these two graphs is these are the rest of those 23 materials. So these are the things from Dr. Li's data. Each dot on there reflects a lot of tests, and they show that all of these materials also on balance are better than EX30.

01:39 And that's why I reached the conclusions that I did.

BY MR. HUNG:

01:39 Q. All right. Let's turn to the second sentence that Dr. Spiegelberg challenges from this 12-page declaration, Paragraph 5. The sentence that says, "During evaluation of the over 250 materials."

01:39 Can you explain why this sentence is true?

A. Well, because it -- that's what the data also says, right? So the -- all of those materials on balance, like I just showed you, are better than EX30. So the goal of this work was to be better than EX30.

01:39 It turns out that they also -- also meet the

01:39 product requirements for SmartTrack later, but all of
01:40 these are better than EX30, which was actually where we
01:40 started.
01:40 Q. Let's pause here.
01:40 Did the Patent Office allow the claims right
01:40 after she submitted this declaration?
01:40 A. No. There was some back-and-forth. Actually,
01:40 the claims were rejected several more times.
01:40 Q. Now, you might have a huge exhibit in your --
01:40 or maybe just portions of it, JTX-9 in your binder, can
01:40 you identify that?
01:40 A. Yes. This looks to be part of the file
01:40 history for the '613 patent. It's actually about a
01:40 thousand pages. I have, I think, a portion of it here.
01:40 MR. HUNG: We'd like to offer JTX-9.
01:40 MR. MUELLER: No objection, Your Honor.
01:40 THE COURT: Admitted.
01:40 BY MR. HUNG:
01:40 Q. To help the jury, if it were a thousand pages,
01:40 what does that show? What is that thing?
01:40 A. So this is going to tell you about the
01:40 communications between the inventor and the Patent
01:40 Office. And so if you look at this presentation file,
01:40 first you have the -- Align is submitting the '613
01:41 application, which is a continuation of the 2012

application in 2017. Okay? So that's where we're starting for the '613.

Two years later, the examiner looks at it and rejects it. And so Align reads the rejection and prepares a response in which the claims are amended and Dr. Li's declaration is provided. Okay?

But then the examiner rejects it again. Align amends again. The examiner rejects again. And then Align meets with the Patent Office to answer questions about the invention. This just makes it easier to get everything out and discussed.

About a week later, Align amends the claims based on that meeting, and then the Patent Office grants the patent.

Q. You just mentioned a meeting. Is that normal?

A. Yes. It's pretty normal to have that kind of communication in a process like this.

Q. All right. Help the jury understand, because they may not go through the thousand pages, what's the takeaway from this timeline?

A. Well, one of them is that the examiners rejected the claims twice before they ultimately -- after the declaration before they ultimately issued it. So the declaration was not enough. There were two rejections and other changes and discussions before the

patent was issued.

Q. All right. Let's look at the notice of allowance, which is the reasons the examiner says why he or she's granting the patent.

MR. HUNG: And let's pull that up. That's JTX-9 at Page 7150 to 7157.

BY MR. HUNG:

Q. And can you explain what the examiner said in its notice of allowance?

A. Well, remember, the first rejection was actually related to whether or not the prior work by Chen and DeSimone was different. And what this says is that the examiner concluded that the invention is different than that prior work.

Q. In this case, is Straumann challenging whether DeSimone and Chen invalidate the patented claims?

A. No. They are not.

Q. All right. Let's end with spreadsheets, okay?

A. Okay.

MR. HUNG: Let's put up JTX-77.

BY MR. HUNG:

Q. This is her first spreadsheet. And Dr. Spiegelberg says that Dr. Li should have submitted this spreadsheet to the Patent Office.

What's your view on that?

01:43 A. I don't think that would have been helpful because the raw data like this is just a lot of data. What's more helpful would be a synthesized summary of what was found, which is what she did communicate to the Patent Office.

Q. Here's the second spreadsheet. Let's talk about that, JTX-79. Dr. Spiegelberg says she should have submitted this spreadsheet too.

First, can you remind the jury what this spreadsheet is?

A. This is related to the commercialization of SmartTrack as a product. And so it was created to show why SmartTrack was commercialized compared to the other things that they made.

Q. Is this backwards-looking? Was this made in advance?

A. No. This is backwards-looking. So they've now selected SmartTrack as the version that they want to make into a commercial product. And what they're doing is they're building a document that says this is why we picked SmartTrack of all of the things that we have developed.

Q. This might be confusing. In this spreadsheet is a reason to reject.

What does "reject" mean there?

01:44 MR. HUNG: Go back.

A. That means reject compared to turning this into the SmartTrack product. It's not the same thing as reject for not being better than the prior art. This is related to the SmartTrack. This is -- this is different than the comparison to EX30.

And that's why it wouldn't be relevant to the application because the EX30 is what you're comparing to for is my patent doing something good. So this is about I've already made a lot of things that are better than what's EX30, this is why I picked the SmartTrack.

BY MR. HUNG:

Q. All right. Now, SmartTrack being the best, out of all the things she tested, does that mean the patents should be limited to SmartTrack?

A. No. And they aren't.

Q. Data. Were you here when Mr. Lahlouh came and stacked all of his notebooks on the witness stand?

A. Yes.

Q. Do inventors normally submit notebooks to the Patent Office?

A. No. Not in my experience.

Q. Did Mr. Lahlouh, as far as you know?

A. No. I think he said he didn't, and you can look at the front of his patents to see if he did, and

01:45 he didn't.
01:45 Q. Now, Dr. Li provided other information to the
01:46 Patent Office, right?
01:46 A. Yes. As part of the application, she did.
01:46 Q. Charts?
01:46 A. Yes. Charts.
01:46 Q. Okay. Let's pull those up.
01:46 These are charts from all four of the patents,
01:46 that are in every patent.
01:46 Can you tell the jury what these charts
01:46 depict?
01:46 A. Yes. So this is telling you basically that
01:46 the material of the invention is better than the prior
01:46 art, and it describes it in a couple of different ways.
01:46 So M2 is the material of the invention. M1 is the
01:46 prior art.
01:46 So in the top two graphs, these are related to
01:46 stress relaxation. You start at a high stress and then
01:46 the stress sort of decays with time. And what you can
01:46 see is, on the left, proportionally, the decay is much
01:46 worse with the prior art. The invention is much
01:46 better.
01:46 In an absolute sense, on the right, again, the
01:46 invention is better and that includes that initial
01:46 force related to comfort.

01:47 In the lower left on Figure 7, it's telling you about the working range, and you can see that Material 2 gives you a better working range. It also has a lower initial force, again, related to comfort.

In Figure 8 on the lower right, you can see the comparison over time again. So that comparison of initial force and then how much force you're losing, and in this case, it's compared to the biologically acceptable working range, so how long can you keep that force above the biological threshold without being uncomfortably high in your initial force.

So these are reflections of the data and show the comparison and improvement over the prior art if you follow the instructions for the layers.

Q. Did Dr. Li submit other information to the Patent Office, for example, about clinical studies?

A. Yes. She did.

01:48 MR. HUNG: Okay. So let's pull that up. Next slide.

BY MR. HUNG:

Q. Okay. This is from her declaration. Paragraph 11.

What did she say on clinical study results?

A. So this also shows that the aligner materials provide improved aligner results clinically. So there

was a clinical study of over a thousand patients, and they saw significantly improved results. Very exciting in terms of performance.

Q. Was this the only clinical study information she provided?

A. No. She also included a retrospective study, so that's a backwards-looking study, of about 58,000 patients, again, demonstrating the improved performance for aligners when they are made from these materials described in the patent.

Q. Can you summarize for the jury's benefit your two opinions, first on enablement and then on inequitable conduct?

A. There's definitely enough information in these patents to know how to use the patent, how to make these things. And I do not see any evidence of inequitable conduct by Dr. Li or Align in the submissions.

MR. HUNG: Thank you very much, Dr. Reitman.

CROSS-EXAMINATION

BY MR. MUELLER:

Q. Good afternoon, Dr. Reitman.

A. Good afternoon.

Q. Dr. Reitman, I take it your testimony today is

that the prosecution or the back-and-forth with the Patent Office for the patents in this case was standard, nothing to see here.

Is that a fair characterization?

A. Well, I didn't see anything that was unusual. So yes.

Q. Nothing unusual. This is simply an ordinary patent prosecution with typical statements made by the patent applicant; is that fair?

A. Looking at this from a technical perspective, I did not see anything unusual as it relates to the issues at hand here.

Q. Now, you understand our position in this case is that this is far from usual and that the larger circumstances surrounding the back-and-forth with the Patent Office as well as the particular statements made to the Patent Office were very unusual? You understand that's our position?

A. I think I understand that. Yes.

MR. MUELLER: And if we go to DDX-8.8.

BY MR. MUELLER:

Q. You've seen this over the course of this trial, this demonstrative, DDX-8.8?

A. I have seen this in the courtroom, yes.

Q. And there's been testimony about the market

share in the U.S. market for doctor-directed clear aligners over the course of this trial, correct?

A. I think so.

Q. And you understand that our position is that Align has a monopoly position and has been using anticompetitive conduct to suppress competition? Do you understand that's our position?

A. I think so.

Q. And you understand, Dr. Reitman, that one of the ways, and there are others, but one of the ways we contend that's happened is by making false representations to the Patent Office to try to obtain patents to hurt a competitor, namely ClearCorrect, and the Zendura FLX material? Do you understand that's our position?

A. Yes. I think I do.

Q. Now, you also know, Dr. Reitman, that when the Zendura FLX material was released in 2018, it was immediately identified at the very highest level of Align as a competitive threat, correct?

A. I am aware that there was discussion about its presence on the market and activity in the market, yes.

Q. But more than that, it was identified at the highest level of the company, the chief executive officer, as a competitive threat to the SmartTrack

material used by Align, true?

A. I think that's what's been communicated. Yes.

Q. Well, let's just refresh ourselves, if we could, Dr. Reitman.

MR. MUELLER: Let's go to DTX-2867. This is an admitted exhibit.

BY MR. MUELLER:

Q. Here, we have an executive management committee presentation from April of 2019, right?

A. Yes. That is my understanding.

Q. And this was after the Zendura FLX material had been announced and released by Bay Materials, correct?

A. I believe so. Yes.

MR. MUELLER: Let's go to Page 2, if we could.

BY MR. MUELLER:

Q. And in the bottom of the page under "Where are we with two months into the year," there's a bullet point under "external." And it says: Bay Materials hard-soft-hard structure big threat to superiority of SmartTrack.

Right?

A. Yes. I see that bullet point.

Q. Now, Dr. Reitman, that's part of the relevant

01:53 context for what happened next in the Patent Office.
01:53 Would you agree?
01:53 A. I don't know.
01:53 Q. Well, Dr. Reitman, don't you know that the
01:53 chief executive officer and other top executives were
01:53 in touch with Dr. Li about Zendura FLX?
01:53 A. Broadly speaking, I think there's information
01:53 about that.
01:53 Q. Well, in fact, there's exhibits that have been
01:53 introduced, and we asked Dr. Li about it last week, she
01:53 was in touch with top executives at the company about
01:53 Zendura FLX, true?
01:53 A. I don't remember exactly what she said, but I
01:54 think there was communication about the products. So
01:54 yes.
01:54 Q. And what happened next was the company went
01:54 back to the Patent Office, true?
01:54 A. I think the timeline shows that, yes.
01:54 There -- that's the sequencing just in time. Yeah.
01:54 Q. And in fact, what happened was Dr. Li then
01:54 submitted a new declaration to the Patent Office after
01:54 communications among the executives and with her about
01:54 the competitive threat of Zendura FLX, true?
01:54 A. Well, the timeline for the patent response is
01:54 what we just showed. I do think it occurs after in

01:54 time what you're talking about.
01:54 Q. And in her 2016 declaration, Dr. Li, her 2016 declaration before Zendura FLX, she was focused on soft-hard-soft, correct?
01:54 A. Well, sure, because that was for a different set of claims.
01:54 Q. Dr. Reitman, in her 2016 declaration, yes or no, Dr. Li was focused on soft-hard-soft?
01:55 A. Yes. Yes. I think that's true for 2016.
01:55 Q. And the 2016 declaration had followed years and years and years and years of research and development by Dr. Li, correct?
01:55 A. Yes. There had been a number of years and many experiments.
01:55 Q. She had conducted over 260 experiments over a period of years, right?
01:55 A. Yes.
01:55 Q. And she in fact worked with 19 other companies outside of Align, right?
01:55 A. I believe that's true for that program. Yes.
01:55 Q. And after all that work, Dr. Li told the Patent Office --
01:55 MR. MUELLER: Let's go to DTX-462 at Pages -- at Paragraph 5.
BY MR. MULLER:

01:55 Q. This is her 2016 declaration. And I want to
01:55 focus on the "During evaluation of the over 250
01:55 materials."
01:55 Do you see that sentence?
01:55 A. Yes. I do see that.
01:56 Q. And she said: Only, only the materials of
01:56 instant claims met Align's development criteria.
01:56 Correct?
01:56 A. Yes. That's what's written there.
01:56 Q. And, Dr. Reitman, as we talked about last
01:56 week, at that time back in 2016 when this was
01:56 submitted, under oath, the instant claims were
01:56 soft-hard-soft, true?
01:56 A. I don't recall all of them, but yes. They
01:56 included those.
01:56 Q. And then things changed. In 2019, Dr. Li
01:56 submitted a new declaration, correct?
01:56 A. Yes.
01:56 Q. And tried to broaden the language, right?
01:56 A. Well, it addressed different claims, so it's
01:56 different language.
01:56 Q. Dr. Li -- sorry, Dr. Reitman, Dr. Li changed
01:56 the language in her 2019 declaration. That "only"
01:56 sentence was changed, right?
01:56 A. It is a different sentence for a different

purpose. Yes.

Q. So the language was changed, and in fact the patent examiner relied on the new language in the new declaration, right?

A. The examiner had it to consider. Yes.

MR. MUELLER: So let's pull up PDX-32.13.

BY MR. MUELLER:

Q. And this is a slide you used with Mr. Hung, correct?

A. Yes.

Q. And you showed various back-and-forths and rejections, right?

A. Yes.

Q. But at the end of the timeline, the examiner issued something called a notice of allowance, right?

A. Yes.

Q. And the notice of allowance is when the claims were actually allowed, true?

A. Yes.

Q. So let's take a look at what the examiner said.

MR. MUELLER: This is DTX-323, and let's go to Page 3, which is Page 7 of the PDF. I think it's actually Page 7 of this document.

BY MR. MUELLER:

01:58 Q. And I want to go to exactly what the patent examiner said.

I'm sorry, the top paragraph there: The applicant's affidavit was also found persuasive. In particular, attention to the statement of the appliances recited in the claims of the '665 application exhibit, unexpectedly positive results over previously known appliances.

Do you see that?

A. Yes.

Q. It goes on to say: These unexpected results are evidenced by clinical studies that were performed comparing the efficacy of orthodontic appliances as described and claimed in the '665 application with that of previously known appliances.

Right?

A. Yes.

Q. Now, in this 2019 declaration, the new one, that's the one being referred to right there, true?

A. I believe so.

Q. So when it says "the applicant's affidavit," that's that new 2019 declaration, right?

A. Yes, with the clinical studies.

Q. And so what the examiner was saying is this was found persuasive and is referring to the testing

described in that declaration, correct?

A. It's referring to the clinical studies.

Q. And, Dr. Reitman, Dr. Reitman, we can agree that at this time in 2019 and after, Dr. Li and Align were trying to get more than soft-hard-soft, true?

A. The four new patents had different claims than the other patents that had already issued. Yes.

Q. Dr. Reitman, was Align and Dr. Li trying to get patent coverage of something greater than soft-hard-soft, yes or no?

A. The new claims are different than the old claims, and they do cover more than soft-hard-soft.

Q. Okay. And the truth is, Dr. Li had test after test after test after test where she had failed to find a material that met her performance criteria. And in fact, the only one, as she told the Patent Office back in 2016, that met her performance criteria was soft-hard-soft, true?

A. No. What she said is materials meeting the claims and the data shows that the improvements that lead to the clinical performance were present in all of these other materials as well.

Q. Dr. Reitman, the claims back then were soft-hard-soft, correct?

A. For the earlier patents, yes.

Q. And one thing that Dr. Li could have done to be transparent and upfront with the Patent Office is said, "Here's data. You decide."

That never happened, correct?

A. The individual data points were not produced, but the summary does reflect what the data tells you.

Q. Dr. Reitman, did Dr. Li provide her spreadsheets to the Patent Office, yes or no?

A. No. I already explained that.

Q. Now, you mentioned John Lahlouh, who is the gentleman who testified last week. He worked at Bay Materials for years and years, and he was at the center of the development of Zendura FLX, right?

A. Yes.

Q. He also had a patent application for the Patent Office, correct? In fact, more than one, but he had a patent application on his own material, true?

A. Yes.

Q. And he did disclose his data to the Patent Office, didn't he?

A. There is some information in the application, not the notebooks, but it talks about using data sheets and getting properties like he has.

Q. Well, let's take a look. This is his patent, DTX-595. Let's go to Table 3.

A. What tab is this, please?

Q. Sure. This is Tab 25, and I'll put it on the screen, Table 3.

Here, we have Mr. Lahlouh telling the Patent Office how his new material, the hard-soft-hard, compares to various other benchmarks in the industry, right?

A. There are ranges of results for a couple of properties. Yes.

Q. And one of those, as he testified, was a material that was designed to be a benchmark representing SmartTrack, right?

A. I don't remember.

Q. Let's go to the abstract of his patent, this same document.

He told the Patent Office that "improved dental appliances and polymeric sheet compositions are disclosed. The polymeric sheet compositions are useful for making dental appliances having outer layers comprised of a material having a modulus of from about 1,000 MPA to 2,500 MPA, hard, two of those, and an inner core" -- and I won't read the whole thing. I'll cut to soft. He told the Patent Office, "I have a hard-soft-hard invention."

Right?

02:03 A. He says hard and soft. Yes.
02:03 Q. And he disclosed testing data to make sure they had that data in assessing his invention, true?
02:03 A. There is -- there are some graphs and data in here. Yes.
02:03 Q. Now, let me ask you about a document that Mr. Hung showed you, and this is PTX-51.
02:03 MR. MUELLER: Let's pull it up.
BY MR. MUELLER:
02:03 Q. And before I do, we can agree that one thing that folks in the industry do across the board, Align, Bay Materials, other companies, is what's called benchmarking, right?
02:03 A. Benchmarking is relatively common. Reverse engineering is not. But --
02:03 Q. Dr. Reitman, if you could please stay with my question.
02:03 Benchmarking is known in the industry, correct?
02:03 A. Yes.
02:03 Q. And that's a form of competitive analysis, right?
02:03 A. Yes.
02:03 Q. And it's done by Align, true?
02:03 A. I believe so.

Q. It's done by Dr. Li; isn't that true?
A. I believe so.
Q. So let's pull this up again, PTX-51.
And you showed this to the jury. And there's this language here, "Make a knockoff of SmartTrack."
Do you see that?
A. Yes.
Q. Now, again, making a benchmark of a known thing is something that's done in the industry, true?
A. No. Benchmarking is testing of something that you acquire or buy.
Q. Well, Dr. Reitman, let's make sure the ladies and gentlemen of the jury aren't confused about why you showed this to them.
You weren't suggesting that Mr. Lahlouh and his colleagues were copying or making some form of SmartTrack to sell as their own, were you?
A. For this analysis, I am speaking to the enablement issue.
Q. Dr. Reitman?
THE COURT: Dr. Reitman.
BY MR. MUELLER:
Q. If you look at the date on the document, what is it?
A. 2019.

02:04 Q. When was Zendura FLX released?
02:04 A. 2018.
02:04 Q. The year before this, right?
02:04 A. Yes.
02:04 Q. And so one thing we can be crystal clear on and absolutely certain of is this has utterly nothing to do with Zendura FLX, correct?
02:04 A. This has to do with multi-layer --
02:05 THE COURT: Answer his question.
02:05 A. I don't know how fully this relates to Zendura FLX because Zendura FLX has many attributes.
02:05 BY MR. MUELLER:
02:05 Q. Dr. Reitman, I asked you this last week. I'm going to ask you this again.
02:05 You've reviewed a lot of material in this case, correct?
02:05 A. Yes.
02:05 Q. You've reviewed lab notebooks from Mr. Lahlouh, correct?
02:05 A. Yes.
02:05 Q. Including the portion that counsel asked Mr. Lahlouh about last week?
02:05 A. Yes.
02:05 Q. Including portions that they showed to you?
02:05 A. Yes.

02:05 Q. Including portions that they showed to Dr. Spiegelberg on cross-examination, right?
02:05 A. Yes.
02:05 Q. You saw there was some references to contacts between Bay Materials and Align over the years, right?
02:05 A. There's definitely interaction in the lab notebooks between Bay Materials and Align.
02:05 Q. And, Dr. Reitman, you saw references to LE30 and various code names for various samples, right?
02:05 A. Yeah. The code name LE30 was in the notebook.
02:05 Q. Right. And, Dr. Reitman, after reviewing all those materials, all those materials, you offered this jury no opinion that Mr. Lahlouh had set out to intentionally copy the Align patents or SmartTrack, correct?
02:06 A. I think what I told you is that I don't have an opinion about that.
02:06 Q. Right. And, Dr. Reitman, so you as the technical expert, having reviewed all of these materials, including materials that counsel have brought in front of the jury, you've reviewed all of it, right?
02:06 A. I believe so. Yes.
02:06 Q. And you've presented no opinion, none, that Mr. Lahlouh or his colleagues copied the Align patents

or SmartTrack in making the Zendura FLX, true?

A. I did not say that specifically. I conveyed the other activities which you can judge for yourself.

Q. And, Dr. Reitman, last question. This is not the only case in which you testified on behalf of Align, right?

A. No.

Q. And you've had more than one, correct?

A. I've had one other case in which I had --

Q. So this is not the only case in which you've testified for Align, true?

A. Correct.

Q. And your billing rate is $1,065 an hour, right?

A. No.

Q. Over a thousand?

A. Yes.

MR. MUELLER: Nothing further. Pass the witness.

REDIRECT EXAMINATION

BY MR. HUNG:

Q. Dr. Reitman, who decides the question of whether Bay Materials, Straumann, and ClearCorrect copied my client's patented SmartTrack material? Who makes that decision? Is it you?

A. No. It's the jury.

Q. But if we're going to talk about the evidence, let's just go through it quickly.

Do you recall what year, was it 2006, that Bay Materials and Align split, parted ways? Does that sound right to you?

A. That is my recollection, yes.

Q. And do you remember seeing in 2013 that reference to that secret confidential code name, LE30, in Dr. Spiegelberg's (sic) notebook?

A. In Mr. Lahlouh's notebook?

Q. Mr. Lahlouh's, yes.

A. I did see that.

Q. Referring to chopping up Invisalign which had come out a day before or a few weeks before at most?

You remember seeing that?

A. Right. They used aligners with the code name two days after launch. Yes. I saw that.

Q. Now, I know copying is within a jury's province, not yours.

Do you remember seeing that document? It's about creating simulates and looking at the Invisalign patent?

MR. MUELLER: I'm going to object to leading, Your Honor.

THE COURT: Sustained.

BY MR. HUNG:

Q. Do you remember seeing documents relating to simulates, creating simulates, ma'am?

A. Yes.

Q. And what do those documents say about creating simulates?

A. Well, they reflect looking at the Invisalign product, looking at the Invisalign patents eventually, and making the -- the multilayers with the hard and soft components.

So those documents show that looking at the aligners, for example, the -- his daughter's aligners, he was able to do materials characterization, which is not benchmarking, and then make the same thing and then later make changes in terms of the order of the layers or not depending on what he wanted to do.

Q. Let's remind the jury about the materials that Mr. Lahlouh selected.

MR. HUNG: Let's put up PTX-46. And let's go to that second slide where it talks about FTIR analysis and the materials for XL being the same, cover page of PTX-46. Can we blow that up?

BY MR. HUNG:

Q. FTIR matches Invisalign's outer layers.

02:09 Now, Dr. Reitman, is this the document discussing creating simulates?

A. Yes.

MR. HUNG: And can you highlight those first two bullets?

BY MR. HUNG:

Q. And can you tell the jury what Mr. Lahlouh is reporting in this report as he is memorializing what he did for Zendura FLX?

A. Yes. So he did chemical characterization of the outer layer of the Invisalign product and determined that it was a TPU elastomer of a particular type.

Then he did the FTIR of the inner layer of the Invisalign product, and he determined that that was the -- a match for what he had been using for the outer layers. So he did chemical characterization to say what is this and how does it match up with what I'm making.

MR. HUNG: Let's put up PTX-51, the knockoff -- the e-mail referring to a knockoff.

BY MR. HUNG:

Q. Is it common for you to see documents like this in evidence, Dr. Reitman, referring to knockoffs, creating a knockoff?

A. I don't think I've seen language like that before --

Q. Do you --

A. -- in like a project like this.

Q. Do you view this as benchmarking?

A. No.

Q. Why not?

A. This is -- this is I see something, I want to make it, I know how to do that.

MR. MUELLER: I object. Lack of foundation. She's speculating as to the state of mind for something she knows nothing about.

THE COURT: If you could have her explain what she means.

BY MR. HUNG:

Q. Yeah. Why when you -- why when you see this e-mail do you not understand this to refer to benchmarking?

A. Because this isn't about how does my product compare to something that I bought or I'm going to compete against in the marketplace. This is I have some materials. Can I switch them around in order to make a different person's product?

Q. And who is sending this and who is receiving this?

02:11 A. This is from Mr. Stewart, who's the general manager and Mr. Lahlouh's boss, and it's to Mr. Lahlouh.

02:11 MR. HUNG: Let's go to the declaration, which I think is DTX-323. And let's go to Page 7.

02:12 And let's highlight that paragraph that Mr. Mueller discussed with you. First paragraph on top.

02:12 BY MR. HUNG:

02:12 Q. What is this paragraph discussing, ma'am? Can you explain how this relates to the clinical studies that you and I discussed?

02:12 A. Well, this is pretty much entirely about the clinical studies. So it is showing that when the multi-layer sheets having hard and soft layers as claimed are made into appliances, you get really good results from an orthodontic point of view.

02:12 Q. Is this statement, this paragraph that you're pointing to, does this refer at all to the two sentences in the 12-page declaration that Dr. Spiegelberg says were false?

02:12 A. No.

02:12 Q. Let me close with this: Have you heard any evidence -- and Dr. Li's here.

02:13 Have you heard any evidence that makes you

02:13 believe that Dr. Li compromised the truth in any way in
02:13 submitting this declaration?
02:13 A. Oh, no. No. The data speaks for itself.
02:13 Q. Have you seen any evidence that Dr. Li
02:13 intended to mislead the PTO in any way, the Patent
02:13 Office in any way?
02:13 A. No. I've not seen any evidence of that.
02:13 Q. Have you seen any evidence that she willfully
02:13 withheld information from the Patent Office to mislead
02:13 them?
02:13 A. No. I have definitely not seen that.
02:13 Q. And having sat here in this courtroom and
02:13 heard her testify, have you heard anything that
02:13 suggests that she was untruthful in any way?
02:13 A. No. I have not.
02:13 MR. HUNG: Thank you, Dr. Reitman.
02:13 RECROSS-EXAMINATION
02:13 BY MR. MUELLER:
02:13 Q. Just a few more questions, Dr. Reitman.
02:13 Mr. Hung showed you that PTX-51 document. We
02:13 will not put it up. It's the 2019 e-mail, right?
02:13 A. Oh, yes.
02:14 Q. And you said this doesn't refer to
02:14 benchmarking, right?
02:14 A. That's not how I read it. Yeah.

02:14 Q. Now, Dr. Reitman. You didn't write this, correct?
02:14 A. That is correct.
02:14 Q. You didn't receive this, right?
02:14 A. Correct.
02:14 Q. There was a gentleman on the stand here for hours last week, John Lahlouh, who's the recipient of this e-mail, correct?
02:14 A. Yes.
02:14 Q. Now, if Align had any sort of question to ask about this or thought it was relevant in any way to this jury, they had every opportunity to ask Mr. Lahlouh about this last week, right?
02:14 A. I don't know.
02:14 Q. Dr. Reitman, you have been here since the beginning of the trial, correct?
02:14 A. Mostly, yes.
02:14 Q. You were here when Mr. Lahlouh testified?
02:14 A. Yes.
02:14 Q. You were here when Dr. Spiegelberg testified?
02:14 A. Yes.
02:14 Q. How many questions did Align's lawyers ask of those folks about this document?
02:14 A. I don't remember.
02:14 Q. The answer is zero, isn't it?

A. That's probably true.

Q. And you just now were saying this doesn't appear to be benchmarking, but you, Dr. Reitman, as we sit here right now -- you can take this down -- have no opinion based on any of the evidence you've seen in this case that Mr. Lahlouh or his colleagues copied SmartTrack or copied the Align patents, correct?

A. I am not offering an opinion on copying specifically.

Q. So, again, so whatever this jury hears from folks in closing argument, one thing they can remember is that for all the evidence that's referred to, you have no opinion, none, zero, that Mr. Lahlouh or his colleagues copied SmartTrack or copied the Align patents, correct?

A. That's for them to decide.

Q. Dr. Reitman, you have no such opinion, true?

A. I have not issued an opinion about that in this case. That is absolutely true.

MR. MUELLER: Thank you, Dr. Reitman.

Your Honor, I pass the witness.

FURTHER REDIRECT EXAMINATION

BY MR. HUNG:

Q. One last question, Dr. Reitman.

You began last week by telling us about your

degrees from MIT, correct?

A. Yes.

Q. And your -- the fact that you I think were a Fellow of the polymer scientists, and I'm going to mess this up -- association or something like that, right?

A. I'm a Fellow of the Society of Plastics Engineers. Yes.

Q. You're here as a technical witness, right?

A. Yes. My job is to address science questions for you so that you have what you need in order to make your decisions.

Q. Do you think it's appropriate for a technical witness as yourself, who's talking about infringement and enablement and the scientific truth of statements that another Ph.D. doctor made under oath, do you think it's appropriate?

MR. MUELLER: Objection, Your Honor. Leading.

THE COURT: Sustained.

BY MR. HUNG:

Q. Do you think it's appropriate for a person like you to be offering an opinion on copying?

MR. MUELLER: Same objection.

THE COURT: Sustained.

BY MR. HUNG:

Q. Why aren't you offering an opinion on copying?
A. That is not part of what I'm here to do for you. I have done the other science work for you, and I think you have the information you need.
MR. HUNG: Thank you.
MR. MUELLER: I have nothing further for Dr. Reitman, Your Honor.
THE COURT: Thank you, ma'am.
Next witness, please.
MR. DURST: Your Honor, Align Technology calls Dr. Bobby Cohanim.
(The witness was sworn.)

DIRECT EXAMINATION

BY MR. DURST:

Q. Good afternoon, sir. Will you please introduce yourself to the jury?
A. Yes. My name is Dr. Bobby Cohanim. I'm an orthodontist in private practice in Seattle and also an affiliate professor of orthodontics at the University of Washington.
Q. And why are you here today, Dr. Cohanim?
A. I'm here to help the jury see the process for exporting STL files from an iTero scanner, and also to help the jury understand how orthodontists view teeth-straightening products.

Q. So the first thing that you mentioned was to demonstrate to the jury how files are exported from the iTero Align device. Is that the first topic?

A. Yes.

Q. And the second is how orthodontists view braces versus aligners?

A. Correct.

Q. All right, sir. Now, before we get into the substance, I'm going to ask you some questions about your background so the Court can assess your qualifications for giving the testimony on other questions I'm going to ask you.

What do you do for a living?

A. I'm an orthodontist.

Q. Where do you practice?

A. In Seattle.

Q. And what is the name of your practice?

A. Cohanim Smileworks.

Q. And your relationship with the University of Washington, sir, what is that?

A. I've been teaching there for about 30 years now. I'm an affiliate professor, and I teach there on Friday mornings usually.

Also one quarter of the year, the winter quarter, I teach a biomechanics course on Friday

afternoons.

Q. So you're teaching each quarter in the dental school at the University of Washington?

A. In the orthodontic department.

Q. Now, sir, how long have you been an orthodontist?

A. For 36 years.

Q. And are you an active practitioner today?

A. Yes.

Q. What is the practice of orthodontics at its basic definition?

A. Basically it's straightening teeth.

Q. And you -- tell us about your academic credentials, Dr. Cohanim, please.

A. Sure. I started my studies at the University of Washington as a computer science major. And then after two years, I transferred to UCLA and continued in bioengineering because I decided I wanted to become an orthodontist. So that's why I changed my major.

And then from there, I went to the University of Southern California Los Angeles. That's where I got my DDS degree, doctor of dental surgery.

And then after that, I went to my residency at University of -- sorry, University of Southern California as well. And also received a master's in

craniofacial biology.

Q. What is craniofacial biology?

A. It's basically the biology of studying the development of the head and face and the teeth, jaws, and how they develop and what might go wrong.

Q. Now, Dr. Cohanim, give us just a couple of sentences here about the teaching work that you're doing now at the University of Washington in terms of your interaction with students in the school of orthodontics as -- or the department of orthodontics as well as any work in the clinic.

A. So aside from teaching about biomechanics in the winter quarter, I'm there every Friday. And usually from 8:00 to 9:00, we might have seminars where the residents might present a case for treatment planning or one of the instructors will present a topic.

And then after that from 9:00 to 12:00, the residents treat patients. And we're basically what you can call an attending. We supervise them and help them treat the patients.

Q. You're there every week during the school year?

A. That's correct.

Q. Now, Dr. Cohanim, over the course of your

career -- I guess, what, 36 years now?

A. Yes.

Q. -- how many patients roughly do you estimate that you have treated?

A. About 10,000.

Q. And when was the last time that you treated a patient?

A. Last Thursday.

Q. Are you scheduled to see a patient again in the future?

A. Tomorrow morning.

MR. DURST: Your Honor, I tender Dr. Cohanim as an expert in the field of orthodontics.

MR. UNDERWOOD: No objection, Your Honor.

THE COURT: Admitted.

BY MR. DURST:

Q. Dr. Cohanim, what is malocclusion?

A. Sorry. A malocclusion basically means a bad bite. Somebody that their teeth aren't straight or the bite, the way the upper and lower teeth come together is not what it should be.

Q. What causes a bad bite in humans?

A. Completely different reasons. It could be your genes. It could be having injuries, losing a tooth early on. There's a lot of different reasons.

Q. Given all the different reasons, does that suggest that every patient is a little different? Have you seen 10,000 different cases of bad bite?

A. Every case, I have to treat them differently because everybody has their own particular circumstances.

Q. Now, Dr. Cohanim, why is it important for patients to seek treatment for malocclusion or bad bites?

A. Well, those -- different things that can happen if you have a malocclusion or a bad bite and you don't get treatment. It could be that it could result to faster wearing of your teeth. It could result in you not being able to brush your teeth properly, having gum recession. It could result in jaw joint pain, headaches, things like that. So there's a lot of different things that could happen.

Q. And what are the principal treatments that you prescribe, sir, for a bad bite or malocclusion?

A. The two main ones are braces and aligners, Invisalign aligners.

Q. Now, sir, over the course of 36 years in orthodontics, have you seen changes in both braces and aligners?

A. Yes. Aligners came around in 1999, and I took

02:23 the first course they offered in Seattle then. So I've
02:23 been using them since 1999.
02:23 Before that it was exclusively braces. But
02:24 braces have also developed over time. There's more
02:24 clear braces, ceramic braces. Easier lingual braces
02:24 that you can use. And also, like they mentioned this
02:24 morning, self-ligating braces.
02:24 And there are some braces that are digital
02:24 where you actually use a scan to produce the braces, 3D
02:24 print them, and actually premake wires for those so it
02:24 makes the process a lot more efficient.
02:24 Q. So you get -- you made reference to something
02:24 that we heard this morning, and I didn't understand
02:24 what you said. Can you say that again?
02:24 A. Which one, soft-ligating braces?
02:24 Q. And what are those?
02:24 A. Those are basically -- usually braces move
02:24 teeth by the wire that goes in there, and the wires
02:24 hold them with little ties. Those could be metal or
02:24 rubber.
02:24 And then with the self-ligating braces, the
02:24 idea is that you don't have to use those ligature wires
02:24 or ligation. And it both makes it so that the patient
02:24 has to spend less time in the chair, and also the teeth
02:24 are supposed to move more efficiently.

Q. Is that what my partner called the self- -- the patient-adjusting braces, you can adjust them yourself?

A. Yes.

Q. All right. All right. Now, Dr. Cohanim, have you seen over the years patients who maybe years ago had only the option of braces? Have you seen patients in that category, some of them choosing aligners?

A. Yes.

Q. And nowadays, do you have an estimate of the number of cases that you see of malocclusion that could be treated either with braces or with aligners?

A. Probably around 95 percent of the cases could be treated either way.

Q. So 95 percent. 95 out of 100 patients that you see could be treated with either braces or aligners?

A. Correct.

Q. Now, in your medical opinion, Dr. Cohanim, are braces and clear aligners reasonable substitutes for the other?

A. Yes.

Q. How so?

A. Well, they're both appliances that move teeth, and that's what we do.

Q. And how do they move teeth?

A. By putting pressure on the teeth in the right direction.

Q. So both braces and aligners move teeth by putting pressure on the teeth?

A. That's how you move teeth, yes.

Q. Now, we talked about how aligners have competed with braces since they came along.

Have braces responded to the competition with aligners? Have you seen that happen in the market?

A. Yes. I mean, there's been more developments as far as clear braces and also ceramic braces. And like I said, there's digital braces, rather -- you know, more efficient, clear, and usually treat the patients faster.

Q. Now, generally speaking, Dr. Cohanim, braces and aligners, the price that your patients pay for braces or the price they pay for aligners, how do those compare?

A. Well, usually a price depends on what the condition of the patient is, how much work, how complex it is, basically. And in general, the price for the braces and aligners are in the same ballpark.

Q. Now, Dr. Cohanim, timewise, the duration of the treatment, a patient that gets braces and a patient

that gets aligners, compare for us in average terms or summary terms, whatever you choose, the duration of, say, a standard braces case and a standard aligners case.

A. Again, it depends on the case, but in general, they're about the same. In some cases aligners might be slightly quicker. In other cases braces might be slightly quicker.

Q. Now, Doctor, you spend a day a week during the school year with budding or emerging or people being trained to be orthodontists?

A. That's right.

Q. Are doctors -- like the orthodontists that are emerging from your school, are doctors these days in the United States, are they being trained on both braces and aligners?

A. Yes.

Q. Now, I'd like to put on the screen, Dr. Cohanim, DDX-8.19. This is a demonstrative exhibit that the economist, Dr. Perryman, told the jury about this morning. This apparently is something that Dr. Perryman chose to use to compare aligners and braces.

And, Dr. Cohanim, I'm going to ask you to stay close to your microphone there and tell us the

reactions -- the reaction that you had when you saw this in the courtroom for the first time today.

A. Well, I didn't think it was entirely accurate.

Q. How so?

A. It has four sections, the transparency, being removable, emergency visits, and damage to teeth. And of those, clear braces are also transparent. And you can also these days have wires that are teeth colored so they're not as visible.

Q. So in that first category, transparency, you think an accurate completion of this chart would have "yes" in both columns?

A. Yes.

Q. All right. What other observations did you have?

A. Well, the second part, removable, that's correct. Braces are definitely not removable. You don't want to remove them yourself. So that is correct.

Q. And what about emergency visits, do you have any thoughts there?

A. Well, you can definitely have emergency visits with aligners as well, and I've had those in my office.

Q. Now, damage to teeth, this is suggesting -- I guess Dr. Perryman was trying to tell us that braces

02:29 1 can damage teeth and aligners do not.
02:29 2 Is that true, in your experience?
02:29 3 A. Well, first of all, braces don't damage teeth.
02:29 4 When -- the white spot lesions basically happen if a
02:29 5 patient is not brushing properly. Then they leave a
02:30 6 lot of plaque on their teeth. Then the acid can bleach
02:30 7 your teeth and turn them white.
02:30 8 Q. And that's for a patient with braces?
02:30 9 A. Braces, exactly.
02:30 10 For a patient that's wearing clear aligners,
02:30 11 if they don't follow instructions, which is what we
02:30 12 tell them to do, is remove the aligners when they're
02:30 13 eating or drinking, if they don't do that, if they
02:30 14 especially drink a lot of like anything that's acidic,
02:30 15 Coca-Cola, orange juice, Gatorade, things like that,
02:30 16 that can actually cause a lot more damage to the teeth
02:30 17 than not brushing the braces.
02:30 18 Q. Thank you, sir. Be sure to keep that
02:30 19 microphone close. Maybe even bend it down just a
02:30 20 little bit.
02:30 21 Are you a little bit nervous up there,
02:30 22 Dr. Cohanim?
02:30 23 A. This is my first time testifying to a jury.
02:30 24 Q. Let me see -- shift gears a minute and change
02:30 25 the topic.

MR. DURST: And, Mr. Smith, we can take down that demonstrative.

BY MR. DURST:

Q. In your practice, do you see discount programs being offered by companies that supply your practice?

A. Yes.

Q. Can you give us some examples of that -- how that works for your orthodontic business, for the practice that you have?

A. Well, like one of them is one you've heard about so far, which is the Advantage Program Invisalign offers. But beyond that, I also had a program that I use for the braces from a company called American Orthodontics, and they have what they call Partner Advantage Program, which is basically a volume-buying program, gives you discounts and also points that I can use to buy other products from them.

And there's also a company called uLab that can either help you make aligners in your office or provide you with lab-made aligners. And I have a contract with them that gives me discounts as well.

Q. So you -- did you list three or four -- I kind of lost track there -- of the discount programs that you're involved in?

A. Well, those are the three that I use.

Q. The three. The three.

Now, are discount programs common in the supply of materials to orthodontic offices?

A. Yes.

Q. And do other aligner companies -- besides Align and Invisalign, do other aligner companies offer them?

A. Yes.

Q. Do you know if ClearCorrect offers a discount program?

A. Yes.

Q. Now, why are these discounts important to you and your patients?

A. Well, it's a way for me to help keep my overhead low, and those are savings that I can pass on to my patients and keep fees lower for the patients.

Q. So when you get discounts, does -- do your patients enjoy at least some of the discount that the suppliers provide to you?

A. Yes. That's one reason I can provide braces and aligners about the same fee.

Q. Now, you mentioned the Advantage Program of Align and that you're a member of that.

Tell the jury a few sentences about how that program works, sir.

02:32 A. Well, basically, like you heard before, they look at your six-month volume of patients that you ordered, that you get the points for each one, and if you meet the threshold basically on that, you go from one level to another. And they have different levels starting at, I think, bronze, and they go all the way to diamond now.

02:33 Q. And, Dr. Cohanim, in addition to the price discounts that you and the patients get from Advantage, are there other benefits that you receive from the Advantage Program?

02:33 A. There are. The main one that I use a lot is continuing education benefits, basically helping me learn more about how to treat efficiently with aligners and give the patients the best result.

02:33 Q. Now, Dr. Cohanim, did you join the Advantage Program voluntarily?

02:33 A. Yes.

02:33 Q. Did anyone pressure or coerce you to join that program?

02:33 A. No.

02:33 Q. Did you feel any economic pressure to -- or did Align exert any pressure on you to join that program, sir?

02:33 A. No. There's no pressure. It's just a benefit

that I get from it.

Q. And would you be able to quit the program tomorrow if you decided to?

A. I could. I actually have to renew it every year.

Q. And now this program, this Advantage discount program that you have from Align, has it ever affected your clinical judgment?

A. No. That wouldn't be ethical.

Q. Now, Dr. Cohanim, you mentioned Invisalign a moment ago.

Have you prescribed brands other than Invisalign to your patients for teeth straightening?

A. I have. I have tried a few different brands. One was OrthoClear. The other was ClearCorrect. And then like I was talking about uLab, and also do in-house printed aligners.

Q. Are you using ClearCorrect today, sir?

A. No.

Q. Why not?

A. I wasn't really happy with the performance and the feedback from the patients that I had.

Q. You have a preference of all those brands that you mentioned or all those different options you mentioned as to clear aligners?

A. Definitely Invisalign.
Q. Pardon?
A. Invisalign.
Q. Why?
A. It's the one that has the most advanced features. It has a lot of clinical studies behind it. So that's the one I'm most comfortable prescribing to the patients.
Q. Now, Dr. Cohanim, I want to focus your attention on that, what you called your first topic. It's going to be our last this afternoon. But that is exporting files from an iTero scanner to a manufacturer other than Align.

So exporting files from an iTero scanner by Align to a company like ClearCorrect, another company that makes aligners, I want to focus your attention on that for just a few minutes.
A. Okay.
Q. Now, where in the diagnostic and treatment process do you use a scanner like the iTero?
A. Well, usually when a patient first comes in, we do a physical examination and also gather records. And those records are photographs, x-rays, and also a scan of their teeth.

And then at that point, then I can use all of

those to come to a diagnosis as far as what the patient's malocclusion might be, how complex it is, and then deciding what's the best treatment for them.

Q. Do you use an iTero scanner in your practice?

A. Yes. I do.

Q. Now, is there an alternative that you have in your practice for doing dental impressions, alternative to the iTero scanner?

A. Yes. I can also use PVS or what's called Alginate. It's basically another goop that you can put in the tray, and you can capture the patient's teeth that way.

Q. The PVS is the goop that we've been talking about for two weeks?

A. Yes.

Q. Now, have you made physical impressions with PVS over years?

A. I have.

Q. And how many?

A. Well, myself, I've done probably hundreds, but it's mostly my assistants that do both the scans and the PVS or any kind of impressions, and those have been probably overall maybe about 20,000.

Q. And have you done scans, both you personally and in your practice, over the years?

A. Yes.
Q. How many of those?
A. Myself, about 200. My office, about 3,500.
Q. And, Dr. Cohanim, when was the last time that you did a scan?
A. About two weeks ago. I had -- my staff called in sick, so I couldn't -- I didn't want to reschedule the patient. So I scanned them myself.
Q. And what do you -- what is the purpose that you use scans from the iTero for? What do you use those scans to do?
A. There's a lot of uses for it. The main one initially is obviously giving a diagnosis. And beyond that then, depending on what the patient needs, either prescribing aligners or making an appliance for them, if they need a nightguard or something like that. And then when the treatment is done, then you can use that scan to make retainers for them.
Q. So the scans can be made -- can be useful for ordering aligners but also a variety of other services that you provide to your patients?
A. Yes.
Q. Now, Dr. Cohanim, were you here when the orthodontist from here in Waco, Dr. Bryan Taylor, when he testified?

A. I was.

Q. And were you here when Straumann's lawyer was asking him to do math about alleged time savings -- or pardon me, the cost of time, the loss of time, from uploading files?

Did you hear that testimony?

A. Yes. I did.

Q. Now, Straumann's lawyer asked Dr. Taylor how many scans a day would be good for doing a math computation.

Do you remember that?

A. Yes. I believe he asked him what was his estimate of how many scans he submitted each day.

Q. And do you remember what Dr. Taylor used for that calculation that Mr. Underwood asked him to do?

A. If I remember correctly, he said 15 to 20. He used 15 for his math.

Q. 15 to 20 scans a day is what you heard Dr. Taylor say?

A. That's what I heard him say.

Q. What was your reaction to that number?

A. It seemed like a high number, especially if he was talking about submitting those for aligners.

Q. And why did it strike you as a high number?

Tell the rest of us who don't have your

perspective why that's a high number.

A. So if you're submitting 15 aligner cases a day and you're doing that five days a week, that will become more than 3,000 cases a year. I have, you know, one office with -- I have five chairs altogether with three chairs that we use regularly for seeing patients. And I usually do about 100, 120 cases a year in the what's called Pearl category of the Advantage tier program, the top. And if you're doing 3,000, then you should be in the top diamond layer. And usually those are practices that have multiple locations, multiple doctors, and more than one scanner.

Now, from what I recall reading about from his prior testimony and also his report, he said that he stopped using Invisalign or prescribing Invisalign himself around 2020 or 2021. And at that point he was a Premier provider, which was a previous version of the Advantage Program. And Premier was the second level above the Basic, and if he was really prescribing that many, he should have been at the higher level.

Q. He would have been higher?

A. Yes.

Q. He would have been higher in the level.

And your cases per year are what number again?

A. About 100 to 120.

Q. Have you ever heard of an individual doctor doing 3,000 cases a year?

A. Not an individual doctor, no.

Q. Now, let's go back to the iTero scanner for just a minute.

Have you ordered products other than Align products by using the iTero scanner?

A. Yes.

Q. Give us some examples of that, please.

A. One is, as far as aligners go, you will have aligners. It's an aligner company. And then also I've ordered nightguards, sleep appliances, and expanders and devices that we use for treating patients.

Q. Now, when you export files, export electronic files from the iTero, is there a format that doctors traditionally use?

A. Usually the most common one is an STL format. It's basically a standard format that doctors use and other people use for transmitting 3-dimensional files or files for 3-dimensional objects. And it's kind of similar to using a PDF for printed documents or using JPEG for pictures. Something like that.

Q. Can you generally describe, Dr. Cohanim, the process for exporting an iTero -- pardon me, the process for exporting an STL file from an iTero to

another manufacturer?

A. Well, the first step is to obviously scan the patient. So once the scan is done and you press send, then the scan is sent to the cloud. Then it becomes accessible from a website called myitero.com. And that's where you can access that scan from the cloud so you can export it from there.

Q. And how long, Dr. Cohanim, how long does that STL process take?

A. To actually export the files to your computer?

Q. Yes, sir.

A. We measured it on a video, and it's 45 seconds. Less than a minute.

Q. Now, Dr. Cohanim, have you prepared a demonstration of the process of uploading -- pardon me, of exporting an STL file out that was taken on an iTero scanner out to another manufacturer?

A. I did the process of actually exporting it to my computer. I didn't do the last part, submitting it to another manufacturer. But I did the export process, yes.

Q. And what -- when you said you did a demonstration, how was that captured?

A. It was on a video.

Q. All right. I want to show you what is PDX-19.

02:43 Okay. Now, Dr. Cohanim, let's set the stage for this, for what the jury is seeing. What has happened prior to this?

Does the scan already exist?

A. Yeah. So what's happened is we've scanned the patient and pressed send. So now this patient's scan is available on the myitero website.

Q. So the scan went from the iTero device?

A. To the cloud.

Q. To the cloud?

A. Yes.

Q. Okay. And the scanning process, is that the same for ordering Invisalign and ordering aligners from any other company?

A. Yes.

Q. You have to do that for both?

A. Exactly.

Q. And that has happened before this video?

A. Yes.

Q. All right. Now, what are we looking at here on the screen? What is the jury seeing?

A. Well, what the screen is showing basically in the green, within the green border, is my desktop, what I see on my computer. And the inset is a video of me while I'm doing the process.

02:44 Q. Okay. So you had some technology that was capturing and filming what was on your computer?
02:44 A. Yes. It was capturing what was on the computer. At the same time it was using the camera on my laptop to capture me as I'm doing the process.
02:44 Q. So as we play this video, the movement on the screen is happening simultaneously with whatever is -- whatever is going to be shown on your face?
02:44 A. Correct.
02:44 Q. Okay. Those are going at the same time?
02:44 A. Yes.
02:44 Q. All right. And do you see that hand that's there in the middle of the screen?
02:44 A. Yes.
02:44 Q. Is that -- is that Mr. Smith's cursor back there?
02:44 A. No. That's my cursor, and it changes. The way this website works, as you hover over a button or something, the cursor changes from a pointer to a hand.
02:44 Q. And as we play the video, that cursor or hand, I've seen it, it's going to move around?
02:45 A. Yes.
02:45 Q. Who in the video is moving that cursor?
02:45 A. That's me moving it.
02:45 Q. All right. So, Dr. Cohanim, I'm going to ask

Mr. Smith to start this video, and he's going to pause it at various places so that you can explain to the jury what's going on.

But before we do that, I want to ask you one more thing. So look at the bottom of the screen, Dr. Cohanim. And do you see that bar across the bottom?

A. Yes.

Q. What is that going to tell us?

A. That's the bar from the video player that's playing this video, and it kind of shows the time lapse as it goes across.

Q. Okay. Dr. Cohanim, when you're ready to go, just tell Mr. Smith to start it up.

THE WITNESS: You can go ahead and start.

A. So what I'm doing now is logging on to the myitero website. And what happens when that opens is it brings up a screen that has the four different things on the dashboard. Orders is where I go to to actually access the scan.

BY MR. DURST:

Q. So let's stop right there.

What is that drop-down, sir?

A. So the drop-down shows the location that the scan was done. There are five locations in there.

Four are labs that I use for people that are out of town that I can send them to a lab and order the scans done.

The middle one, Cohanim Smileworks, is my office. So that's the one I click on.

Q. Okay. And just to focus on the bar for just a second, how much time has elapsed in the video at this point?

A. 10 seconds.

Q. All right. Go ahead when you're ready.

A. Go ahead.

So I click on orders, and then that'll open up another screen. And that screen at the bottom, it shows basically patients that I've been scanning recently. Might be mostly that day. And if the patient that I want is in those top lines, I can directly click on that. If not, then there's a search bar that I can go to where the cursor is.

Q. Before you do -- before you fire it up again, let me ask you a question about this screen.

So on the bottom half of the screen here that we're all looking at, there's the column, second from the left, called Patient name.

Do you see that?

A. Yes.

Q. That information is blurred out. Why is that, Dr. Cohanim?

A. To protect the patient's privacy. According to HIPAA laws, I can't let anybody see their names without their permission.

Q. And you, when you made the video, you were able to see the patient names?

A. Correct.

Q. And other than blurring out the patient names there, did you make any other adjustments to this video?

A. No.

Q. All right. Go ahead and proceed.

A. So I'm typing the patient name that I want to search for. And then it'll come up, and then I click -- you can click anywhere on the bar where the patient's name is. And then that'll bring up the export button. So you can click on that.

Then the next screen that comes up is -- it shows options that you have, and these are preset for my office at Open Shell, File Per Arch, and STL with no color, which is what most labs and most aligner companies require. So that's what I had preset already.

And then when I click on that --

Q. Wait. Wait. Just a second. Let's stop there.

MR. DURST: Mr. Smith, can you enlarge that dialogue box again, please?

BY MR. DURST:

Q. So you have these set to Open Shell, File Per Arch, and STL?

A. That's correct.

Q. You've set those previously. Why did you do that?

A. Because that's more efficient. It takes only 20 seconds to do that, and from then on, every time you go back for the export process, these are already preselected for you so you won't have to select them each time.

Q. And are these settings that you have yours preset to -- first, did you preset them just for this video?

A. No. They were preset for my office.

Q. And why are they preset to those -- to those selections?

A. Because that's the format that both labs -- if you want to make an appliance and also usually other clear aligner companies as well, that's a format they require.

02:49 MR. DURST: Okay. Mr. Smith, stop the enlargement. And let's go back and follow Dr. Cohanim's directions on the video.

A. Go ahead.

So click on export. And what's happening now is the file is getting downloaded, a zip file that gets downloaded to your computer's download folder. And you can access that from the browser and you click on that.

BY MR. DURST:

Q. Okay. Now, before we run it again, at this point, how much time has elapsed since you started the process?

A. 38 seconds.

Q. Okay. Please proceed.

A. And so once you click on the zip file, then it automatically opens and opens a folder on your computer that has number of files on there. But the ones I need are the top ones that have the .STL extension on them. And those are the STL files I need.

And then I can -- from here, I can upload them to whatever lab or clear aligner company I want to.

Q. And this process --

02:50 MR. DURST: Drop the enlargement, Mr. Smith, there. This is what -- Mr. Smith, I want to be back to what Dr. Cohanim was seeing on the screen.

BY MR. DURST:

Q. Dr. Cohanim, is this an accurate representation of what you were seeing on the screen?

A. Yes.

Q. All right. This -- at this point, Dr. Cohanim, how long is this entire process taking?

A. 45 seconds.

Q. All right. And, Dr. Cohanim, this process, once you click on those STL files, does it then leave the Align environment?

A. Once you -- basically, once you press the export button and that file gets downloaded to your computer, then you're out of the Align environment.

Q. And so after this step, after you have gotten to this point, say you were ordering ClearCorrect, what happens next would all be according to ClearCorrect's protocols; is that right?

A. Yes. I would have to go to their portal and then upload these according to their instructions.

Q. Okay. And that's all controlled by -- in the example of ClearCorrect, that would all be controlled by ClearCorrect, not Align?

A. Correct.

Q. All right. Is that the end of the video, Dr. Cohanim?

02:51 A. It is.
02:51 Q. All right. So just some basics about this demonstration.
02:51 When did you record it?
02:51 A. I think about ten days ago.
02:51 Q. And where were you when you recorded it?
02:51 A. At my home office.
02:51 Q. And the steps that happen before, I think we talked about that. That was the taking of the scan?
02:51 A. Yes.
02:51 Q. And then this video went all the way through the process with Align. Everything after that is on ClearCorrect's or uLab or whoever the other provider is, on their watch?
02:51 A. Correct. Once you have the STL files, then you can use those to do whatever you want.
02:51 Q. And an STL file just like this, if you chose to do so, could you submit it to ClearCorrect to order clear aligners?
02:51 A. Yes.
02:51 Q. And you did that in 45 seconds?
02:51 A. Yes.
02:51 MR. DURST: Thank you, Dr. Cohanim.
02:51 Your Honor, I pass the witness.
02:51 CROSS-EXAMINATION

BY MR. UNDERWOOD:

Q. Good afternoon, Dr. Cohanim. How are you?

A. Good. Good afternoon.

Q. It's good to meet you.

A. Likewise.

Q. Would you please correct me if at any point I mispronounce your name?

A. Sure.

Q. I'll do my best.

And is it okay if I ask you some questions about the testimony you just gave?

A. Of course.

Q. Now, you have previously been hired as an expert witness by Align, correct?

A. That's correct.

Q. This is not the first time you've served as an expert witness for Align, right?

A. This is the second time.

Q. This is the second time?

A. Correct.

Q. And you're being paid for your work here, correct?

A. Yes. I'm being paid for my time.

Q. You're being paid $7,000 a day, correct?

A. That's for my testimony, yes.

02:53 Q. No matter how much or how little you work in a day, correct?
02:53 A. That's correct.
02:53 Q. No matter how long or how short your testimony is, correct?
02:53 A. That's correct.
02:53 Q. $7,000 a day, right?
02:53 A. Yes.
02:53 Q. And you have done quite a bit of business with Align over the years, fair to say?
02:53 A. As far as ordering aligners goes?
02:53 Q. Well, in several different respects. For example, you were one of the first orthodontists in Seattle to start offering Invisalign, correct?
02:53 A. That's correct.
02:53 Q. You've been an Invisalign Premier provider since 2005, correct?
02:53 A. I was a Premier provider. Then they've changed designations. But yes.
02:53 Q. Understood.
02:53 A. Yes.
02:53 Q. You were one of the founders or the founder of what's called The Greater Seattle Invisalign Study Club; is that right?
02:53 A. Yes.

02:53 Q. And that was founded 18 years ago?
02:54 A. Yes.
02:54 Q. You've attended training courses offered by Align, fair?
02:54 A. Yes.
02:54 Q. And you've also authored articles that have been paid for by Align, correct?
02:54 A. Align has funded some research that we had done at the university, yes.
02:54 Q. Align has funded some of the research you've done, correct?
02:54 A. Yes. Their funding goes -- basically, their funding goes to my resident. They use it for expenses for the research. I don't get any payment from them personally.
02:54 Q. But just to be abundantly clear, sir, the funding comes from who?
02:54 A. Part of the funding comes from them.
02:54 Q. From Align?
02:54 A. Yes.
02:54 Q. All right. Can I ask you about this STL export process you just discussed?
02:54 A. Sure.
02:54 Q. Now, as an initial matter, sir, just so everybody's clear, everything you showed in that video,

you don't have to do any of that if you're going to use an iTero to submit a case with Invisalign, correct?

A. That's correct.

Q. If you're going to use an iTero to submit a case with Invisalign, you can do that directly from the scanner, correct?

A. No.

Q. If you're going to do an iTero to submit a case from Invisalign, you do not have to go to a desktop computer, correct?

A. That's not true.

Q. Well, you certainly don't have to go through the iTero -- or strike that.

You certainly don't have to go through the STL export process you just walked this jury through, correct?

A. That's correct.

Q. Now, did you see Dr. Taylor's testimony yesterday?

A. Yes.

MR. UNDERWOOD: And can we get DDX-11.31? Go to the next one.

BY MR. UNDERWOOD:

Q. All right. Do you disagree with Dr. Taylor's opinion as it's expressed here?

02:55 A. Yes.
02:55 Q. Did you also hear Mr. Miller testify yesterday?
02:55 A. Yes.
02:55 Q. And did you hear what he had to say about the iTero submission process?
02:55 A. Something similar.
02:55 Q. He said something similar to Dr. Taylor?
02:55 A. He just said -- he said that it's an easier process to order Invisalign aligners from iTero.
02:55 Q. Dr. Cohanim, if I may?
02:56 A. Yes.
02:56 Q. What Mr. Miller said is consistent with what Dr. Taylor said?
02:56 A. I don't think he -- he didn't have the exact one-step process in there, no.
02:56 Q. Could we take a look at what Mr. Miller said?
02:56 A. Sure.
02:56 MR. UNDERWOOD: Can we get the trial transcript at Page 1209, beginning at Line 6?
02:56 BY MR. UNDERWOOD:
02:56 Q. Okay. Mr. Miller was asked: Okay. Just so we're crystal clear with this jury, that iTero scanner can send data directly to Invisalign, the scanner itself?

His answer was: Correct.

Did I read that correctly?

A. Yes.

Q. Mr. Miller works at Align, right?

A. Yes.

MR. UNDERWOOD: You can take that down.

BY MR. UNDERWOOD:

Q. And I think, sir, you described the process you just walked through as simple and not cumbersome; is that right?

A. Yes.

Q. Have you seen data from Align on the percentage of doctors who actually use that process?

A. No. I mean, I've heard it in the courtroom. I can't remember exactly what it was.

Q. In the courtroom you heard about that evidence, didn't you?

A. Yes.

MR. UNDERWOOD: Okay. Can we get DTX-208, please? And this is already in evidence.

BY MR. UNDERWOOD:

Q. Did you know, sir, that less than half a percent of doctors actually undertake that STL export process? Did you know that?

A. I heard it in the courtroom.

02:57 MR. UNDERWOOD: And if we can scroll down, this is an e-mail between Align folks.

Scroll down further, Mr. Lee. Keep going.

A. I don't know if I've seen this before.

BY MR. UNDERWOOD:

Q. Were you in the courtroom this morning during Dr. Perryman's testimony?

A. Is that a document that he showed?

Q. Dr. Perryman showed it this morning.

A. Okay.

MR. UNDERWOOD: All right. Keep scrolling. Go up. Keep going.

All right. Right there.

BY MR. UNDERWOOD:

Q. Okay. Do you see under Analytics, it says "STL export data," the bottom bullet point.

Do you see that?

A. Yes.

Q. And do you see it says: Approximately .5 percent of doctors uses STL feature globally and in USA.

Did I read that right?

A. That's what it says.

Q. And did you know that Align also tracks the

doctors who do the STL export process?

A. They can tell the number of exports you have done, yes, but I don't think they can track where you export them to.

Q. And have you seen the evidence about how Align tracks that information so they can determine which doctors are sending scans to their competitors?

A. I don't think I saw any evidence to that.

MR. UNDERWOOD: Can we get DTX-209, which is already in evidence?

All right. I believe it's on Page 3.

All right. Scroll down. Keep going.

BY MR. UNDERWOOD:

Q. All right. It says "Thanks Joe," at the bottom.

Do you see that?

A. Yes.

MR. UNDERWOOD: And if you can scroll up, Mr. Lee, to see the top of the e-mail.

No, the sender of the e-mail. I apologize, Mr. Lee.

BY MR. UNDERWOOD:

Q. All right. Do you see -- one more -- at the bottom of that page.

All right. You see from Joe Hogan?

A. Yes.
Q. And that's the CEO at Align, correct?
A. Yes.
MR. UNDERWOOD: And, Mr. Lee, on the next page, if you can scroll down back to where you were towards the bottom.
BY MR. UNDERWOOD:
Q. All right. And do you see the second bullet point from the bottom reads: Flag accounts who are exporting STL files as possibly sending cases to competitors.
Did I read that correctly?
A. That's what it says, but it's not the same as tracking where they send it to.
Q. Sir, just so I may, did I read this correctly when Mr. Hogan wrote: Flag accounts who are exporting STL files as possibly sending cases to competitors?
A. Yes.
Q. All right. And have you talked to Align about their position on whether this STL process is simple or is difficult?
A. Have I talked to them?
Q. Yes, sir.
A. Only asked my representative, like Invisalign rep, on details on how to do this in the past.

Q. And have you seen the evidence in this case from Align about their views on whether this is a simple or a difficult process?

A. I've seen some documents.

MR. UNDERWOOD: All right. Let's go to DTX-402, Mr. Lee.

And this is also already in evidence.

And this is an e-mail -- scroll down, Mr. Lee. Keep going.

Right there.

BY MR. UNDERWOOD:

Q. An e-mail from Mr. Leon Rasovsky.

Do you see that?

A. Yes.

Q. And at the bottom, you can see in the signature it says "Align," right?

A. Yes.

Q. And if you scroll just further, his title is senior director of global product management iTero.

Did I read that right?

A. Yes.

Q. Okay. And the bottom sentence of his e-mail says: I agree with Eric that doctors today can download STL files, and in theory, to save it in DPMS somehow. But it is highly manual and time consuming

and thus will never be adopted.

Did I read that correctly?

A. Yes. But that's not my experience.

Q. Dr. Cohanim, this is Mr. Leon Rasovsky, an employee at Align, correct?

A. Yes.

Q. And in fact, his title, his title is the senior director of global product management for iTero, correct?

A. Yes.

Q. This -- he is expressing his opinion in this e-mail that this is a "highly manual and time consuming" process, correct?

A. That's what he says, but that's not my experience.

MR. UNDERWOOD: Thank you, Doctor.

I pass the witness.

THE COURT: I'm sorry, I couldn't hear your answer.

THE WITNESS: I said that's not my experience.

THE COURT: Okay. Thank you.

MR. DURST: Can we have that last exhibit back up, DTX-402?

I'm not sure who's driving here, Mr. Lee

or Mr. Smith. But whichever of you is driving, could you go to that last highlighting Mr. Underwood had on the screen, the last bullet point that was highlighted.

Actually, go back one page and stop right there. Just leave it right there for just a second.

REDIRECT EXAMINATION

BY MR. DURST:

Q. So do you see the word -- Dr. Cohanim, do you see the word "Dolphin" in the middle of the screen?

A. Yes.

Q. Do you know what Dolphin is, DPMS?

A. It's a dental practice management software.

Q. Do they make aligners?

A. No.

MR. DURST: Thank you, Dr. Cohanim. No further questions.

MR. UNDERWOOD: Nothing further, Your Honor.

THE COURT: Thank you, sir.

Next witness, please.

MR. TUBACH: Your Honor, with the Court's permission, could we take just a five-minute break? I could use just five minutes.

THE COURT: Sure.

Ladies and gentlemen of the jury, we'll

take a quick recess and then come back.

THE BAILIFF: All rise.

(Jury exited the courtroom.)

THE COURT: If anyone needs to excuse themselves, you're welcome to. I'll take up just scheduling stuff with the others.

(Recess taken.)

THE COURT: The plaintiff has two hours and 15 minutes left. The defendant has one hour and 30 minutes left is what we have.

MR. MUELLER: I'm sorry?

THE COURT: One hour and 30 minutes left. So let's go off the record.

(Off-the-record discussion.)

(Recess taken.)

THE BAILIFF: All rise.

THE COURT: Please remain standing for the jury.

(Jury entered the courtroom.)

THE COURT: Thank you. You may be seated.

Counsel?

MS. DURIE: Thank you, Your Honor. We're now going to play some deposition video testimony. We'll now hear some testimony by video from

Mr. Christian Berbalk, who is the senior vice president and global head of ClearCorrect sales at Straumann Group. And it's two hours and 45 seconds for Align -- sorry, two minutes and 45 seconds for Align.

(Laughter.)

MS. DURIE: And three minutes and 27 seconds for Straumann.

(Video deposition-Christian Berbalk played as follows:

Q. Sir, would you mind stating your name for the record?

A. Yes. Christian Berbalk.

Q. What was your first position with Straumann?

A. I first worked with a dental service organization. So I was catering with my team to big dental service organizations and dental chains in Europe.

Q. And are dental service organizations sometimes known as DSOs?

A. Correct.

Q. How long did you hold this position, sir, as the head of dental service organizations for Europe?

A. From 2019, about a year. I then switched to marketing for Europe and Western Europe in 2020.

Q. What was the next position you held with Straumann?

A. I became then after this position the head of growth for ClearCorrect in March 2024.

Q. I'm sorry, your title was the head of growth for ClearCorrect?

A. Yes.

Q. And what were your responsibilities in this role?

A. It was predominantly a commercial excellence but as well, a growth enablement role. I started at the beginning with a team of two mainly getting into the market, learning as well about the market, especially learning about our value offering and as well our positioning in North America.

Q. When you say "market," what are you referring to, what market?

A. The clear aligner market, providing clear aligner solutions to doctors so they can provide it to the patients.

Q. Okay. And DSOs may negotiate purchase agreements on behalf of their members; is that right?

A. This is not how I understand it. They normally negotiate frame contracts, and then there's a sort of free choosing of their members which product to seek.

Q. So help me understand a discount scheme. You

testified that if the customer had purchased a higher -- purchases a quantity of the product, they may receive a higher discount.

Do I have that right?

A. That's correct.

Q. And the product here, would that include clear aligners?

A. Yes. That's correct.

Q. And so if a customer commits to purchasing both clear aligners and intraoral scanners, they may receive a higher discount?

Do I have that right?

A. Not necessarily a higher discount. They receive a discount.

Q. Do you have any personal objections to offering bundled discounts to DSOs?

A. From my point of view and my experience, bundled deals are an industry standard and are as well important for customer growth.

Q. Why are they important for customer growth?

A. Because customers would like to seek a digitalization opportunity and additional aligner solutions.

Q. And do you have any personal objections to offering volume discounts in contracts with DSOs?

A. Volume discounts are based on agreement with the dental service organizations, and we are meeting customer demands.

Q. And so this is a way of attracting customer business.

Do I have that right?

A. This is a way of collaborating and growing together with the customer, an open system setup.

Q. So offering discounts is one way by which ClearCorrect competes in the market.

Do I have that right?

A. Offering discounts is a market standard to all clear aligner companies.

Q. Does ClearCorrect offer volume discounts to DSOs in the United States?

A. We offer discounts to dental service organizations in the United States.

Q. Does ClearCorrect offer bundled discounts to DSOs in the United States?

A. ClearCorrect bundles products and intraoral scanners with a discount to dental service organizations in the United States.

Q. Does ClearCorrect expect its business partners to uphold their part of the deal when it signs a contract?

A. We agree on a joint offer. We agree as well to do, both parties, our utmost to reach this agreement. What we don't do and what I don't see in the practice is we never penalize the customer for not having reach- -- reached the commitments, and we don't send invoices or penalties to the customer for not having reached the commitment, according to my knowledge.

Q. If a customer does not reach the commitment, do they still receive the discount?

A. They have received a discount on the scanner, and they receive the discount on the scanner.

Q. What about with respect to clear aligners?

A. If the clear aligners had a certain discount, they receive the certain discount on the clear aligners. We're not claiming the discount back.

Q. Based on your experience in that role, how is ClearCorrect performing in terms of sales in the United States?

A. In the United States, we are, compared to other entities in our ClearCorrect business, performing rather badly or rather flat to minus growth. We're impacted by the competitive behavior of Align Tech not allowing us to access high-producing doctors like orthodontists, GPs, and dental service organizations.

03:29 This is as well where our customer split here
03:29 in the U.S. is very much geared towards very small
03:30 customers. We can serve to one, two, three cases and
03:30 they churn after six months.
03:30 Q. And they're what?
03:30 A. They churn after six months. Our share of big
03:30 customers and our share of high-productivity customers
03:30 are substantially lower here in the U.S. than in other
03:30 geographies. I correlate this with the competitive
03:30 behavior of Align Tech.
03:30 What we hear very often from our customers is
03:30 that they can shave off a few cases here and there for
03:30 us that are above the loyalty program level at Align
03:30 Tech and are not jeopardizing their current benefits.
03:30 What we hear as well in the market is that
03:30 customers are bound in exclusivity contracts. What we
03:30 hear as well from customers, that when we ask them
03:30 about these exclusivity contracts, that Align asked
03:30 them to sign a nondisclosure agreement and, therefore,
03:30 they would not like to share any further. This hampers
03:30 our opportunity to scale and to grow profitably in the
03:31 U.S.
03:31 (End of video deposition.)
03:31 THE COURT: Next witness, please.
03:31 MR. TUBACH: Your Honor, Align Technology

calls Dr. Christopher Knittel.

(The witness was sworn.)

DIRECT EXAMINATION

BY MR. TUBACH:

Q. Good afternoon, Dr. Knittel.

Could you introduce yourself to the ladies and gentlemen of the jury?

A. Sure. My name's Chris Knittel.

Q. What do you do for a living?

A. I am a professor of applied economics at MIT Sloan School of Business, and there I also hold the George P. Shultz endowed chair.

Q. Can you tell us a little bit about your personal background?

A. Yes. I grew up in the Central Valley of California, rural Central Valley. I married my high school sweetheart. We'll celebrate our 30th wedding anniversary this August. And we have one son, and he's awesome.

Q. How did you make your way from a small rural town in Central California to MIT?

A. Well, I first went to college expecting to be a professional baseball player. That quite didn't work out. That was a local state college.

After that I -- or during college I majored in

economics. I went on to get a Ph.D. in economics from UC Berkeley. And I taught in California for a while, and MIT recruited me in 2011.

Q. And what is something people might not know about you just reading your bio or your resume?

A. So I grew up in Merced, if you've ever heard of the town. I grew up an avid hunter and fisherman, and I'm still quite an active fisherman.

Q. You mentioned you're a professor of applied economics. What does that mean?

A. So MIT has two economics departments, actually. They have -- I guess you would call it a peer economics department. That sits inside the school of social sciences. And then the applied economics department sits inside the business school.

And as the name would suggest, the faculty in the applied economics group tends to work on research questions that are a bit more grounded in the real world.

Q. What are you here to testify about today?

A. So I'm here to testify as to whether or not Align's behavior blocked Straumann/ClearCorrect in the marketplace, as well as to respond to some of the opinions offered by Dr. Perryman.

Q. Have you taught courses in industrial

organization?

A. Yes.

Q. What is industrial organization?

A. So industrial organization, we call it I/O in economics. It's a subfield of economics, and it studies how markets work. And by that I mean how firms interact with each other, how firms make decisions as to what products to offer, what -- how to price those products, and then ultimately how consumers make decisions as to what product to buy.

Q. Do you hold any research positions outside your position as a professor at MIT?

A. Yes. I'm also a research associate at what's known as the National Bureau of Economic Research. That's a large group of empirical economists that work on real-world questions. People outside of economics might know the MBER, we call it, as the group that officially calls the start and stop of recessions.

Q. Of recessions?

A. Yes.

Q. Has any of your research been published?

A. Yes.

Q. About how many times?

A. I have at least 50 publications in top economics and science journals.

Q. Outside of the academic work that you've talked about, do you do any consulting?

A. I do.

Q. And what kind of consulting do you do?

A. So I do two types of consulting. The first, I'll work directly with companies, for example, Anheuser-Busch, Delta Airlines, to help them understand their consumers and how they're making decisions about their products and then to help them think about how to price their products better.

Q. But you help Anheuser-Busch price the product, price its beer?

A. Not in the U.S. We focus on Latin America.

Q. Okay. Does your consulting work also include working on litigation such as this?

A. Yeah. The second type is litigation matters like this.

Q. Okay. And have you testified before, sir?

A. I have.

Q. Okay. Aside from litigation, have you testified in any other noncourt proceedings?

A. Sure. I've testified in front of the U.S. Congress. I've testified in front of a panel of regulators in Australia as well.

Q. Now, how much time would you estimate you

spend doing research and writing versus doing your consulting work?

A. So I -- you know, my main job is I'm a professor. I would say I spend 90 percent of my time teaching, doing research, working with students, and university service and 10 percent consulting.

Q. Were you hired by Align Technology in this case?

A. I was.

Q. How much are you getting paid?

A. My rate is $1,000 an hour.

Q. Okay. And do you also receive a percentage that Analysis Group, the group that supports your -- the work that you do?

A. That's correct.

Q. Okay. And does your compensation depend at all -- at all on the outcome of this case?

A. Absolutely not.

MR. TUBACH: Okay. Your Honor, we offer Dr. Knittel as an expert in the field of economics.

MR. MUELLER: No objection, Your Honor.

THE COURT: Admitted.

BY MR. TUBACH:

Q. Now, Dr. Knittel, have you formed opinions in this case as a result of the work that you've done?

A. I have.

MR. TUBACH: If we could put up Slide PDX-9.2, please.

BY MR. TUBACH:

Q. Let's discuss these. Could you just walk us through at a high level what these two opinions are?

A. Yeah. At a high level, I've found that Align's discount programs, how they write their contracts, as well as how the iTero is structured are actually procompetitive. They're making the marketplace operate more efficiently and ultimately benefitting consumers.

And then the second that follows from that is that Straumann did not suffer any injury or damages caused by Align.

Q. Now, let's focus on the first one.

What does it meant to you, as an economist, to say that behavior is procompetitive?

A. Yeah. So procompetitive behavior is behavior by firms that is consistent with how we want markets to operate. So, ultimately, that means that it's behavior that leads to lower prices, more output, and more innovation, all of which benefit the consumer.

Q. What about anticompetitive behavior, what does that mean to you?

A. So that's literally the exact opposite. So that's behavior that makes the market less efficient. So that leads to higher prices which ultimately leads to lower output and lower consumption and less innovation.

Q. And what conduct does Straumann and ClearCorrect allege Align engaged in here that is anticompetitive?

A. So they allege that the discount programs that Align offers are anticompetitive, how they write their contracts are anticompetitive, as well as the iTero scanner.

Q. And at a high level, what did you conclude?

A. I concluded that they're procompetitive and are actually benefitting consumers.

Q. Did you investigate whether Align has blocked or foreclosed ClearCorrect or other aligner companies from competing?

A. I did.

Q. What did you find?

A. None of these three items blocked or foreclosed ClearCorrect or any other aligner from competing. These were programs that are offered in the course of a marketplace, and the other firms in the marketplace could certainly compete with -- with Align.

MR. TUBACH: Let's look at 9 -- PDX-9.4.

BY MR. TUBACH:

Q. What are we looking at here, Dr. Knittel?

A. So this is a subset of all the clear aligner companies in the marketplace now, many of which have entered over the last ten years.

Q. Okay. Are all these companies that make aligners?

A. These are just clear aligner companies.

Q. And is this all of the aligner companies that have been -- entered in the last ten years or so?

A. Just a subset.

Q. Now, does this include braces companies also?

A. These do not. Some of these companies also offer braces, but these are clear aligner companies.

Q. Okay. Now, did you hear Dr. Perryman testify that Invisalign doesn't compete with braces or direct-to-consumer aligners?

A. I did.

Q. And are you here to testify about that specific issue?

A. No. I'm not here to testify what the relevant market is. I understand Dr. Jena will be testifying or certainly offered a report in this case where he finds that clear aligner --

MR. MUELLER: Your Honor, I object to his commentary of Dr. Jena's report.

MR. TUBACH: That's fine. We'll -- I'll ask another question.

BY MR. TUBACH;

Q. When you first got hired in this case, what was your reaction?

A. So when I first got hired in this case, I remembered back to when my son got braces. So we took him into the orthodontist and said we want to give him -- or get him braces.

He went through the whole fitting process. He used the PVS for that. And then after that fitting process, we met with the orthodontist in his office. And surprisingly, he put two contracts in front of us, one for braces and one for clear aligners.

We had never asked for clear aligners. And he actually told me that they're priced exactly the same, and he always prices them the same.

So I can't stop being an economist, so the first thought in my head is --

MR. MUELLER: Your Honor, I object. Hearsay, outside the scope of his report, and I move to strike.

THE COURT: Overruled.

A. My first thought was he certainly thinks that they're -- they're competing against each other.

BY MR. TUBACH:

Q. And is what you're here to talk about today, does it depend at all on how the specific market is defined?

A. It doesn't. So regardless of how we define the market, Align's behavior with respect to those three items is still procompetitive.

Q. Let's look back at this chart that we have up here on the screen.

Would you expect every one of these companies to succeed?

A. Not at all.

Q. Why not?

A. Well, in any marketplace, you know, there's certainly companies that will do better -- better than some. And, you know, some companies will thrive. Others won't do so well and maybe even exit.

One of the reasons why economists like markets or the competitive markets is that they do a good job at finding the products that provide the best value to consumers. And those companies flourish, and the other companies either have to innovate or sometimes exit.

Q. Now, in the course of your work, did you get

data from some of these companies?

A. Yes. I did.

Q. Did you get data from ClearCorrect?

A. Yes.

Q. Did you get data from Dentsply Sirona?

A. Correct.

Q. And did you get data from Ormco which makes Spark?

A. Yes. I did.

Q. And did you analyze that data to see how those companies have done over time?

A. I did.

Q. And to be clear, did Dr. Perryman get the same data that you did?

A. Yes.

Q. Okay. And did you prepare a chart showing us what you concluded?

A. I did.

Q. Or what you found?

Let's take a look at that.

What are we seeing here?

A. So these are two line graphs, one for Dentsply Sirona and one for Ormco. And what each line is showing, it's tracking the annual revenues from those -- those two companies.

So if we focus on the dark blue line, for example, that's Ormco. Ormco entered the -- entered or started selling clear aligners in 2019. And in that year, they had [redacted]. But by 2023, Ormco's [redacted].

And Dentsply Sirona shows [redacted]. They entered in 2020, and by [redacted]

Q. Why does this chart stop at 2023?

A. So for these two companies, that's the last year we had data.

Q. And is Dentsply Sirona, is it new to the dental field generally?

A. No. So Dentsply Sirona's been around for over 100 years. They've been selling dental products for over 100 years.

Q. And where are they located?

A. In the United States.

Q. But what about Ormco, is Ormco new to the dental field generally?

A. No. Similar story there. So Ormco also has been in the dental industry more broadly for over 100 years and also headquartered in the United States.

Q. And are both of those large companies?

A. Yeah. They're multi-billion-dollar international companies.

Q. Now, when you see established companies that have never sold a product before like this enter, what does that tell you about what they expect?

A. So, you know, certainly firms or companies don't enter markets unless they expect to earn a profit in -- in that industry.

I think the fact that these are 100-year companies in an adjacent market tells us that, you know, they have a better idea of what they're getting into than certainly I would if I entered the clear aligner industry.

And they're -- they're a large company, so they have resources to build out the brand and so forth.

Q. Is Straumann Group new to the dental business?

A. No. So they're very similar to these two companies. Straumann's been around for over 100 years in the dental industry broadly.

Q. And where are they located?

A. Switzerland.

Q. And when did Straumann get into aligners?

A. In -- in 2017.

Q. And is that when they bought ClearCorrect?

A. Correct.

Q. Did you have a chance to compare these two companies' sales with ClearCorrect's sales over the same time period?

A. I did.

MR. TUBACH: And let's take a look at that now. PDX-9.6.

BY MR. TUBACH:

Q. What does this chart show us?

A. So this one shows a different story. So here, red is the annual revenues of ClearCorrect. And what we see is that they max out in 2019 at about $65 million. But every year since 2019, their revenues have actually fallen.

Q. Well, why did you choose these three companies to put on this chart?

A. Well, a couple of reasons.

One is, as I mentioned, they're similar in nature. They're old companies in the dental industry at least. They've all been in adjacent industries. They're also all competing in this -- with clear aligners.

So they're all facing the same behavior that Align is in terms of their discount programs, their contracts, and the iTero.

Q. So as an economist, what, if anything, does this chart tell you about whether Align is blocking competition for the sale of clear aligners?

A. Well, it's certainly suggestive that they're not. We have [redacted] -- that same behavior, and one of the companies is not.

So it suggests that something else is going on with that third company.

Q. Now, you've heard testimony in court here. You've been in the courtroom at times, right?

A. Yes.

Q. You -- you've heard testimony in court that Align sales are significantly higher than these companies, right?

A. Yes.

Q. Does that change your opinion about whether this chart shows robust competition?

A. No. So it's certainly the case that Align's sales are much higher than these three companies. You know, Align has had a two-decade head start. You would expect them to have amassed brand loyalty, name recognition, and higher revenues.

What this shows is in the face of Align's behavior, you have [redacted]

[redacted].

Q. Now, was this the extent of the work that you did in the case today?

A. No. This was just a starting point.

MR. TUBACH: All right. Let's turn to the next slide, if we could.

BY MR. TUBACH:

Q. This describes or lists the three sort of buckets of conduct that Dr. Perryman claims block competition; is that right?

A. That's correct.

Q. Now, did -- were you here when Dr. Perryman testified earlier today?

A. I was.

Q. And you heard Dr. Perryman testify that he's not offering any damages at all related to the discount programs?

A. That's correct.

Q. And did he also testify that he's not offering any damages analysis relating to the contracts?

A. Yes.

Q. Now, he did testify that he believed that those programs harmed competition in some way, right, or harmed ClearCorrect?

A. He did.
Q. Now -- because they foreclosed other competitors from competing?
A. Correct.
Q. Well, what is -- what does "foreclosure" mean to you as an economist?
A. So economists use that term to represent the case when a firm completely blocks a set of customers from other competitors. So it means that those other competitors have no chance to compete with that -- with that firm.
Q. And is that the same thing as losing a sale?
A. No. Not at all.
Q. What's the difference?
A. Well, obviously every sale is either won or lost by -- won by one company and lost by everybody else. Foreclosure is literally not allowing those other companies from even trying or even playing against the winner.
Q. And when a company loses a sale, when a customer decides to buy from a competitor, does that mean there's no -- not a level playing field?
A. No. Even with the level playing field, every sale will be won by one company and lost by the other companies in the industry.

Q. And so what did you conclude about whether Dr. Perryman's correct that these three types of conduct blocked or foreclosed competition for the sale of clear aligners?

A. None of these block or foreclose competition.

Q. Okay. Now, I understand they're not seeking damages for the loyalty program, but I still want to walk through that with you for a minute, if I could.

What is a loyalty program briefly?

A. A loyalty program is really -- you know, the other term for it is a volume discount, but it's basically giving higher discounts based on how much the customer's buying from the company.

Q. And are loyalty discount programs common?

A. They're all over the place.

Q. Okay. Let's look at an example.

What do we have here?

A. Yeah. So this is a loyalty program offered by Shell for their gas stations, and in this program, there's three tiers. And you reach tiers by how many fill-ups you've had in a three-month period.

So they base it on fill-ups and then also fill-ups of their premium gasoline. I'm going to focus on just their nonpremium gasoline.

But if you have fewer than six fill-ups in a

given three-month period, then you're in the silver program. You get a 3 cent per gallon discount.

If you have at least 6 fill-ups but less than 12 fill-ups, then you'll be placed in gold tier. And there you'll get a 5 cent a gallon discount.

And then if you have more than 12 fill-ups, then you'll not only get a 10 cent per gallon discount over the next three months, the entire three months, but you also get a couple other benefits as well.

Q. So I want to ask you about that because Dr. Perryman testified about the structure of the discounts. And for Align's program, how is this program structured in terms of when you earn the discounts and when you get them?

A. So they're remarkably similar, actually. So in Align's program, it's a six-month period that determines what your tier is or your discount level is in the next six months, but it's the same exact setup where depending on how many Align -- Invisaligns you sell in that six-month period, that'll determine what your discount is in the next six-month period, just like in this Shell example.

Q. And do you know what the period is at issue in Shell?

A. The Shell program is three months, and Align's

is six months.

Q. I got it.

So whatever gas you buy from January through, I guess, the end of March, that determines what your discount is April through June?

A. Exactly.

Q. Okay.

A. And then it rolls.

Q. Now, is that the way that Align's discount loyalty program works?

A. Yes.

Q. Okay. I think you testified, though, that the period is a little different?

A. That's right.

Q. It's just six months instead of three months?

A. Correct.

Q. I got it.

Do other aligner companies offer discount programs?

A. They do.

Q. Let's take a look at the next slide.

Are these -- what are these six companies?

A. So these are a sample of other companies that offer discount programs. These are six in particular.

Q. And ClearCorrect offers a discount program?

A. Yes. They do.

Q. And do you know how that discount program is structured?

A. Well, they have a variety of six-month -- or a variety of discount programs. Some of their discount programs are structured like that Shell example or the -- Align's example.

Q. Now, do any of these programs, Shell program, Align's program, any of these six, in your view as an economist, do they block competition or foreclose competition?

A. These discount programs are competition. You know, the reason why they're being offered is to fight for the customers. And in fact, the fact that you see different types of discount programs is -- tells us that they're also competing in the structure of their discount program. They're trying to figure out what is the best type of discount program to win that customer.

So ultimately, they actually represent competition.

Q. So let's talk specifically about Align's discount program.

Why do you say that doesn't block competition?

A. Well, for a few reasons. The first is that they're voluntary, and what I mean by that is they're

voluntary in and out. So a doctor doesn't have to sign up. But even if a doctor signed up, they could decide whenever they want to exit that discount program.

Second, and we heard this from Mr. Miller, they were designed to compete against braces and the fact that braces have this advantage that you could buy the components of braces in bulk, and you can't do that for clear aligners.

And third, and probably most importantly, is these discount programs lower prices, and that's a hallmark of procompetitive behavior.

Q. Did you prepare a chart to show how prices have behaved over the -- from 2016 to 2024?

A. Yes.

Q. Let's take a look at PDX-9.10.

What are we seeing here?

A. So this is the average price that doctors paid for Invisalign's Comprehensive package. So the Comprehensive package is their flagship package. It's their most popular one.

So what we saw in the data is in 2016, the average price that doctors were paying was $1,513. And then by 2024, the last year that we had data, that price for the same package has -- had [redacted].

Q. So in that eight-year period, Align's prices

for its flagship product had [redacted]?

A. Exactly.

Q. By about how much, give or take?

A. You're making me do math in real time.

Looks like [redacted].

Q. And so [redacted] certainly?

A. Sure.

Q. Okay. Now, over the same time period, what was happening to prices generally in the economy? You're an economist. You have to study recessions and when they're coming?

A. So over the time period, I'm sure we're all well aware, the actual -- the CPI, the Consumer Price Index, which measures the general level of all prices in the economy, actually rose by 30 percent.

Q. 30 percent?

A. Yes.

Q. I'm going to ask you what may be an obvious question. Are these discount programs popular?

A. Yes. They're lowering the price you have to pay. So they're popular.

Q. Now, you testified these programs are voluntary.

What happens if a doctor stops buying Invisalign? Are they -- what happens?

A. Nothing happens. That would be as if the -- a driver in the Shell program started buying from Chevron. They just start buying from somebody else.

Q. And then what price does that driver pay when they go fill up their gas if they go back to Shell eventually?

A. If they start buying less from Shell, then they'll go to a lower tier. If they don't even meet the silver tier, that they'll pay the posted price.

Q. The posted price, meaning the price at the pump?

A. Correct.

Q. Okay. You heard Dr. Perryman testify earlier about list prices.

Do you recall that?

A. I do.

Q. And that list prices had increased -- Align's list prices had increased, right?

A. That's what I heard.

Q. And how is that relevant to your analysis, if at all?

A. Well, the price that matters to the consumer is the price that they're paying. So in essence, this is the price that matters.

Q. And do you recall whether the list price went

03:57 up by more or less than the rate of inflation?
03:57 A. So over this same time period, the list price
03:57 did go up but by less than the rate of inflation. So
03:57 we call it in real terms it actually fell.
03:57 Q. Now, your view that this discount program is
03:57 not anticompetitive, is that affected at all by how
03:57 large Align is?
03:57 A. No. Whether or not Align has a large market
03:57 share or a small market share, this discount program is
03:57 competitive, just like the other discount programs from
03:57 the six companies we showed before.
03:58 Q. So just to close this out, is -- what's your
03:58 opinion, sir, about whether this loyalty discount
03:58 program forecloses or blocks competition for the sale
03:58 of clear aligners?
03:58 A. It doesn't block competition. Nothing stops
03:58 orthodontists or a doctor from buying clear aligners
03:58 from another company.
03:58 Q. Let's go to the next opinion, next bucket of
03:58 conduct that Dr. Perryman discusses. These are the
03:58 contracts.
03:58 What does Dr. Perryman's -- summarize for
03:58 him -- summarize for us, if you would, what his opinion
03:58 is about, how the contracts foreclose competition.
03:58 A. Dr. Perryman's opinion is that the contracts

foreclose competition through what he called or what's called the antidiversion clauses.

Q. So where do these antidiversion clauses appear?

A. So these are in contracts written with DSOs.

Q. Okay.

MR. TUBACH: Why don't we pull up the next slide?

BY MR. TUBACH:

Q. Is this an example of a antidiversion clause that you mentioned?

A. It is.

Q. Okay. And is this with -- I believe it says the Smilist down there at the very bottom. I don't know if you can read that.

A. I can't read it, but I'll take your word.

Q. Is that a DSO?

A. Yes.

Q. And the language underlined in red, could you tell us what that is?

A. Yeah. So that says: Diversion of prospective patients into non-Invisalign treatment.

So if you did that, then that would mean you're not maintaining what Align calls good standing.

Q. And did you hear Mr. Miller testify about this

provision?

A. Yes.

Q. Okay. And as an economist, how do you think about a clause like this?

A. Yeah. So Mr. Miller talked about bait and switch. In economics, we -- that's a -- an example of what we call a market failure. So, you know, we all probably understand what the bait and switch is.

He described it pretty well, that a customer goes into an orthodontist, asks for Invisalign, and that orthodontist diverts them to another clear aligner, potentially not telling that patient.

That's what economists call a market failure, because if we were to allow that to happen, then think what you would do if you were in Align's shoes.

If that was -- came prevalent, then you're going to start advertising less. You're going to start innovating less. Because all of that advertising, or at least some of that advertising, that innovation is actually being used to sell to your competitors.

So in the absence of contract provisions like this, the marketplace actually works less well. It works less efficient. So that's why these provisions are procompetitive.

Q. At the very top there, it -- there's a

reference to Find a Doctor functionality on Invisalign.com.

Do you see that?

A. Yes.

Q. Is Invisalign.com a website run by Align Technology?

A. That's correct.

Q. And Find a Doctor, what does that -- what does that mean?

A. So they have a website that is basically providing marketing material for doctors that sell Invisalign.

Q. So is it your view that the -- a provision like this, this antidiversion program, do you have an opinion as an economist about whether it is procompetitive or anticompetitive?

A. Yeah. This would be procompetitive because like I said, it's overcoming a potential, quote/unquote, market failure, that if you let go, if you let that go unchecked, it would actually make the market less efficient.

Q. Now, did you look at whether Smilist was actually blocked from ordering ClearCorrect aligners as a result of this provision?

A. I did.

Q. And did Dr. Perryman do that analysis?
A. No. He didn't.
Q. Okay. And what did you find?
A. So we were able to get data from Smilist, both before and after they signed this contract.
MR. TUBACH: Why don't we pull that up now?
BY MR. TUBACH:
Q. Sorry to interrupt, Dr. Knittel.
MR. TUBACH: Exactly, 9.15.
BY MR. TUBACH:
Q. Please go ahead.
A. Yeah. So this is the number of case counts in a year that Smilist, this DSO, is selling of ClearCorrect. And from 2017 to 2021, they didn't have this contract. And then they signed the contract in 2022.
So what you see from this chart is that the number of ClearCorrect purchases that Smilist was engaging, you know, goes up, peaks at 2019, and actually in 2020 and 2021 falls. Then they sign a contract, and then they actually start selling more ClearCorrects after signing this contract.
Q. And what does this graph tell you as an economist about whether these antidiversion provisions

that we were just discussing are blocking or foreclosing ClearCorrect for competing for Smilist's business?

A. Yeah. There -- it's obviously not blocking ClearCorrect from selling at Smilist. In fact, they sold more after the contract was written.

Q. What would you expect this graph to look like if Straumann and ClearCorrect were right that this actually blocks competition?

A. So if this was really blocking or foreclosing competition, we would expect the sales to go to zero after the contract was signed.

Q. Are these antidiversion clauses in the contracts that have them, in your view as an economist, are they -- are they exclusive contracts?

A. They're -- well, they're obviously not exclusive contracts.

Q. Do DSOs ever leave these contracts?

A. They do.

Q. Do you have an example?

A. Yeah. I do. So Aspen Dental, it's a pretty large DSO. I think it has a thousand offices underneath or associated with them. They signed a contract similar to what we just saw. And midway through that contract, not only did they leave the

contract but they started offering their own clear aligners.

Q. How -- what do you mean, "their own clear aligners"?

A. So they were what's called white label clear aligners. So they didn't get into the manufacturing business. So they contracted with a wholesale manufacturer and started offering what are called white label products. So that's where somebody else is making it, but you're putting your logo on it.

The next time you go to a grocery store, go down the chip aisle. And you'll see the grocery store has their own label. They're not making chips. They're contracting with a wholesaler that is providing that white label product.

Q. And just to end on this -- on this sub point here, these contracts, these are the contracts Dr. Perryman has offered no damages analysis at all, correct?

A. That's correct.

Q. Okay.

THE COURT: Counsel, we're going to stop for the day so we can get to work on the jury charge.

Ladies and gentlemen of the jury, if you would be back tomorrow by 8:45, we will start tomorrow

morning at 9:00. Please don't discuss the case with yourselves.

THE BAILIFF: All rise.

(Jury exited the courtroom.)

THE COURT: You may be seated.

An update for you all. I'd forgotten to let you know that -- it puts a little bit of a -- gives a little bit of a problem. Tomorrow at 12:45, one of the jurors has a job interview, and it's going to go from 12:45 to 1:30.

So unless you want me to tell her that one side or the other doesn't want her to make that call...

(Laughter.)

THE COURT: So -- and so I've already assured her that that's fine, and I've taken care of it. It just means I won't begin reading the jury charge until 1:30 tomorrow, if that -- just so you know.

It's fine with me, absolutely fine with me. I'll run through the charge. I'll read the charge, and then you'll do your closing arguments. And then what I intend to do, though, is give the jury the option of whether they want to start deliberating or not. And it's up to them. Given how far away they

live, many of them, my guess is they will want to start. And tomorrow night I've got nothing else to do, so I'm happy to stay at least till a reasonable hour.

At some point I think it's unreasonable to keep them, but I'm happy to do it that way. So that's -- that's what I'm planning on.

Now, I do think it would be much quicker, because I only have till about 5:30 and then we have no time in the morning, to do it informally in my chambers. That will go faster, if that's okay with you all.

MR. DURST: Yes. It's okay, Your Honor, with us.

MR. MUELLER: It is, Your Honor.

THE COURT: Okay. So again, you don't -- I'm going to take my tie off. You don't need a tie.

(Off-the-record discussion.)

THE COURT: Is there anything we need to take up on the record?

MR. DURST: Just wanted to inform the Court what we've already informed the defendants, which is, we are not going to call Dr. Morrison as a witness.

THE COURT: Okay.

MR. DURST: So that will save some of our precious minutes for another witness.

04:07 THE COURT: So will it save us enough time that I could get started reading in the late morning?

04:08 And here's -- there's -- I don't care. I mean, you don't need -- you're not committing yourself.

04:08 MR. DURST: Possibly so.

04:08 THE COURT: If we finish in time, there's no rule that says I have to read the entire thing at once.

04:08 So, for example, what I may do -- Bob, let me -- I'll be right back. I'm going to let the jury know to bring their lunch tomorrow and so that we can --

04:08 I'll be right back.

04:08 (Pause in proceedings.)

04:08 THE COURT: They're all gone. I'll figure out some way to deal with them and lunch with them tomorrow to make it as quick as possible.

04:09 But I'm happy to start reading the jury charge when -- but I also have Rule 50 motions after you all are done. So --

04:09 MS. DURIE: Would it be helpful if the parties agreed to supply lunch for the jurors?

04:09 THE COURT: We do that. I sequester them and it's provided. But thank you.

04:09 MR. DURST: We estimate we have an hour and a half left of direct testimony.

04:09 THE COURT: And?

04:09 MR. MUELLER: An hour and a half of cross, Your Honor.

04:09 THE COURT: So we'll go all morning, 9:00 to noon. That's fine. I'm -- okay.

04:09 So what I'll do then is I will ask the jury when they line up in the morning whether or not -- I'll let them know we're stopping at noon. So I'll ask them whether they would prefer to start me reading at noon and proceed, or whether they'd like to go and get lunch. And I'll leave -- I'll leave it up to them.

04:09 And so we're going to break at 12:40 for the phone call, and we'll start at 1:30 with everything else regardless.

04:10 And also, if I haven't said this before, you do not have to exchange demonstratives. However, if you're unhappy about what the other side says, you do have to object. If you wait until the jury's in the deliberation room, which has happened twice, and make your objections then, it's too late.

04:10 So twice. Not once, twice. So give me just a minute or two.

04:10 Yes, sir.

04:10 MR. MUELLER: I just have one last question, Your Honor, on the closings just in terms of time allocation. If Your Honor wouldn't mind, I actually can't quite remember from my last trial before you how much you allow to be reserved for the rebuttal.

04:10 THE COURT: So I'm assuming -- a good question in this case, given the case. I'm assuming that Mr. Durst thinks his side is opening and closing?

04:11 MR. DURST: I do think that, Your Honor.

04:11 THE COURT: And I think that's right as well.

Now, that being said, I don't have any hard rule on how long the plaintiff has to go in their opening of the closing. However, five minutes is not enough. And my attitude is it has to be a robust opening, and there shouldn't be anything held back for the final section in terms of, you know -- I mean, and so -- but, you know, given the quality of the lawyers that are on this side of the bar, I don't anticipate -- I've never had a problem with that.

So it just has to be a full opening, whatever amount of time that is.

MR. MUELLER: Understood. Thank you, Your Honor.

THE COURT: And then also, if it's -- I

don't know if it's a question or not. I am completely agnostic to how many people speak per side. That's entirely up to you all.

Now, I had one trial where the lead trial lawyer couldn't take it, and he made the lawyer he had given the closing argument sit down, and got up and did the last ten minutes. And I didn't think that was entirely okay. But, you know, they lost.

(Laughter.)

THE COURT: Anyway, I will see you in chambers as soon as y'all can get there.

THE BAILIFF: All rise.

(Hearing adjourned.)

UNITED STATES DISTRICT COURT)
WESTERN DISTRICT OF TEXAS)

I, Kristie M. Davis, Official Court Reporter for the United States District Court, Western District of Texas, do certify that the foregoing is a correct transcript from the record of proceedings in the above-entitled matter.

I certify that the transcript fees and format comply with those prescribed by the Court and Judicial Conference of the United States.

Certified to by me this 12th day of July 2026.

/s/ Kristie M. Davis
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