1 UNITED STATES PATENT AND TRADEMARK OFFICE

2 BEFORE THE PATENT TRIAL AND APPEAL BOARD

3 RESMED CORP,)CASE IPR2025-00247
)U.S. PATENT NO. 11,872,029
4 PETITIONER,)
)
5 V.)MOBILE VIDEOCONFERENCE
)DEPOSITION OF
6 CLEVELAND MEDICAL)JASON P. KIRKNESS, Ph.D.
DEVICES, INC.,)
7)
PATENT OWNER.)
8 ___________________________)

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13 MOBILE VIDEOCONFERENCE DEPOSITION OF JASON P.

14 KIRKNESS, Ph.D., taken remotely before Cheryl A.

15 Rooney, RPR, CRR, Online General Notary Public within

16 and for the State of Nebraska, beginning at 1:00 p.m.

17 PST, on February 4, 2026.

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1 I N D E X

2 CASE CAPTION.................... PAGE 1
APPEARANCES..................... PAGE 2
3 INDEX........................... PAGE 3
TESTIMONY....................... PAGE 4
4 REPORTER CERTIFICATE............ PAGE 56

5

E X A M I N A T I O N

6

DIRECT EXAMINATION:

7

BY MR. LAYDEN............. PAGE 4

8

9 E X H I B I T S

10 NO EXHIBITS MARKED

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Page 4

1 JASON P. KIRKNESS, Ph.D.,
2 having been first duly sworn,
3 was examined and testified as follows:
4 DIRECT EXAMINATION
5 BY MR. LAYDEN:
6 Q. Good afternoon, Dr. Kirkness. Good to
7 see you again. You submitted a reply
8 declaration in this IPR; is that correct?
9 A. I did.
10 Q. And that's Exhibit 1071. Do you have
11 that before you?
12 A. Yes, I do.
13 Q. Do you have any other paper copies of
14 exhibits?
15 A. I have the copies of any of the
16 exhibits that were referred to in the
17 declaration.
18 Q. Okay. And what about the previous
19 exhibits from the petition?
20 A. Previous exhibits from the petition.
21 Could you give me a specific example?
22 Q. Any other references, anything of that
23 nature?
24 A. So the references -- I don't have an
25 extensive list of everything that was referred

Page 5

1 to in the previous iteration in front of me.
2 Q. If we get to that point and you don't
3 have an exhibit before you, I could drop it in
4 the chat and we can go from there, if that
5 works.
6 A. Okay.
7 Q. Looking at your declaration,
8 Exhibit 1070 --
9 A. Yes.
10 Q. -- the final page, Page 17, that's
11 your signature; correct?
12 A. That is correct.
13 Q. And roughly how long did you spend
14 working on this declaration?
15 A. I don't know exactly how long I spent
16 working on it. Sometime from when I was asked
17 to look at it based on the order in which -- you
18 know, in reply to the -- so I don't have that in
19 front of me exactly how long I spent.
20 Q. Are you able to estimate how long?
21 A. I'd basically have to go back to a
22 calendar and look at the days and -- could be
23 done.
24 Q. Okay. Do you have Exhibit 1004, which
25 was your CV?

Page 6

1 A. 1004. CV. Let me see. Yes, I do.
2 Q. If you could pull that out for me,
3 please.
4 A. Yes, sir.
5 Q. And previously when we discussed for
6 the IPR against the '512 patent, we went through
7 some of your engagements, and just a couple of
8 quick questions on that topic. On Page 1 in the
9 bullet points you have listed there, it says
10 novel device -- novel medical devices and
11 treatment approaches for chronic respiratory
12 disease. Research awards from industry.
13 A. Yes.
14 Q. What was the award that Resmed gave
15 you?
16 A. So those are described in detail in
17 pages 6 to 8 under the banners, Extramural
18 Sponsorship and Contracts. And under there, if
19 there was anything that mentioned the word
20 Resmed. So I'm just scrolling through under the
21 section Contracts from 2013 is the first line
22 item, high nasal airflow for treatment of COPD
23 from Resmed. Nasal high-flow -- sorry -- high
24 nasal airflow for treatment of COPD 2014. High
25 nasal airflow for treatment of obstructive sleep

Page 7

1 apnea, 2009 to 2010. High nasal airflow
2 treatment for COPD, 2010 to 2012. Those are the
3 ones that are listed.
4 Q. So the rewards referenced on that
5 first bullet point on Page 1 is in reference to
6 the contracts you've received from Resmed?
7 A. So the bullet points on Page 1 are
8 not -- refers to various research awards from
9 industry for various novel medical devices and
10 treatment approaches for various chronic
11 respiratory diseases.
12 Q. And then within that statement you
13 have listed Resmed and sleep health and ImThera?
14 A. ImThera, yes.
15 Q. And the research awards from industry
16 where you have Resmed, are those research awards
17 description, is that your description of the
18 contracts you received from Resmed or is there
19 an actual award that you received from Resmed?
20 A. So these are research contracts that
21 were -- research contracts conducted at Johns
22 Hopkins University, administered through the
23 Office of External Engagement.
24 So also my belief is that during that
25 time there are awards also at the University of

Page 8

1 Western Australia and the Sir Charles Gairdner
2 Hospital. So any of that work or that contract
3 work awarded would have been administered
4 through the relevant research office.
5 Q. And the contracts you received from
6 Resmed, those are through Resmed, Inc.?
7 A. I would -- I'd have to -- I wouldn't
8 be able to say the corporate entity that I -- I
9 didn't actually sign the contract myself, so I
10 probably wouldn't be able to tell you.
11 Q. On several of the contracts you have
12 listed here, you have Resmed, Inc. as the entity
13 awarding you the contract.
14 A. Yes.
15 Q. Have you ever been awarded a contract
16 from Resmed that didn't come from Resmed, Inc.?
17 A. Yeah, so I would have to -- I would
18 have to go back and actually review and look at
19 the contracts to be able to verify -- you know,
20 I would have to verify that it was exactly
21 Resmed, Inc. and that was the way that it was
22 written. Yeah, if there's -- actually, you
23 brought up a good point, and I can go back and
24 have a look at that.
25 Q. So are you saying that possibly the

Page 9

1 information in your CV is incorrect?
2 A. What I'm saying is that the
3 information regarding the exact entity that was
4 signed for by the contract agent at the
5 university, I would have to review that in order
6 to determine if that was -- if it was exactly
7 written like that on the contract.
8 Q. And if you could turn to Page 15 of
9 your CV. There you have a paragraph stating
10 that from between 2007 to 2016 you were a
11 consultant investigator for Resmed, Inc.?
12 A. Yes.
13 Q. Is that accurate?
14 A. So with respect to your previous
15 comment, I would have to go back and determine
16 if it's listed exactly the same as spelled here
17 in the CV as it's spelled on the contract. But
18 yes, I was a consultant or received consulting
19 funds as a consultant for various activities in
20 that region -- sorry, in that time frame, yes.
21 Q. And you're not sure if that was
22 actually Resmed, Inc., as you have listed on
23 your CV or some other Resmed corporation?
24 A. So again, you're correct in your
25 assertion. I don't know exactly what was

Page 10

1 written in terms of the entity. The Resmed
2 corporation -- in my understanding, there's an
3 amalgam of organizations that make up Resmed,
4 Inc., and I'm unclear at this stage exactly
5 which legal entity I've represented there as
6 Resmed, Inc.
7 Q. So then what compelled you to put
8 Resmed, Inc. into your CV and not just a generic
9 Resmed or some other Resmed corporation?
10 A. Well, in my opinion some of the work
11 that I was doing was related to work with
12 Resmed, Inc., and if there was -- if any of that
13 work was from or through any other organization,
14 because I know that -- well, I don't actually
15 know, but Resmed also has corporations in
16 Australia. And during this time period I was
17 working in the U.S. and Australia, and also I
18 think this is probably the best explanation I
19 can give you why I wrote Resmed, Inc. in my
20 resumé.
21 Q. What work were you doing that you
22 believe to be associated with Resmed, Inc.?
23 A. So as I had put in -- written here,
24 various engagements with medical affairs,
25 applied research, product development department

Page 11

1 at Resmed. Well known at Resmed for research
2 development of a respiratory therapy referred to
3 as high-flow therapy. High-flow therapy is a
4 cannula-based therapy that reduces ventilation
5 via reduction in dead space ventilation and
6 vascular sympathetic activity during sleep in
7 COPD.
8 The most important studies I've
9 conducted for Resmed include cannula usability
10 study. From conception IRB to data
11 acquisition and --
12 COURT REPORTER: (Requests
13 clarification.)
14 THE WITNESS: From conception IRB
15 approval to data acquisition and report for FDA
16 in three months. Evaluation of competitor's
17 products or assessment of products for due
18 diligence.
19 In addition, I've had various roles in
20 evaluating patents. That's it.
21 BY MR. LAYDEN:
22 Q. What patents did you evaluate while at
23 Resmed?
24 A. So we had some patents that were
25 associated with nasal high-flow. So this is

Page 12

1 basically a therapy that delivers a high volume
2 or a high-flow rate of air into the nose. And
3 as I put there, therapy referred to as nasal
4 high-flow therapy, it's a cannula-based therapy
5 that reduces ventilation via reduction in dead
6 space ventilation.
7 Q. And who did you report your patent
8 findings to at Resmed?
9 A. So the -- I can tell you who I was
10 working with. I was working with a scientist by
11 the name of Adam Benjafield. And he was
12 working -- although I didn't work directly with
13 him, I definitely conversed with him. But the
14 other person was Glen Richards. Dr. Glen
15 Richards and Dr. Adam Benjafield would be the
16 two people I primarily engaged with at Resmed.
17 Q. If you could turn down to Page 18 of
18 your CV.
19 A. Yes.
20 Q. And under the heading Consultantship
21 and Board of Directors, from 2007 to 2009 you
22 have listed Resmed, Inc., specific scientific
23 advisory meetings for collaborative study. Do
24 you see that?
25 A. Yes.

Page 13

1 Q. Were you working with the board of
2 directors for Resmed, Inc. during this time?
3 A. No, I was not.
4 Q. Who were you working with at Resmed
5 during this time?
6 A. So during this time I was working with
7 Dr. Adam Benjafield and Dr. Glen Richards.
8 Q. And what was the collaborative study
9 you were advising on?
10 A. So we were working towards the nasal
11 high-flow study for -- it was a couple of
12 studies and I've described them in a way --
13 studies related to the use of nasal high-flow.
14 One for the treatment of obstructive sleep
15 apnea, so obstructive sleep apnea. And the
16 other one, the use of nasal high-flow therapy
17 for the treatment of chronic obstructive
18 pulmonary disease.
19 Q. And in regards for whose -- or the
20 entity that's paying your fees today, is that
21 Resmed, Inc., or Resmed Corp?
22 A. Once again, you know, I probably would
23 have to look at that contract now that you've
24 brought that up to see the exact entity that's
25 on that agreement. Yeah, so I apologize.

Page 14

1 Unless I have that paperwork in front of me, I
2 wouldn't want to misrepresent that.
3 Q. Thank you. And if we could turn back
4 to Exhibit 1071, your reply declaration.
5 A. Sure. I have that in front of me.
6 Q. Okay. If you could turn to Page 2 of
7 your declaration, Paragraph 5.
8 A. Yes.
9 Q. Beginning sentence you state that
10 Truitt describes that a pressure center that
11 measures the pressure at the patient by
12 providing a pressure pick-off port in or near
13 the patient interface device. Can you describe
14 for me what a pick-off port is?
15 A. So it's almost exactly as it's
16 written. It's a port on a mask or a circuit
17 used to extract a pressure reading at the
18 location in which the pressure is being
19 measured.
20 Q. And is it your understanding that a
21 patient interface device is equivalent to a
22 mask?
23 A. So a patient interface device can be a
24 mask, and as mentioned to you just previously,
25 there's a number of other types of interfaces

Page 15

1 that can be used. There's different
2 configurations that a patient interface may
3 encompass, and that may include the mask.
4 Q. I'm going through Paragraph 5 towards
5 the middle. You have a sentence that begins,
6 for instance, and you have claims 2 and 12
7 recite. Do you see that sentence?
8 A. Yes.
9 Q. At the end of that sentence you have
10 citations to claims 2 and 12, and then also
11 Column 7 Line 65 through Column 8 Line 2 of
12 Truitt. Do you see that?
13 A. I do see that.
14 Q. Do you have Exhibit 1007 handy?
15 A. Yes, I do.
16 Q. If you can turn to that section,
17 Column 10 -- or Column 7 Line 65.
18 A. Yes.
19 Q. That first sentence beginning on
20 Column 7 Line 65 states: The present invention
21 also contemplates providing the flow volume
22 sensing assembly at a modular attachment at the
23 outlet of housing 58.
24 Dr. Kirkness, do you understand --
25 A. Yes, sorry. Just let me make sure

Page 16

1 I've found the correct segment. So, sorry, you
2 said column -- we're in Exhibit 1007, Column 7
3 Line 65.
4 Q. Mm-hmm.
5 A. And it starts: The present invention
6 also contemplates. Is that correct?
7 Q. Yes.
8 A. Okay.
9 Q. That modular -- where it states a
10 modular attachment at the outlet of housing 58,
11 do you understand that to be describing an
12 external attachment to the CPAP device?
13 A. Yes.
14 Q. If we can continue down in your
15 declaration to Paragraph 9, beginning on Page 4.
16 A. There's one comment that I'd like to
17 just make prior to your next comment, about the
18 previous statement. So when the -- in this
19 section of the -- of Truitt that you referred to
20 Line 65 Column 7, in reference to the embodiment
21 that they're describing, they use the term
22 contemplating, and contemplating a modular
23 attachment at the outset -- outlet of housing.
24 So to be -- just to make sure that you
25 understand that there are multiple

Page 17

1 configurations that were described in Truitt.
2 And if you'd like to move on to Paragraph 9 in
3 the --
4 Q. Well, before we get to that, expanding
5 on what you just said --
6 A. Sure.
7 Q. -- you said that Truitt has multiple
8 configurations. Which configuration is it, in
9 your opinion, the one that invalidates the '029
10 patent?
11 A. So with regard to your statement
12 there --
13 Q. Not my statement. I'm asking --
14 A. Your question, your question, are you
15 pointing to part of my declaration?
16 Q. I'll restate my question.
17 Which configuration of Truitt is it
18 your opinions are relying on?
19 A. So what I said in response to your
20 question about a -- the description of a modular
21 attachment at the outlet of -- the outlet of
22 housing was that that is part of a sentence that
23 says the present invention also contemplates
24 providing flow volume sensing assembly at a
25 modular attachment at the outlet of the housing;

Page 18

1 therefore, there are other -- within the patent
2 there are other configurations that are
3 described.
4 Q. Correct. And which configuration
5 described in Truitt is the one you're relying on
6 for your opinions?
7 A. Yeah, and which opinion are you
8 referring to in the declaration? So I've put
9 forth multiple opinions in the declaration, and
10 I'm just trying to find out which opinion you're
11 referring to.
12 Q. Well, do you rely on multiple
13 configurations of Truitt in your opinions, or do
14 you rely on the same configuration?
15 MS. ALEXANDER: Objection; vague.
16 THE WITNESS: Is there a place in
17 the declaration that you can point me to where
18 we could discuss that?
19 BY MR. LAYDEN:
20 Q. We'll get there.
21 What are the sensors in Truitt that
22 you're relying upon in your configuration?
23 A. So, once again, is there a place in
24 the declaration where I could -- where you could
25 point me to that opinion?

Page 19

1 Q. Well, before we get there, do you rely
2 on the same configuration of Truitt, or do you
3 rely on different configurations, depending on
4 what you're opining on?
5 MS. ALEXANDER: Objection; vague.
6 THE WITNESS: Yeah, so if there's
7 a place in the declaration where we can have
8 that discussion, if I've discussed it, I would
9 happily expand.
10 BY MR. LAYDEN:
11 Q. Well, let's go to Paragraph 28, if you
12 could. In the second sentence of Paragraph 28
13 you say: The Truitt discloses the use of more
14 than one sensor in its CPAP system.
15 Do you see that?
16 A. Yes.
17 Q. Later on towards the end of
18 Paragraph 28, second-to-the-final sentence you
19 have: Contrary to Dr. Burkholder's assertion,
20 then Truitt's CPAP is not solely a mechanical
21 device that determines airflow with just one
22 flow sensor.
23 Do you see that?
24 A. Yes.
25 Q. What are the other sensors in Truitt

Page 20

1 that you're relying on?
2 A. So in the declaration, and I've
3 described this in -- so I just want to make sure
4 I get the exact reference right -- so in Truitt,
5 Page 5 Lines 60 to 67, Column 6 Lines 1 to 10,
6 and so on in that paragraph, in Paragraph 28 of
7 my declaration I describe multiple sensors,
8 pressure sensors, flow sensors, pressure sensors
9 in different operational modes, pressure or flow
10 sensors, and in Columns 6, 60 to 63, any other
11 sensors as described.
12 So that -- as I mentioned before, that
13 is in the section Column 6, Paragraph --
14 Column 6, Lines 51 through 64 -- 63, sorry, and
15 describes the -- by controlling the valve, the
16 motor, or combination thereof, it's further
17 understood that other sensors can be provided to
18 provide additional information to the
19 controller.
20 Q. And what other sensors are you
21 providing in Truitt?
22 A. So I have not provided an opinion on
23 the other sensors.
24 Q. So your opinions rely on the flow and
25 pressure sensor in Truitt and no other sensors?

Page 21

1 A. That is correct.
2 Q. If we can go back to Paragraph 9.
3 A. So it's correct that this declaration
4 that I've written, I have only included an
5 opinion on the pressure and flow sensors, but if
6 there were other sensors that we needed to
7 discuss that were listed, I would happily do so.
8 Q. Are there other sensors in your
9 opinions outside of the flow and pressure sensor
10 that are required for you to opine on?
11 A. So the other sensors in my opinion are
12 described in the combination of Truitt and
13 Kumar, and further, in view of Mumford, which
14 I've stated here, would render obvious being
15 able to calculate the data or the usage of the
16 PAP device by the subject. The data of severity
17 of sleep disorder symptoms of the subject and/or
18 the index of treatment efficacy data, together
19 with the therapy efficacy data.
20 So as I had mentioned to you before,
21 any -- the Truitt does describe the flow and
22 pressure sensors, but if there are other sensors
23 that -- and also anticipates the use of any
24 other sensors.
25 Q. Are there other sensors that are

Page 22

1 necessary for your opinions as given in the
2 declaration?
3 A. So at this stage, if there are other
4 sensors that are required, if I haven't provided
5 them in the declaration, that's just what it is.
6 Q. Okay. Back to Paragraph 9, if we
7 could, beginning on Page 4.
8 A. Yes.
9 Q. In Paragraph 9 it has the heading,
10 Number 1 above it, The apneas, hypopneas and
11 snores depicted in Truitt represent data of
12 severity.
13 Do you see that?
14 A. So can you direct me again to the
15 right paragraph?
16 Q. Paragraph 9 on Page 4, heading 1,
17 preceding Paragraph 9.
18 A. Yes, I see that.
19 Q. You have the heading: The apnea,
20 hypopneas, and snores depicted in Truitt
21 represent data of severity.
22 A. I see that.
23 Q. Can you explain how detecting apnea,
24 hypopnea, and snores equates to data of
25 severity?

Page 23

1 A. Certainly. As I have listed in my
2 declaration here, that the various definitions
3 of the sleep-related breathing conditions, such
4 as apnea and hypopnea themselves describe a --
5 describe the severity of sleep disordered
6 symptoms.
7 So in apnea, by definition, is a near
8 complete drop of the patient's airflow over a
9 period of time. Whereas in contrast, a hypopnea
10 is only a partial reduction in airflow.
11 Therefore, an apnea is a more severe airflow
12 reduction than a hypopnea. And a reduction in
13 airflow is a result of a sleep disordered --
14 sleep disordered breathing.
15 So therefore, what you can see is that
16 the different kinds of reduction in airflow, or
17 symptoms of a sleep disordered breathing, can be
18 defined by the severity in the reduction in
19 airflow.
20 Q. And I believe for the definitions you
21 gave you cited to Exhibit 1070, the AASM manual.
22 Could you pull that up for me?
23 A. Yes, I do.
24 Q. And Exhibit 1070 is the AASM manual
25 for the scoring of sleep and associated events?

Page 24

1 A. Correct.
2 Q. And this is Version 3. Correct?
3 A. Yes.
4 Q. Do you know when Version 1 was
5 released?
6 A. Version 1, not exactly, no. So I know
7 that there was the American Academy of Sleep
8 Disorders that held a consensus meeting in
9 Chicago to agree on various sleep-disordered
10 breathing classifications in 1998. That was the
11 first -- that was probably one of the first
12 times that I was familiar with the description
13 of the various sleep disordered associated --
14 associations of sleep medicine. And I think
15 that it must have been sometime between 1998 and
16 whenever this one was, which is in --
17 Q. You can go down to Page 2. Copyright
18 is 2023.
19 A. 2023, yeah.
20 Q. And then below that it says: Copies
21 of this manual are available at www.aasm.org,
22 and corrections to the online and print copies
23 of Version 3 were made in February of 2024.
24 A. Yes.
25 Q. Do you know what corrections were made

Page 25

1 in February of 2024 to this manual?
2 A. I don't have a list of those
3 corrections in front of me.
4 Q. Do you know what updates would have
5 occurred from 1999 to the release of this manual
6 in 2023?
7 A. Again, I don't have any of those in
8 front of me. So I wouldn't want to speculate.
9 Q. Can you tell me how a person of
10 ordinary skill in 2005 would have been able to
11 use this manual to their benefit?
12 A. So a person of ordinary skill in the
13 art would have been able to look at or know a
14 definition of an apnea and a hypopnea. So it
15 would be -- the definitions of apneas and
16 hypopneas in terms of the reduction in airflow.
17 So an apnea being a complete or cessation of
18 airflow versus a reduction in airflow, those are
19 definitions that would -- that would have been
20 available well before 2025. They're
21 described -- and a person of ordinary skill in
22 the art would know how to define an apnea and
23 hypopnea.
24 Q. And that definition that they would
25 have known to apply, is that the same that

Page 26

1 appears in this manual from 2023?
2 A. Well, I don't have that manual in
3 front of me, so I wouldn't be able to compare
4 those two.
5 Q. And looking at Exhibit 1070, it is
6 currently seven pages long, including the front
7 and back cover.
8 A. Sorry, which one?
9 Q. Exhibit 1070, the manual.
10 A. Oh, yeah.
11 Q. You have in here seven pages. How big
12 is the manual and any of the excerpts?
13 A. The manual, it could be up to -- I
14 could pull it up. I don't know exactly. I
15 don't have the exact number of pages, and I
16 don't have the exact number of pages in this
17 exhibit.
18 Q. Why didn't you include the whole
19 manual as an exhibit?
20 A. So the only reasons that I think that
21 the whole manual is not included here is because
22 there are references to other sleep-disordered
23 breathing -- sorry, sleep disorders that do not
24 include breathing, that do not refer to apnea,
25 do not refer to hypopnea, and it was a matter of

Page 27

1 being concise. I would say that that's the only
2 reason.
3 Q. So in the entire manual it only has
4 essentially a half page on the scoring of apneas
5 and a half page on the scoring of hypopneas; is
6 that accurate?
7 A. The scoring of apneas and the scoring
8 of hypopneas, that's what appears in front of
9 me, and I do not know whether apneas or
10 hypopneas appears anywhere else in the manual.
11 Q. Have the scoring standards changed for
12 identification of sleep apnea and hypopneas from
13 1998 to 2023?
14 A. So in regards to the reductions in
15 airflow, the standards have been reasonably
16 consistent. When it comes to the scoring of
17 sleep-related disturbances, so sleep-related
18 disturbances listed here as respiratory-related
19 arousals, there has been a change in terms of
20 the associated reductions in oxygen desaturation
21 that would be -- that would accompany the
22 arousals, and arousal being a change in the
23 cortical activity of brain waves.
24 Q. Can you tell me what you mean by
25 reasonably consistent when describing the

Page 28

1 scoring standards?
2 A. So there -- so a hypopnea is a
3 reduction in airflow. And the -- some people,
4 for some definitions, may define a hypopnea as
5 between a reduction of airflow from 70 down to
6 10 percent, and once again, I don't have this in
7 front of me but there may have been definitions
8 that included a 50 percent reduction rather than
9 a 70 percent reduction. And my belief is that
10 that is due to the different equipment used for
11 detection of a reduction in airflow. So whether
12 it be from a cannula or a nasal flow-mister.
13 So once again, this is a little bit
14 out of the scope of where I've described in my
15 declaration the simple definitions that would be
16 commonly understood as an apnea, which is a near
17 complete reduction in airflow, in contrast with
18 a hypopnea, which would be commonly understood
19 to be at least a 30 percent reduction in airflow
20 for 10 seconds long.
21 Q. Do you have an understanding of when
22 the scoring standards may have changed based on
23 the technology used to identify apneas, at what
24 point in time that would have occurred?
25 MS. ALEXANDER: Objection.

Page 29

1 Mischaracterizes his testimony.
2 THE WITNESS: I could not -- I
3 could not, without having that -- having
4 described that or looked at that, being able to
5 come up with a time off the top of my head.
6 BY MR. LAYDEN:
7 Q. Was the technology available for
8 identification of apneas and hypopneas in 2005
9 better or worse than it is today?
10 A. So I would say that the -- once again,
11 I'm not specifically referring to any reference
12 here. You know, I'm not looking at your -- this
13 is not in my declaration. I'm doing my best
14 honest answer to provide you answer to your
15 question, is that the technologies in 2005,
16 which would have included a nasal cannula and --
17 or nasal thermistors and various thermocouples
18 that are used, a lot of that technology, the
19 interfaces have not changed much in 20 years.
20 So I would say that the technologies
21 of nasal cannula in 2005 is very, very similar
22 and perform very similar to a nasal cannula in
23 2025, '26.
24 Q. What about the sensors determining the
25 pressure within the nasal cannula?

Page 30

1 A. So the pressure of -- again, the
2 pressure, pressure sensors -- once again, I
3 think this is probably a little bit out of the
4 scope of what the declaration has -- what I've
5 written about, but pressure sensors would -- the
6 dynamics would be similar today as they were
7 20 years ago at the time of this patent.
8 Q. Why didn't you use a manual from 2005
9 or earlier to support your opinions here?
10 A. The AASM no longer publishes the
11 earlier manual.
12 Q. And you don't have a previous copy of
13 the manual?
14 A. I didn't have a previous copy on hand,
15 so I used the manual that was available to me.
16 Q. And just to get back to how we kind of
17 started, it's your opinion that identification
18 of a snore, an apnea, or hypopnea is data of
19 severity as described and used in the '029
20 patent?
21 A. So whereabouts in the '029 patent are
22 you referring to?
23 Q. Claim 1.
24 A. So yes, I've described that the apneas
25 and hypopneas in that section -- so the terms

Page 31

1 apneas, hypopneas, and snores characterize the
2 severity of a patient's reduction in airflow,
3 and a person of ordinary skill in the art would
4 understand that measuring, detecting the events
5 that represent -- that the event represents a
6 calculating the data of a severity of the sleep
7 disorder symptom.
8 Q. Can apneas come with a range of
9 severity, or is every apnea equal?
10 A. So the duration of an apnea can
11 change. So the -- an apnea could be 10 seconds
12 or an apnea could be 30 seconds.
13 Q. And is one more severe than the other?
14 A. One is longer than the other. So a
15 30-second apnea is longer than a 10-second
16 apnea.
17 Q. But as far as the severity of the
18 apnea, the 10-second apnea is equivalent to a
19 30-second apnea?
20 A. So in terms of the apnea, there would
21 be other -- so to determine if one apnea that
22 was a certain length and another apnea was a
23 different length had any -- were comparable or
24 different in some way, you would probably have
25 to compare their impact on another physiological

Page 32

1 variable. That would be one way that you could
2 examine that. So I don't know if a 10-second
3 apnea creates a different physiological response
4 in a person to a 30-second apnea.
5 So in some individuals a 10- and a
6 30-second apnea may not elicit a different
7 response, and there may be other individuals
8 that have different physiological responses to a
9 10- versus a 30-second apnea.
10 So it would depend on whether you're
11 talking about with an individual, who that
12 individual is, the circumstances under which the
13 apnea occurs, in order to opine on the
14 different -- if there is a difference between a
15 10- and a 30-second apnea.
16 Q. So just to be clear, then, you don't
17 have an opinion on whether or not a 10-second
18 apnea is more or less severe than a 30-second
19 apnea? Do I understand that correctly?
20 A. So if, for example, you're asking me
21 whether within an individual there is a
22 difference in the severity between a 10- and a
23 30-second apnea, what I'm saying is that you
24 would -- we would need to examine something else
25 in order to determine whether the response to

Page 33

1 that apnea created something that you would
2 determine as sufficient to be able to
3 discriminate severity. That's what I'm saying.
4 I'm not saying that a 30-second apnea
5 has a physiological -- I'm saying it's longer,
6 but in terms of whether it creates a
7 physiological response that's different, we
8 couldn't say that unless we were looking at some
9 data.
10 Q. What other data would you need?
11 A. So in order to look at -- determine
12 the severity, there's a bunch of different
13 variables that you could look at. You could
14 look at heart rate response, you could look
15 at -- as I mentioned to you before, you could
16 look at cortical arousal. You could look at
17 blood pressure responses. You could look at
18 daytime symptoms.
19 So, for example, if somebody has
20 longer -- a longer apnea versus shorter apnea,
21 you could look and see whether they're sleepy,
22 is there any objective sleepiness. Do they
23 have -- do they require more or less pressure
24 support in order to overcome an apnea. So is
25 their airway more collapsable. So, yeah,

Page 34

1 there's a number of different physiological
2 variables that could go into determining whether
3 a longer apnea results in some other
4 physiological response.
5 Q. What type of response would a
6 10-second apnea elicit from a CPAP machine on
7 auto-titration mode as opposed to a 30-second
8 apnea?
9 MS. ALEXANDER: Objection; vague.
10 THE WITNESS: Yeah, I would have
11 to -- if you want to point me to somewhere where
12 we could go into that, I could certainly -- if
13 there was a point that you could point me to.
14 BY MR. LAYDEN:
15 Q. Well, Paragraph 15 you state that
16 Truitt's device is not limited to operating in a
17 CPAP, bilevel, or auto-titration type of
18 pressure support mode. Instead, the sensing
19 assembly can be used in conjunction with any
20 type of pressure support or ventilatory system.
21 Do you see that?
22 A. Mm-hmm, yes. So to begin with, I note
23 that Truitt's device is not limited to operating
24 in a CPAP, BiPAP, or auto-titration mode or
25 pressure support. Instead, the sensing assembly

Page 35

1 can be used in conjunction with any type of
2 pressure support or ventilatory system where the
3 flow and/or volume of fluid is to be measured.
4 Yes.
5 Q. And then in Paragraph 16 you state
6 that but in the event that Truitt's CPAP is used
7 in a bilevel or auto-titration mode, a POSITA
8 would have still utilized Truitt's severity and
9 usage device data to calculate an index.
10 A. Mm-hmm, yes.
11 Q. So the severity you're referencing
12 there, that's the identification of the apnea,
13 hypopnea, or snores; is that accurate?
14 A. Yes. So exactly, apneas, hypopneas,
15 and/or snores in Truitt would be used whether it
16 was in a bilevel or auto-titration mode.
17 Q. And so when in auto-titration mode,
18 how would Truitt CPAP respond to a 10-second
19 apnea versus a 30-second apnea? Would the
20 response be the same?
21 A. So is there somewhere where I describe
22 the -- in my declaration do I describe how
23 Truitt describes its response to a change in the
24 length of apnea?
25 Q. Well, next sentence you say: Realtime

Page 36

1 intervention does not preclude the use of an
2 index calculated over time.
3 A. Yeah, that does not relate -- that's
4 the -- that's saying it does not preclude the
5 use of using apneas to calculate the number of
6 apneas over time. That does not say or even ask
7 the same question.
8 Q. Well, following that, you then state
9 that the controller can compute a running
10 severity indicator, for example, a rolling event
11 burden or rolling flow limitation severity that
12 updates continuously and still drives immediate
13 changes in therapy. So the immediate changes in
14 therapy --
15 A. Correct.
16 Q. -- how would that respond to a
17 10-second apnea versus a 30-second apnea?
18 A. Correct. So an apnea, being the
19 cessation of airflow, would result in an
20 increase in CPAP pressure to overcome the
21 airway -- so if we're talking about an
22 obstructive sleep disordered event, so we have a
23 person that has obstructive sleep apnea, and
24 they're receiving CPAP in the auto-titration
25 mode, and an event, which is an apneic event

Page 37

1 occurred, this would indicate that the pressure
2 supplying the airway is insufficient, such that
3 you would require an increase in pressure. So
4 that's how generally it -- the response into the
5 delivering of pressure in an auto-titration
6 device is used to overcome an airway obstruction
7 due to an apnea.
8 Now, so that's what I believe, in my
9 opinion.
10 MS. ALEXANDER: Counsel, we've
11 been going for over an hour. Are you close to a
12 point where you could take a break?
13 MR. LAYDEN: Sure. Ten minutes?
14 MS. ALEXANDER: Now is good?
15 Thank you.
16 (2:05 p.m. PST - Recess taken.)
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Page 38

1 (At 2:15 p.m. PST with parties present
2 as before, the following proceedings were had,
3 to-wit:)
4 BY MR. LAYDEN:
5 Q. Dr. Kirkness, if you could turn down
6 to Page 12 of your declaration, Paragraph 23.
7 The sentence beginning on the last line of
8 Page 12, carries on to Page 13: A POSITA would
9 have well known that a person would not sleep
10 the same in a hospital or a lab.
11 Do you see that?
12 A. Yes, I do.
13 Q. That description there, are you
14 describing the process for home sleep testing or
15 CPAP therapy?
16 A. So I think -- so let me just read what
17 I've said. So a person of ordinary skill in the
18 art would have understood and recognized the
19 advantages of remotely monitoring and treating a
20 patient in their own home as opposed to in a
21 sleep laboratory or hospital.
22 So it's been very clear for many
23 years, as long as, you know, in the late '90s
24 when sleep laboratories became more common, and
25 some treatments or diagnostics were conducted in

Page 39

1 hospital beds as well, and it's very clear that
2 people do not, or often, feel as comfortable in
3 a bed that's not their own or in a room that's
4 not their own, as opposed to in a hospital or
5 laboratory.
6 So therefore, either monitoring or
7 treating a patient in their own home compared to
8 in a laboratory, this addresses the advantages
9 of both diagnostics and treatment.
10 Q. Are you aware of when the first CPAPs
11 were released for in-home use by patients?
12 A. Well, no is the answer, but it must
13 have been before 1997 because that's -- and
14 actually, it must have been before 1995 because
15 I was working in a sleep disorder center in and
16 around that time.
17 Q. And were those devices incapable of
18 recording usage and patient symptom data?
19 A. So there are definitely CPAP machines
20 that were able to have a SMART card or a storage
21 device that was capable of measuring usage, and
22 some of that usage may have included the
23 pressure level, some of that usage may have
24 included the airflow in the device. That data
25 most likely at the earlier devices might have

Page 40

1 required analysis -- additional analysis as
2 well.
3 Q. And were doctors unable to obtain that
4 data?
5 A. So again, I think that doctors were
6 primarily the ones that were receiving patient
7 data. So anything from -- any data from the
8 treatment of a patient would be the data that
9 was privileged by their treating physician.
10 Q. Dr. Kirkness, do you personally use a
11 CPAP?
12 A. Is that an important question that I
13 have to answer? It's part of a -- for example,
14 if this is a public record, am I required to
15 answer whether I'm currently using any specific
16 medical treatment?
17 Q. You can answer however you wish.
18 A. So unless I'm required to answer, I'll
19 just say I prefer not to answer.
20 Q. Do you know anybody in your family who
21 uses a CPAP?
22 A. I know some people who have used CPAP.
23 Q. And how did they get that CPAP?
24 A. So the -- a person who has some
25 symptoms of -- that would be recognized as a

Page 41

1 symptom of a sleep disorder would be -- would
2 approach a relevant healthcare provider that is
3 able to either refer to a diagnostic center or
4 refer to a physician who is able to order from a
5 diagnostic center, and then at that stage when a
6 physician who agrees that a diagnostic test for
7 a given condition would be justifiable, that
8 they would receive a diagnostic test that could
9 be interpreted.
10 And from there, if they had received a
11 diagnosis that was compatible with a given
12 treatment, that treatment would be prescribed.
13 And if that treatment was CPAP, the treatment
14 would be fulfilled based on who a -- a provider
15 that is able to legally supply under that
16 prescription order. That's how they would go
17 about obtaining treatment with CPAP.
18 Q. Would a person be diagnosed with a
19 sleep disorder -- strike that.
20 Would a person receive a CPAP in order
21 to diagnose his sleeping disorder?
22 A. So there -- if, for example -- I'd
23 like to bring this back to the declaration at
24 hand, and so that you could point me to where
25 we've discussed that.

Page 42

1 Q. Paragraph 25, third sentence, middle
2 of the paragraph, you state: A POSITA would use
3 a CPAP in the further diagnosis of prospective
4 patients to detect and modify any sleep disorder
5 events, and would do so based on that person's
6 probability of having sleep apnea.
7 So my question is, would a person be
8 given a CPAP or undergoing any of the diagnostic
9 testing that you just described, in order to
10 diagnose them as having sleep apnea?
11 A. So a CPAP that's -- so here in the
12 declaration I said: A POSITA would use a CPAP
13 in the further diagnosis of prospective patients
14 to detect and modify any sleep disorder events,
15 and would do so based on that person's
16 probability of having sleep apnea. Okay. So
17 what that means, the question you've asked, is
18 can you use -- can you determine if somebody has
19 a sleep disorder whilst they're using CPAP?
20 Q. No, that's not my question. My
21 question is would a CPAP be given to a patient
22 prior to any sort of diagnostic testing that you
23 just described before, based on the probability
24 that they have sleep apnea?
25 A. So, as you might know, I'm not a

Page 43

1 licensed physician, and I don't prescribe CPAP.
2 So what I would say is that I have -- I wouldn't
3 be able to determine if a specific person or
4 physician is able to prescribe CPAP to an
5 individual prior to a diagnostic test.
6 Now, having said that, it is possible
7 for a person to be prescribed based on the
8 symptoms that may be overt for obstructive sleep
9 apnea, and a physician does have the authority
10 to do so.
11 Q. And can you describe for me what you
12 mean when you stated: A POSITA would use a CPAP
13 in the further diagnosis of prospective patients
14 to detect and modify sleep disorder events?
15 What do you mean by "further diagnosis"?
16 A. So in this case what we're talking
17 about is, for example -- so there was a long --
18 some people have long waiting lines at sleep
19 labs. So there was a time where it was taking
20 months and waiting times of six months or nine
21 months in order to get in to have a
22 polysomnographic sleep study in order to
23 determine if somebody had a sleep disorder based
24 on polysomnography.
25 A person of ordinary skill in the art

Page 44

1 would understand that somebody had witnessed
2 apnea, snoring, obesity, and other very common
3 symptoms or signs associated with sleep apnea,
4 may benefit from early usage of CPAP to
5 determine if, for example, morning headaches
6 resolve, if their daytime alertness was able to
7 be resolved. And in that case the use of CPAP
8 amongst people with extremely high likelihood of
9 sleep apnea and the resolution of the symptoms
10 would be beneficial to improve the health and
11 improve the efficiency of the ability to treat
12 more people. So that's what I mean by a
13 POSITA -- that when I stated here, a POSITA
14 would use CPAP in a further -- in the further
15 diagnosis of prospective patients to detect and
16 modify any sleep disorders that would be based
17 on a person's probability of having sleep apnea.
18 There are other conditions, for
19 example, that may co-associate with sleep apnea.
20 There may be other circumstances where early use
21 of a CPAP may be required. For example, if
22 people have hypoventilation, which decreases the
23 amount of ventilation that they have, even
24 during wakefulness. So some people may even
25 require a CPAP prior to -- that's not even a

Page 45

1 sleep related disorder. So CPAP might be used
2 in other conditions as well.
3 Q. How would a POSITA know what pressure
4 to set the CPAP at in the actions of a
5 diagnostic test?
6 A. So the CPAP pressure, that would be
7 very difficult. And I would say that that would
8 have to be a clinical judgment. So a treating
9 physician might have to do a few things. They
10 might have to, for example, look at somebody's
11 weight, look at somebody's size, look at
12 somebody's -- and then when they're being set
13 up. So these things aren't just delivered and
14 show up at the door. The patient has to have
15 a -- in order to get a CPAP machine, has to show
16 up, talk to a either respiratory therapist or a
17 respiratory nurse, and have an education
18 session, understand how to use the device. They
19 might have to try on different masks at the
20 order of the physician and/or potentially at the
21 discretion and discussion with the healthcare
22 provider, may determine a pressure based on
23 comfort during wakefulness, for example, that
24 might be an initial pressure that allows an
25 individual to get a CPAP that is provided prior

Page 46

1 to the -- prior to a diagnosis.
2 Subsequently, if it was found to be --
3 the CPAP pressure was found to be low based on
4 the presence of subsequent hypopneas and/or
5 apneas, that might indicate whether the
6 pressure, CPAP pressure was too low and needed
7 to be raised.
8 Q. Is it fair to say that without a
9 diagnostic test, though, a person of ordinary
10 skill would just be guessing at what pressure
11 works best in the initial setup?
12 MS. ALEXANDER: Objection;
13 mischaracterizes his testimony.
14 THE WITNESS: So that's not what
15 I said, but what I would say is that the
16 judgment -- it's a clinical judgment that it
17 would be required, and I described in detail
18 some of the factors that might entail that
19 clinical judgment, amongst others.
20 BY MR. LAYDEN:
21 Q. And how would a person of ordinary
22 skill set the -- or determine the patient's
23 baseline without a diagnostic test?
24 A. Could you tell me what you're
25 referring to when you say baseline?

Page 47

1 Q. Well, I believe -- Page 5 you have a
2 footnote, you have baseline in here a couple of
3 times but it says: Typically, the
4 quantification of how far airflow drops from the
5 patient's baseline and/or how obstructed the
6 airflow waveform or snore intensity is over a
7 short window of time.
8 How would a person of ordinary skill
9 determine the patient's baseline without a
10 diagnostic test?
11 A. So in the situation where I had
12 described somebody receiving CPAP prior to
13 the -- prior to a diagnosis, a baseline would
14 refer -- so the pressure that they're receiving
15 without CPAP, if you would consider that, that
16 would be zero, okay, zero pressure.
17 Now, the baseline is a baseline
18 airflow, not a baseline pressure. So are you
19 trying to have me determine how a POSITA would
20 determine the baseline airflow or the baseline
21 pressure?
22 Q. I'm asking about the baseline
23 characteristics of a patient. So if you look at
24 Paragraph 13, and the part on Page 8. The
25 second full sentence there you say: To assess

Page 48

1 and treat a particular patient's sleep disorder
2 symptoms, a POSITA would typically use that
3 patient as their own baseline.
4 A. And I apologize, you skipped a bit
5 fast for me. Could you tell me which
6 paragraph --
7 Q. Paragraph 13, on Page 8. It carries
8 over.
9 A. Okay. And so are you -- and the
10 sentence says: The baseline characteristics of
11 a generic patient without sleep-disordered
12 symptoms?
13 Q. Two sentences before that, but yeah,
14 it can carry down through there.
15 A. Oh, okay.
16 Q. How would a person of ordinary skill
17 determine the baseline characteristics of a
18 patient without a diagnostic test?
19 A. Oh, so this baseline is -- this
20 baseline would refer to the sleep-disordered
21 breathing and the symptoms of sleep-disordered
22 breathing, express themselves in terms of apnea,
23 hypopnea, and other respiratory-related
24 characteristics at night when -- sorry, I
25 shouldn't say at night -- during sleep.

Page 49

1 So when a person is in the wake state,
2 those people do not have apneas and hypopneas.
3 So during the wake state, prior to sleep, the
4 breathing -- so if we're talking about airflow,
5 and this is essentially what we're talking
6 about, we're talking about the airflow level
7 that you and I would be respiring or breathing
8 at right now during wakefulness. And this also
9 occurs when we lay down prior to sleep. So
10 prior to sleep, whilst you're still awake
11 preparing for sleep, there is a period of
12 restfulness that is not sleep and it is a
13 baseline period. This is well characterized and
14 used in many situations to look at the baseline
15 breathing characteristics of an individual.
16 And those are the baseline
17 characteristics that would be used in order to
18 make a comparison to a subsequent state where an
19 individual would, during sleepfulness,
20 experience the symptoms that express themselves
21 as apnea, hypopnea, snoring, upper airway
22 resistance syndromes, other sleep-related
23 events, such as arousal, et cetera.
24 Q. How would you determine the baseline
25 in a wakeful state without a diagnosis test?

Page 50

1 A. So if, for example, we're referring
2 back to the -- the use of a device, the use of a
3 device that you're going to use at night, so I
4 think what you're referring to is how would you
5 characterize baseline during the use of CPAP?
6 No?
7 Q. No, not how you would characterize.
8 How would you determine the baseline, right,
9 when you give the person the CPAP, to determine
10 the thresholds for apneas?
11 A. So they do have a CPAP or are they
12 using CPAP or not?
13 Q. They're using CPAP. They received the
14 CPAP without a diagnostic test.
15 A. Oh, I see.
16 Q. How would you determine that baseline,
17 that threshold baseline without a diagnostic
18 test?
19 A. So when the airflow measurements
20 obtained from the CPAP device prior to onset of
21 sleep, as I mentioned before, so now we have an
22 individual measuring the airflow via the CPAP
23 and the circuit that they're wearing, so they
24 have -- they're wearing equipment and a device
25 that measures airflow. And you measure the

Page 51

1 baseline at the portion of time as their -- when
2 they start using the device. Because they're
3 not asleep when you start using the device.
4 Q. Is that baseline determination a
5 factor in determining the pressure settings?
6 A. In CPAP the pressure is constant.
7 Q. Are there different modes of positive
8 airway pressure devices that operate outside of
9 just constant?
10 MS. ALEXANDER: Objection;
11 outside the scope.
12 THE WITNESS: So if you point to
13 me where we discuss that, I could certainly --
14 BY MR. LAYDEN:
15 Q. I mean, previously we discussed
16 bilevel and auto-titration devices.
17 A. And they may be examples of other
18 modes of pressure devices.
19 Q. Would those other modes be given to a
20 patient without a diagnostic test first?
21 A. So I would, again, refer to my
22 previous answer where I said you would require a
23 clinician to make a clinical judgment as to
24 whether a specific medical device was prescribed
25 to an individual for a certain -- for a specific

Page 52

1 reason.
2 Q. And previously when you were
3 discussing the baseline, you said that the
4 baseline can be determined just prior to sleep
5 through the airflow sensor. Is that accurate?
6 A. So I previously said that if a person
7 is wearing CPAP in the state where they're not
8 experiencing apneas or hypopneas such as occurs
9 during the time prior to onset of sleep, this
10 would constitute a baseline.
11 Q. Would that baseline need to be
12 programmed into the device?
13 A. So it wouldn't have to be programmed
14 into the device. I don't see why it would have
15 to be programmed into the device.
16 Q. How would the device detect the onset
17 of an apnea or hypopnea then?
18 A. So that's probably -- I don't see that
19 that is -- that I've described that in this
20 declaration at all.
21 Q. Previously you described apneas and
22 hypopneas as the reduction in the breathing
23 threshold; do you recall that?
24 A. So previously we were talking about --
25 we were talking about the data of a severity of

Page 53

1 sleep-disordered symptoms of subject, and I
2 described how apneas and hypopneas, as well as
3 snoring, characterize levels of severity of
4 those symptoms.
5 Q. And you said that they were identified
6 by a reduction in airflow; is that accurate?
7 A. So if I -- in that discussion we were
8 discussing the various levels of airflow, and
9 that was on Page -- oh, excuse me -- 4 -- it was
10 on Page 5 -- Page 4 and 5 of my declaration
11 relating to the description of those and briefly
12 I had -- so this is in Paragraph 9 of my
13 declaration -- described severity in airflow
14 reduction from apneas and hypopneas.
15 Q. In your experience have you ever seen
16 a patient given a CPAP, bilevel, or
17 auto-titration device prior to the conducting of
18 a home sleep test or diagnostic test?
19 MS. ALEXANDER: Objection; vague.
20 THE WITNESS: So can you be more
21 specific or can you point to where we discussed
22 that?
23 BY MR. LAYDEN:
24 Q. I'm asking about your personal
25 experiences working in the field of sleep

Page 54

1 medicine. Have you ever experienced a patient
2 being given either a CPAP, a bilevel positive
3 airway pressure device, or an auto-titration
4 positive airway pressure device without first
5 having undergone a diagnostic sleep test?
6 MS. ALEXANDER: Objection; vague.
7 THE WITNESS: So in my career
8 I've seen hundreds if not thousands of people
9 who have had sleep-disordered breathing. Now,
10 whether any of those specific ones had had the
11 CPAP before or after a diagnosis, I just
12 couldn't recall off the top of my head.
13 MR. LAYDEN: Why don't we take a
14 five-minute break.
15 (2:48 p.m. PST - Recess taken.)
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Page 55

1 (At 2:57 p.m. PST, with parties
2 present as before, the following proceedings
3 were had, to-wit:)
4 MR. LAYDEN: Dr. Kirkness, I
5 appreciate you taking the time. I have no
6 further questions.
7 THE WITNESS: Thank you.
8 MS. ALEXANDER: I don't have any
9 questions.
10 COURT REPORTER: Previous orders,
11 Counsel?
12 MR. LAYDEN: Yes.
13 MS. ALEXANDER: That's fine.
14 (2:57 p.m. PST - Adjournment.)
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1 C E R T I F I C A T E

2 STATE OF NEBRASKA)
) Ss.
3 COUNTY OF DOUGLAS)

4 I, Cheryl A. Rooney, Registered
5 Professional Reporter, General Notary Public
6 within and for the State of Nebraska, do hereby
7 certify that the foregoing testimony of JASON P.
8 KIRKNESS, Ph.D. was taken by me in shorthand and
9 thereafter reduced to typewriting by use of
10 Computer-Aided Transcription, and the fifty-six
11 (56) pages contain a full, true and correct
12 transcription of all the testimony of said
13 witness, to the best of my ability;
14 That I am not a kin or in any way
15 associated with any of the parties to said cause
16 of action, or their counsel, and that I am not
17 interested in the event thereof.
18 IN WITNESS WHEREOF, I hereunto affix
19 my signature and seal this 18th of February,
20 2026.
21
22 Cheryl A Rooney

State of Nebraska – General Notary
CHERYL A. ROONEY
My Commission Expires
November 24, 2026

CHERYL A. ROONEY, RPR
23 GENERAL NOTARY PUBLIC
Registered Professional Reporter
24
25 My Commission Expires: November 24, 2026

WORD INDEX

< 0 >
029 17:9 30:19, 21

< 1 >
1 3:2 6:8 7:5, 7 20:5 22:10, 16 24:4, 6 30:23
1:00 1:16
10 15:17 20:5 28:6, 20 31:11 32:5, 9, 15, 22
10036 2:17
1004 5:24 6:1
1007 15:14 16:2
1070 5:8 23:21, 24 26:5, 9
1071 4:10 14:4
10-second 31:15, 18 32:2, 17 34:6 35:18 36:17
11,872,029 1:3
1117 2:7
1177 2:17
12 15:6, 10 38:6, 8
13 38:8 47:24 48:7
15 9:8 34:15
16 35:5
17 5:10
18 12:17
18th 56:19
1995 39:14
1997 39:13
1998 24:10, 15 27:13
1999 25:5

< 2 >
2 3:2 14:6 15:6, 10, 11 24:17
2:05 37:16
2:15 38:1
2:48 54:15
2:57 55:1, 14
20 29:19 30:7
2005 25:10 29:8, 15, 21 30:8
2007 9:10 12:21
2009 7:1 12:21
2010 7:1, 2
2012 7:2
2013 6:21
2014 6:24
2016 9:10
2023 24:18, 19 25:6 26:1 27:13
2024 24:23 25:1
2025 25:20 29:23
2026 1:17 56:20, 25
212.715.7502 2:18
23 38:6
24 56:25
25 42:1
26 29:23
28 19:11, 12, 18 20:6

< 3 >
3 3:3 24:2, 23
30 28:19 31:12
30-second 31:15, 19 32:4, 6, 9, 15, 18, 23 33:4 34:7 35:19 36:17
333 2:12

< 4 >
4 1:17 3:3, 4 16:15 22:7, 16 53:9, 10

< 5 >
5 14:7 15:4 20:5 47:1 53:10
50 28:8
51 20:14
512 6:6
56 3:4 56:11
58 15:23 16:10

< 6 >
6 6:17 20:5, 10, 13, 14
60 20:5, 10
63 20:10, 14
64 20:14
65 15:11, 17, 20 16:3, 20
650.320.1800 2:8
650.752.1700 2:14
67 20:5

< 7 >
7 15:11, 17, 20 16:2, 20
70 28:5, 9
700 2:13

< 8 >
8 6:17 15:11 47:24 48:7

< 9 >
9 16:15 17:2 21:2 22:6, 9, 16, 17 53:12
90s 38:23
94065 2:13
94304-1106 2:7

< A >
AASM 23:21, 24 30:10
ability 44:11 56:13
able 5:20 8:8, 10, 19 21:15 25:10, 13 26:3 29:4 33:2 39:20 41:3, 4, 15 43:3, 4 44:6
about 4:18 16:17 17:20 29:24 30:5 32:11 36:21 41:17 43:17 47:22 49:4, 6 52:24, 25 53:24
above 22:10
Academy 24:7
accompany 27:21
accurate 9:13 27:6 35:13 52:5 53:6
acquisition 11:11, 15
action 56:16
actions 45:4
activities 9:19
activity 11:6 27:23
actual 7:19
Adam 12:11, 15 13:7
addition 11:19
additional 20:18 40:1
addresses 39:8
Adjournment 55:14
administered 7:22 8:3
advantages 38:19 39:8
advising 13:9
advisory 12:23
affairs 10:24
affix 56:18
after 54:11
afternoon 4:6
again 4:7 9:24 13:22 18:23 22:14 25:7 28:6, 13 29:10 30:1, 2 40:5 51:21
against 6:6
agent 9:4

ago 30:7
agree 24:9
agreement 13:25
agrees 41:6
air 12:2
airflow 6:22, 24, 25 7:1 19:21 23:8, 10, 11, 13, 16, 19 25:16, 18 27:15 28:3, 5, 11, 17, 19 31:2 36:19 39:24 47:4, 6, 18, 20 49:4, 6 50:19, 22, 25 52:5 53:6, 8, 13
airway 33:25 36:21 37:2, 6 49:21 51:8 54:3, 4
alertness 44:6
ALEXANDER 2:6 18:15 19:5 28:25 34:9 37:10, 14 46:12 51:10 53:19 54:6 55:8, 13
allows 45:24
almost 14:15
although 12:12
Alto 2:7
amalgam 10:3
American 24:7
Americas 2:17
amongst 44:8 46:19
amount 44:23
analysis 40:1
and/or 21:17 35:3, 15 45:20 46:4 47:5
another 31:22, 25
answer 29:14 39:12 40:13, 15, 17, 18, 19 51:22
anticipates 21:23
any 4:13, 15, 22 8:2 10:12, 13 20:10 21:21, 23 25:7 26:12 29:11 31:23 33:22 34:19 35:1 40:7, 15 42:4, 8, 14, 22 44:16 54:10 55:8 56:14, 15
anybody 40:20
anything 4:22 6:19 40:7
anywhere 27:10
apnea 7:1 13:15 22:19, 23 23:4, 7, 11 25:14, 17, 22 26:24 27:12 28:16 30:18 31:9, 10, 11, 12, 15, 16, 18, 19, 20, 21, 22 32:3, 4, 6, 9, 13, 15, 18, 19, 23 33:1, 4, 20, 24 34:3, 6, 8 35:12, 19, 24 36:17, 18, 23 37:7 42:6, 10, 16, 24 43:9 44:2, 3, 9, 17, 19 48:22 49:21 52:17
apneas 22:10 25:15 27:4, 7, 9 28:23 29:8 30:24 31:1, 8 35:14 36:5, 6 46:5 49:2 50:10 52:8, 21 53:2, 14
apneic 36:25
apologize 13:25 48:4
APPEAL 1:2
APPEARANCES 3:2
Appearing 2:2, 3, 10
appears 26:1 27:8, 10
applied 10:25
apply 25:25
appreciate 55:5
approach 41:2
approaches 6:11 7:10
approval 11:15
Are 5:20 6:16 7:2, 3, 7, 16, 20, 25 8:6, 25 16:25 17:14, 18 18:1, 2, 7, 21 19:25 20:20 21:8, 10, 11, 22, 25 22:3, 4 24:21 25:18 26:22 29:18 30:21 37:11 38:13 39:10, 19 44:18 47:18 48:9 49:16 50:11 51:7
aren't 45:13
arousal 27:22 33:16 49:23
arousals 27:19, 22
art 25:13, 22 31:3 38:18 43:25
asked 5:16 42:17
asking 17:13 32:20 47:22 53:24
asleep 51:3
assembly 15:22 17:24 34:19, 25
assertion 9:25 19:19
assess 47:25
assessment 11:17
associated 10:22 11:25 23:25 24:13 27:20 44:3 56:15
associations 24:14
attachment 15:22 16:10, 12, 23 17:21, 25
Australia 8:1 10:16, 17
authority 43:9
auto-titration 34:7, 17, 24 35:7, 16, 17 36:24 37:5 51:16 53:17 54:3
available 24:21 25:20 29:7 30:15
Avenue 2:7, 17
awake 49:10
award 6:14 7:19
awarded 8:3, 15
awarding 8:13
awards 6:12 7:8, 15, 16, 25
aware 39:10

< B >
back 5:21 8:18, 23 9:15 14:3 21:2 22:6 26:7 30:16 41:23 50:2
banners 6:17
based 5:17 28:22 41:14 42:5, 15, 23 43:7, 23 44:16 45:22 46:3
baseline 46:23, 25 47:2, 5, 9, 13, 17, 18, 20, 22 48:3, 10, 17, 19, 20 49:13, 14, 16, 24 50:5, 8, 16, 17 51:1, 4 52:3, 4, 10, 11
basically 5:21 12:1
bed 39:3
beds 39:1
beginning 1:16 14:9 15:19 16:15 22:7 38:7
begins 15:5
belief 7:24 28:9
believe 10:22

23:20 37:8 47:1
beneficial 44:10
benefit 25:11 44:4
Benjafield 12:11, 15 13:7
best 10:18 29:13 46:11 56:13
better 29:9
big 26:11
bilevel 34:17 35:7, 16 51:16 53:16 54:2
BiPAP 34:24
bit 28:13 30:3 48:4
blood 33:17
BOARD 1:2 12:21 13:1
brain 27:23
break 37:12 54:14
breathing 23:3, 14, 17 24:10 26:23, 24 48:21, 22 49:4, 7, 15 52:22 54:9
briefly 53:11
bring 41:23
brought 8:23 13:24
bullet 6:9 7:5, 7
bunch 33:12
burden 36:11
Burkholder's 19:19

< C >
CA 2:7, 13
calculate 21:15 35:9 36:5
calculated 36:2
calculating 31:6
calendar 5:22
California 2:7
can 5:4 8:23 10:19 12:9 14:13, 23 15:1, 16 16:14 18:17 19:7 20:17 21:2 22:14, 23 23:15, 17 24:17 25:9 27:24 31:8, 10 34:19 35:1 36:9 40:17 42:18 43:11 48:14 52:4 53:20, 21
cannula 11:9 28:12 29:16, 21, 22, 25
cannula-based 11:4 12:4
capable 39:21
CAPTION 3:2
card 39:20
career 54:7
carries 38:8 48:7
carry 48:14
CASE 1:3 3:2 43:16 44:7
cause 56:15
center 14:10 39:15 41:3, 5
certain 31:22 51:25
Certainly 23:1 34:12 51:13
CERTIFICATE 3:4
certify 56:7
cessation 25:17 36:19
cetera 49:23
change 27:19, 22 31:11 35:23
changed 27:11 28:22 29:19
changes 36:13
characteristics 47:23 48:10, 17, 24 49:15, 17
characterize 31:1 50:5, 7 53:3
characterized 49:13
Charles 8:1
chat 5:4
Cheryl 1:14 56:4, 22
Chicago 24:9
chronic 6:11 7:10 13:17
circuit 14:16 50:23
circumstances 32:12 44:20
citations 15:10
cited 23:21
Claim 30:23
claims 15:6, 10
clarification 11:13
classifications 24:10
clear 32:16 38:22 39:1
CLEVELAND 1:6
clinical 45:8 46:16, 19 51:23
clinician 51:23
close 37:11
co-associate 44:19
collaborative 12:23 13:8
collapsable 33:25
Column 15:11, 17, 20 16:2, 20 20:5, 13, 14
Columns 20:10
combination 20:16 21:12
come 8:16 29:5 31:8
comes 27:16
comfort 45:23
comfortable 39:2
comment 9:15
16:16, 17
Commission 56:25
common 38:24 44:2
commonly 28:16, 18
comparable 31:23
compare 26:3 31:25
compared 39:7
comparison 49:18
compatible 41:11
compelled 10:7
competitor's 11:16
complete 23:8 25:17 28:17
compute 36:9
Computer-Aided 56:10
conception 11:10, 14
concise 27:1
condition 41:7
conditions 23:3 44:18 45:2
conducted 7:21 11:9 38:25
conducting 53:17
configuration 17:8, 17 18:4, 14, 22 19:2
configurations 15:2 17:1, 8 18:2, 13 19:3
conjunction 34:19 35:1
consensus 24:8
consider 47:15
consistent 27:16, 25
constant 51:6, 9
constitute 52:10
consultant 9:11, 18, 19
Consultantship

12:20
consulting 9:18
contain 56:11
contemplates 15:21 16:6 17:23
contemplating 16:22
continue 16:14
continuously 36:12
contract 8:2, 9, 13, 15 9:4, 7, 17 13:23
Contracts 6:18, 21 7:6, 18, 20, 21 8:5, 11, 19
Contrary 19:19
contrast 23:9 28:17
controller 20:19 36:9
controlling 20:15
conversed 12:13
COPD 6:22, 24 7:2 11:7
copies 4:13, 15 24:20, 22
copy 30:12, 14
Copyright 24:17
CORP 1:3 13:21
corporate 8:8
corporation 9:23 10:2, 9
corporations 10:15
correct 4:8 5:11, 12 9:24 16:1, 6 18:4 21:1, 3 24:1, 2 36:15, 18 56:11
corrections 24:22, 25 25:3
correctly 32:19
cortical 27:23 33:16
Could 4:21 5:3, 22 6:2 9:8 12:17 14:3, 6 18:18, 24 19:12 22:7 23:22 26:13, 14 29:2, 3 31:11, 12 32:1 33:13, 14, 15, 16, 17, 21 34:2, 12, 13 37:12 38:5 41:8, 24 46:24 48:5 51:13
couldn't 33:8 54:12
Counsel 37:10 55:11 56:16
COUNTY 56:3
couple 6:7 13:11 47:2
COURT 11:12 55:10
cover 26:7
CPAP 16:12 19:14, 20 34:6, 17, 24 35:6, 18 36:20, 24 38:15 39:19 40:11, 21, 22, 23 41:13, 17, 20 42:3, 8, 11, 12, 19, 21 43:1, 4, 12 44:4, 7, 14, 21, 25 45:1, 4, 6, 15, 25 46:3, 6 47:12, 15 50:5, 9, 11, 12, 13, 14, 20, 22 51:6 52:7 53:16 54:2, 11
CPAPs 39:10
created 33:1
creates 32:3 33:6
CRR 1:15
currently 26:6 40:15
CV 5:25 6:1 9:1, 9, 17, 23 10:8 12:18

< D >
data 11:10, 15 21:15, 16, 18, 19 22:11, 21, 24 30:18 31:6 33:9, 10 35:9 39:18, 24 40:4, 7, 8 52:25
days 5:22
daytime 33:18 44:6
dead 11:5 12:5
declaration 4:8, 17 5:7, 14 14:4, 7 16:15 17:15 18:8, 9, 17, 24 19:7 20:2, 7 21:3 22:2, 5 23:2 28:15 29:13 30:4 35:22 38:6 41:23 42:12 52:20 53:10, 13
decreases 44:22
define 25:22 28:4
defined 23:18
definitely 12:13 39:19
definition 23:7 25:14, 24
definitions 23:2, 20 25:15, 19 28:4, 7, 15
delivered 45:13
delivering 37:5
delivers 12:1
department 10:25
depend 32:10
depending 19:3
depicted 22:11, 20
DEPOSITION 1:5, 13
desaturation 27:20
describe 14:13 20:7 21:21 23:4, 5 35:21, 22 43:11
described 6:16 13:12 17:1 18:3, 5 20:3, 11 21:12 25:21 28:14 29:4 30:19, 24 42:9, 23 46:17 47:12 52:19, 21 53:2, 13
describes 14:10 20:15 35:23
describing 16:11, 21 27:25 38:14
description 7:17 17:20 24:12 38:13 53:11
detail 6:16 46:17
detect 42:4, 14 43:14 44:15 52:16
detecting 22:23 31:4
detection 28:11
determination 51:4
determine 9:6, 15 31:21 32:25 33:2, 11 42:18 43:3, 23 44:5 45:22 46:22 47:9, 19, 20 48:17 49:24 50:8, 9, 16
determined 52:4
determines 19:21
determining 29:24 34:2 51:5
development 10:25 11:2
device 6:10 14:13, 21, 23 16:12 19:21 21:16 34:16, 23 35:9 37:6 39:21, 24 45:18 50:2, 3, 20, 24 51:2, 3, 24 52:12, 14, 15, 16 53:17 54:3, 4
DEVICES 1:6 6:10 7:9 39:17, 25 51:8, 16, 18
diagnose 41:21 42:10
diagnosed 41:18

diagnosis 41:11 42:3, 13 43:13, 15 44:15 46:1 47:13 49:25 54:11
diagnostic 41:3, 5, 6, 8 42:8, 22 43:5 45:5 46:9, 23 47:10 48:18 50:14, 17 51:20 53:18 54:5
diagnostics 38:25 39:9
did 4:9 5:13 11:22 12:7 40:23
didn't 8:9, 16 12:12 26:18 30:8, 14
difference 32:14, 22
different 15:1 19:3 20:9 23:16 28:10 31:23, 24 32:3, 6, 8, 14 33:7, 12 34:1 45:19 51:7
difficult 45:7
diligence 11:18
DIRECT 3:4 4:4 22:14
directly 12:12
Directors 12:21 13:2
discloses 19:13
discretion 45:21
discriminate 33:3
discuss 18:18 21:7 51:13
discussed 6:5 19:8 41:25 51:15 53:21
discussing 52:3 53:8
discussion 19:8 45:21 53:7
disease 6:12 13:18
diseases 7:11
disorder 21:17 31:7 39:15 41:1, 19, 21 42:4, 14, 19 43:14, 23 45:1 48:1
disordered 23:5, 13, 14, 17 24:13 36:22
Disorders 24:8 26:23 44:16
disturbances 27:17, 18
Do 4:10, 12, 13 5:24 6:1 12:23 15:7, 12, 13, 14, 15, 24 16:11 18:12, 13 19:1, 2, 15, 23 21:7 22:13 23:23 24:4, 25 25:4 26:23, 24, 25 27:9 28:21 32:19 33:22, 23 34:21 35:22 38:11, 12 39:2 40:10, 20 42:5, 15 43:10, 15 45:9 49:2 50:11 52:23 56:6
doctors 40:3, 5
does 21:21 36:1, 3, 4, 6 43:9
doing 10:11, 21 29:13
Dolphin 2:12
done 5:23
don't 4:24 5:2, 15, 18 9:25 10:14 25:2, 7 26:2, 14, 15, 16 28:6 30:12 32:2, 16 43:1 52:14, 18 54:13 55:8
door 45:14
DOUGLAS 56:3
down 12:17 16:14 24:17 28:5 38:5 48:14 49:9
Dr 4:6 12:14, 15 13:7 15:24 19:19 38:5 40:10 55:4
Drive 2:12
drives 36:12
drop 5:3 23:8
drops 47:4
due 11:17 28:10 37:7
duly 4:2
duration 31:10
during 7:24 10:16 11:6 13:2, 5, 6 44:24 45:23 48:25 49:3, 8, 19 50:5 52:9
dynamics 30:6

< E >
earlier 30:9, 11 39:25
early 44:4, 20
education 45:17
efficacy 21:18, 19
efficiency 44:11
either 39:6 41:3 45:16 54:2
elicit 32:6 34:6
embodiment 16:20
encompass 15:3
engaged 12:16
Engagement 7:23
engagements 6:7 10:24
entail 46:18
entire 27:3
entity 8:8, 12 9:3 10:1, 5 13:20, 24
equal 31:9
equates 22:24
equipment 28:10 50:24
equivalent 14:21 31:18
essentially 27:4 49:5
estimate 5:20
et 49:23
evaluate 11:22
evaluating 11:20
Evaluation 11:16
event 31:5 35:6 36:10, 22, 25 56:17
events 23:25 31:4 42:5, 14 43:14 49:23
ever 8:15 53:15 54:1
every 31:9
everything 4:25
exact 9:3 13:24 20:4 26:15, 16
exactly 5:15, 19 8:20 9:6, 16, 25 10:4 14:15 24:6 26:14 35:14
EXAMINATION 3:4 4:4
examine 32:2, 24
examined 4:3
example 4:21 32:20 33:19 36:10 40:13 41:22 43:17 44:5, 19, 21 45:10, 23 50:1
examples 51:17
excerpts 26:12
excuse 53:9
Exhibit 4:10 5:3, 8, 24 14:4 15:14 16:2 23:21, 24 26:5, 9, 17, 19
EXHIBITS 3:10 4:14, 16, 19, 20
expand 19:9
expanding 17:4

experience 49:20 53:15
experienced 54:1
experiences 53:25
experiencing 52:8
Expires 56:25
explain 22:23
explanation 10:18
express 48:22 49:20
extensive 4:25
External 7:23 16:12
extract 14:17
Extramural 6:17
extremely 44:8

< F >
factor 51:5
factors 46:18
fair 46:8
familiar 24:12
family 40:20
far 31:17 47:4
fast 48:5
FDA 11:15
February 1:17 24:23 25:1 56:19
feel 39:2
fees 13:20
field 53:25
fifty-six 56:10
final 5:10
find 18:10
findings 12:8
fine 55:13
first 4:2 6:21 7:5 15:19 24:11 39:10 51:20 54:4
five-minute 54:14
flow 15:21 17:24 19:22 20:8, 9, 24 21:5, 9, 21 35:3 36:11
flow-mister 28:12
fluid 35:3
following 36:8 38:2 55:2
follows 4:3
footnote 47:2
foregoing 56:7
forth 18:9
found 16:1 46:2, 3
frame 9:20
FREEHILLS 2:10
front 5:1, 19 14:1, 5 25:3, 8 26:3, 6 27:8 28:7
fulfilled 41:14
full 47:25 56:11
funds 9:19
further 20:16 21:13 42:3, 13 43:13, 15 44:14 55:6

< G >
Gairdner 8:1
General 1:15 56:5, 23
generally 37:4
generic 10:8 48:11
give 4:21 10:19 50:9
given 22:1 41:7, 11 42:8, 21 51:19 53:16 54:2
Glen 12:14 13:7
go 5:4, 21 8:18, 23 9:15 19:11 21:2 24:17 34:2, 12 41:16
going 15:4 37:11 50:3
Good 4:6 8:23 37:14
guessing 46:10

< H >
had 10:23 11:19, 24 21:20 31:23 38:2 41:10 43:23 44:1 47:11 53:12 54:9, 10 55:3
half 27:4, 5
hand 30:14 41:24
handy 15:14
happily 19:9 21:7
has 10:15 17:7 22:9 27:3, 19 30:4 33:5, 19 36:23 40:24 42:18 45:14, 15
HASTINGS 2:6
have 4:10, 13, 15, 24 5:3, 18, 21, 24 6:9 7:13, 16 8:3, 7, 11, 12, 15, 17, 18, 20, 24 9:5, 9, 15, 22 12:22 13:23 14:1, 5 15:5, 6, 9, 14 19:7, 19 20:22 21:4 22:19 23:1 24:15 25:2, 4, 7, 10, 13, 19, 25 26:2, 11, 15, 16 27:11, 15 28:6, 7, 21, 22, 24 29:16, 19 30:12, 14 31:24 32:8, 17 33:23 34:10 35:8 36:22 38:9, 18 39:13, 14, 20, 22, 23, 25 40:13, 22 42:24 43:2, 9, 18, 21 44:22, 23 45:8, 9, 10, 14, 17, 19 47:1, 2, 19 49:2 50:11, 21, 24 52:13, 14 53:15 54:1, 9 55:5, 8
haven't 22:4
he 12:11
head 29:5 54:12
headaches 44:5
heading 12:20 22:9, 16, 19
health 7:13 44:10
healthcare 41:2 45:21
heart 33:14
held 24:8
HERBERT 2:10
hereunto 56:18
high 6:22, 23, 24 7:1 12:1 44:8
high-flow 6:23 11:3, 25 12:2, 4 13:11, 13, 16
him 12:13
his 29:1 41:21 46:13
home 38:14, 20 39:7 53:18
honest 29:14
Hopkins 7:22
Hospital 8:2 38:10, 21 39:1, 4
hour 37:11
housing 15:23 16:10, 23 17:22, 25
hundreds 54:8
hypopnea 22:24 23:4, 9, 12 25:14, 23 26:25 28:2, 4, 18 30:18 35:13 48:23 49:21 52:17
hypopneas 22:10, 20 25:16 27:5, 8, 10, 12 29:8 30:25 31:1 35:14 46:4 49:2 52:8, 22 53:2, 14
hypoventilation 44:22

< I >

identification 27:*12* 29:*8* 30:*17* 35:*12*
identified 53:*5*
identify 28:*23*
If 5:*2*, *4* 6:*2*, *18* 8:*22* 9:*6*, *8*, *16*, *21* 10:*12* 12:*17* 14:*3*, *6* 15:*16* 16:*14* 17:*2* 19:*6*, *8*, *11* 21:*2*, *5*, *22* 22:*3*, *4*, *6* 31:*21* 32:*2*, *14*, *20* 33:*19* 34:*11*, *12* 36:*21* 38:*5* 40:*14* 41:*10*, *13*, *22* 42:*18* 43:*3*, *23* 44:*5*, *6*, *21* 46:*2* 47:*15*, *23* 49:*4* 50:*1* 51:*12* 52:*6* 53:*7* 54:*8*
immediate 36:*12*, *13*
impact 31:*25*
important 11:*8* 40:*12*
improve 44:*10*, *11*
ImThera 7:*13*, *14*
incapable 39:*17*
include 11:*9* 15:*3* 26:*18*, *24*
included 21:*4* 26:*21* 28:*8* 29:*16* 39:*22*, *24*
including 26:*6*
incorrect 9:*1*
increase 36:*20* 37:*3*
INDEX 3:*3* 21:*18* 35:*9* 36:*2*
indicate 37:*1* 46:*5*
indicator 36:*10*
individual 32:*11*, *12*, *21* 43:*5* 45:*25* 49:*15*, *19* 50:*22* 51:*25*
individuals 32:*5*, *7*
industry 6:*12* 7:*9*, *15*
information 9:*1*, *3* 20:*18*
in-home 39:*11*
initial 45:*24* 46:*11*
instance 15:*6*
insufficient 37:*2*
intensity 47:*6*
interested 56:*17*
interface 14:*13*, *21*, *23* 15:*2*
interfaces 14:*25* 29:*19*
interpreted 41:*9*
intervention 36:*1*
invalidates 17:*9*
invention 15:*20* 16:*5* 17:*23*
investigator 9:*11*
IPR 4:*8* 6:*6*
IPR2025-00247 1:*3*
IRB 11:*10*, *14*
item 6:*22*
iteration 5:*1*
its 19:*14* 35:*23*

< J >
JASON 1:*6*, *13* 2:*3* 4:*1* 56:*7*
JEFFREY 2:*14*
jeffrey.price@hsfkramer.com 2:*18*
Johns 7:*21*
judgment 45:*8* 46:*16*, *19* 51:*23*
justifiable 41:*7*

< K >
KAMILAH 2:*6*
kamilahalexander@paulhastings.com 2:*8*
kin 56:*14*
kind 30:*16*
kinds 23:*16*
KIRKNESS 1:*6*, *14* 2:*3* 4:*1*, *6* 15:*24* 38:*5* 40:*10* 55:*4* 56:*8*
know 5:*15*, *18* 8:*19* 9:*25* 10:*14*, *15* 13:*22* 24:*4*, *6*, *25* 25:*4*, *13*, *22* 26:*14* 27:*9* 29:*12* 32:*2* 38:*23* 40:*20*, *22* 42:*25* 45:*3*
known 11:*1* 25:*25* 38:*9*
KRAMER 2:*10*
Kumar 21:*13*

< L >
lab 38:*10*
laboratories 38:*24*
laboratory 38:*21* 39:*5*, *8*
labs 43:*19*
last 38:*7*
late 38:*23*
lay 49:*9*
LAYDEN 2:*12* 3:*4* 4:*5* 11:*21* 18:*19* 19:*10* 29:*6* 34:*14* 37:*13* 38:*4* 46:*20* 51:*14* 53:*23* 54:*13* 55:*4*, *12*
legal 10:*5*
legally 41:*15*
length 31:*22*, *23* 35:*24*
level 39:*23* 49:*6*
levels 53:*3*, *8*
licensed 43:*1*
likelihood 44:*8*
limitation 36:*11*
limited 34:*16*, *23*
line 6:*21* 15:*11*, *17*, *20* 16:*3*, *20* 38:*7*
Lines 20:*5*, *14* 43:*18*
list 4:*25* 25:*2*
listed 6:*9* 7:*3*, *13* 8:*12* 9:*16*, *22* 12:*22* 21:*7* 23:*1* 27:*18*
little 28:*13* 30:*3*
LLP 2:*6*
location 14:*18*
long 5:*13*, *15*, *19*, *20* 26:*6* 28:*20* 38:*23* 43:*17*, *18*
longer 30:*10* 31:*14*, *15* 33:*5*, *20* 34:*3*
look 5:*17*, *22* 8:*18*, *24* 13:*23* 25:*13* 33:*11*, *13*, *14*, *16*, *17*, *21* 45:*10*, *11* 47:*23* 49:*14*
looked 29:*4*
Looking 5:*7* 26:*5* 29:*12* 33:*8*
lot 29:*18*
low 46:*3*, *6*

< M >
machine 34:*6* 45:*15*
machines 39:*19*
manual 23:*21*, *24* 24:*21* 25:*1*, *5*, *11* 26:*1*, *2*, *9*, *12*, *13*, *19*, *21* 27:*3*, *10* 30:*8*, *11*, *13*, *15*
MARKED 3:*10*
mask 14:*16*, *22*, *24* 15:*3*

masks 45:19
matter 26:25
mean 27:24 43:12, 15 44:12 51:15
means 42:17
measure 50:25
measured 14:19 35:3
measurements 50:19
measures 14:11 50:25
measuring 31:4 39:21 50:22
mechanical 19:20
MEDICAL 1:6 6:10 7:9 10:24 40:16 51:24
medicine 24:14 54:1
meeting 24:8
meetings 12:23
mentioned 6:19 14:24 20:12 21:20 33:15 50:21
middle 15:5 42:1
minutes 37:13
Mischaracterizes 29:1 46:13
misrepresent 14:2
Mm-hmm 16:4 34:22 35:10
MOBILE 1:5, 13
mode 34:7, 18, 24 35:7, 16, 17 36:25
modes 20:9 51:7, 18, 19
modify 42:4, 14 43:14 44:16
modular 15:22 16:9, 10, 22 17:20, 25
monitoring 38:19 39:6
months 11:16 43:20, 21
morning 44:5
motor 20:16
move 17:2
multiple 16:25 17:7 18:9, 12 20:7
Mumford 21:13

< N >
name 12:11
nasal 6:22, 23, 24, 25 7:1 11:25 12:3 13:10, 13, 16 28:12 29:16, 17, 21, 22, 25
nature 4:23
near 14:12 23:7 28:16
Nebraska 1:16 56:2, 6
necessary 22:1
need 32:24 33:10 52:11
needed 21:6 46:6
New 2:17
night 48:24, 25 50:3
nine 43:20
NO 1:3 3:10 13:3 20:25 24:6 30:10 39:12 42:20 50:6, 7 55:5
nose 12:2
Notary 1:15 56:5, 23
note 34:22
novel 6:10 7:9
November 56:25
number 14:25 22:10 26:15, 16 34:1 36:5
nurse 45:17
NY 2:17

< O >
obesity 44:2
Objection 18:15 19:5 28:25 34:9 46:12 51:10 53:19 54:6
objective 33:22
obstructed 47:5
obstruction 37:6
obstructive 6:25 13:14, 15, 17 36:22, 23 43:8
obtain 40:3
obtained 50:20
obtaining 41:17
obvious 21:14
occurred 25:5 28:24 37:1
occurs 32:13 49:9 52:8
off 29:5 54:12
OFFICE 1:1 7:23 8:4
Oh 26:10 48:15, 19 50:15 53:9
Okay 4:18 5:6, 24 14:6 16:8 22:6 42:16 47:16 48:9, 15
Once 13:22 18:23 28:6, 13 29:10 30:2
ones 7:3 40:6 54:10
Online 1:15 24:22
onset 50:20 52:9, 16
operate 51:8
operating 34:16, 23
operational 20:9
opine 21:10 32:13
opining 19:4
opinion 10:10 17:9 18:7, 10, 25 20:22 21:5, 11 30:17 32:17 37:9
opinions 17:18 18:6, 9, 13 20:24 21:9 22:1 30:9
opposed 34:7 38:20 39:4
order 5:17 9:5 32:13, 25 33:11, 24 41:4, 16, 20 42:9 43:21, 22 45:15, 20 49:17
orders 55:10
ordinary 25:10, 12, 21 31:3 38:17 43:25 46:9, 21 47:8 48:16
organization 10:13
organizations 10:3
outlet 15:23 16:10, 23 17:21, 25
outset 16:23
outside 21:9 51:8, 11
overcome 33:24 36:20 37:6
overt 43:8
OWNER 1:7 2:10
oxygen 27:20

< P >
p.m 1:16 37:16 38:1 54:15 55:1, 14
PAGE 3:2, 3, 4 5:10 6:8 7:5, 7 9:8 12:17 14:6 16:15 20:5 22:7, 16 24:17 27:4, 5 38:6, 8 47:1, 24 48:7 53:9, 10

pages 6:*17* 26:*6*, *11*, *15*, *16* 56:*11*
Palo 2:*7*
PAP 21:*16*
paper 4:*13*
paperwork 14:*1*
paragraph 9:*9* 14:*7* 15:*4* 16:*15* 17:2 19:*11*, *12*, *18* 20:*6*, *13* 21:2 22:*6*, *9*, *15*, *16*, *17* 34:*15* 35:*5* 38:*6* 42:*1*, *2* 47:*24* 48:*6*, *7* 53:*12*
part 17:*15*, *22* 40:*13* 47:*24*
partial 23:*10*
particular 48:*1*
parties 38:*1* 55:*1* 56:*15*
PATENT 1:*1*, *2*, *3*, *7* 2:*10* 6:*6* 12:*7* 17:*10* 18:*1* 30:*7*, *20*, *21*
patents 11:*20*, *22*, *24*
patient 14:*11*, *13*, *21*, *23* 15:2 38:*20* 39:*7*, *18* 40:*6*, *8* 42:*21* 45:*14* 47:*23* 48:*3*, *11*, *18* 51:*20* 53:*16* 54:*1*
patients 39:*11* 42:*4*, *13* 43:*13* 44:*15*
patient's 23:*8* 31:2 46:*22* 47:*5*, *9* 48:*1*
PAUL 2:*6*
paying 13:*20*
people 12:*16* 28:*3* 39:2 40:*22* 43:*18* 44:*8*, *12*, *22*, *24* 49:2 54:*8*
percent 28:*6*, *8*, *9*, *19*
perform 29:*22*
period 10:*16* 23:*9* 49:*11*, *13*
person 12:*14* 25:*9*, *12*, *21* 31:*3* 32:*4* 36:*23* 38:*9*, *17* 40:*24* 41:*18*, *20* 42:*7* 43:*3*, *7*, *25* 46:*9*, *21* 47:*8* 48:*16* 49:*1* 50:*9* 52:*6*
personal 53:*24*
personally 40:*10*
person's 42:*5*, *15* 44:*17*
petition 4:*19*, *20*
PETITIONER 1:*4* 2:*5*
Ph.D 1:*6*, *14* 2:*3* 4:*1* 56:*8*
physician 40:*9* 41:*4*, *6* 43:*1*, *4*, *9* 45:*9*, *20*
physiological 31:*25* 32:*3*, *8* 33:*5*, *7* 34:*1*, *4*
pick-off 14:*12*, *14*
place 18:*16*, *23* 19:*7*
please 6:*3*
point 5:2 7:*5* 8:*23* 18:*17*, *25* 28:*24* 34:*11*, *13* 37:*12* 41:*24* 51:*12* 53:*21*
pointing 17:*15*
points 6:*9* 7:*7*
polysomnographic 43:*22*
polysomnography 43:*24*
port 14:*12*, *14*, *16*
portion 51:*1*
POSITA 35:*7* 38:*8* 42:*2*, *12* 43:*12* 44:*13* 45:*3* 47:*19* 48:2
positive 51:*7* 54:*2*, *4*
possible 43:*6*
possibly 8:*25*
potentially 45:*20*
preceding 22:*17*
preclude 36:*1*, *4*
prefer 40:*19*
preparing 49:*11*
prescribe 43:*1*, *4*
prescribed 41:*12* 43:*7* 51:*24*
prescription 41:*16*
presence 46:*4*
present 15:*20* 16:*5* 17:*23* 38:*1* 55:2
pressure 14:*10*, *11*, *12*, *17*, *18* 20:*8*, *9*, *25* 21:*5*, *9*, *22* 29:*25* 30:*1*, *2*, *5* 33:*17*, *23* 34:*18*, *20*, *25* 35:2 36:*20* 37:*1*, *3*, *5* 39:*23* 45:*3*, *6*, *22*, *24* 46:*3*, *6*, *10* 47:*14*, *16*, *18*, *21* 51:*5*, *6*, *8*, *18* 54:*3*, *4*
previous 4:*18*, *20* 5:*1* 9:*14* 16:*18* 30:*12*, *14* 51:*22* 55:*10*
previously 6:*5* 14:*24* 51:*15* 52:*2*, *6*, *21*, *24*
PRICE 2:*14*
primarily 12:*16* 40:*6*
print 24:*22*
prior 16:*17* 42:*22* 43:*5* 44:*25* 45:*25* 46:*1* 47:*12*, *13* 49:*3*, *9*, *10* 50:*20* 52:*4*, *9* 53:*17*
privileged 40:*9*
probability 42:*6*, *16*, *23* 44:*17*
probably 8:*10* 10:*18* 13:*22* 24:*11* 30:*3* 31:*24* 52:*18*
proceedings 38:2 55:2
process 38:*14*
product 10:*25*
products 11:*17*
Professional 56:*5*, *23*
programmed 52:*12*, *13*, *15*
prospective 42:*3*, *13* 43:*13* 44:*15*
provide 20:*18* 29:*14*
provided 20:*17*, *22* 22:*4* 45:*25*
provider 41:*2*, *14* 45:*22*
providing 14:*12* 15:*21* 17:*24* 20:*21*
PST 1:*17* 37:*16* 38:*1* 54:*15* 55:*1*, *14*
Public 1:*15* 40:*14* 56:*5*, *23*
publishes 30:*10*
pull 6:2 23:*22* 26:*14*
pulmonary 13:*18*
put 10:*7*, *23* 12:*3* 18:*8*

< Q >
quantification 47:*4*
question 17:*14*, *16*, *20* 29:*15* 36:*7*

40:*12* 42:*7*, *17*, *20*, *21*
questions 6:*8* 55:*6*, *9*
quick 6:*8*

< R >
raised 46:*7*
range 31:*8*
rate 12:*2* 33:*14*
read 38:*16*
reading 14:*17*
Realtime 35:*25*
reason 27:*2* 52:*1*
reasonably 27:*15*, *25*
reasons 26:*20*
recall 52:*23* 54:*12*
receive 41:*8*, *20*
received 7:*6*, *18*, *19* 8:*5* 9:*18* 41:*10* 50:*13*
receiving 36:*24* 40:*6* 47:*12*, *14*
Recess 37:*16* 54:*15*
recite 15:*7*
recognized 38:*18* 40:*25*
record 40:*14*
recording 39:*18*
reduced 56:*9*
reduces 11:*4* 12:*5*
reduction 11:*5* 12:*5* 23:*10*, *12*, *16*, *18* 25:*16*, *18* 28:*3*, *5*, *8*, *9*, *11*, *17*, *19* 31:*2* 52:*22* 53:*6*, *14*
reductions 27:*14*, *20*
Redwood 2:*13*
refer 26:*24*, *25* 41:*3*, *4* 47:*14* 48:*20* 51:*21*
reference 7:*5* 16:*20* 20:*4* 29:*11*
referenced 7:*4*
references 4:*22*, *24* 26:*22*
referencing 35:*11*
referred 4:*16*, *25* 11:*2* 12:*3* 16:*19*
referring 18:*8*, *11* 29:*11* 30:*22* 46:*25* 50:*1*, *4*
refers 7:*8*
regard 17:*11*
regarding 9:*3*
regards 13:*19* 27:*14*
region 9:*20*
Registered 56:*4*, *23*
relate 36:*3*
related 10:*11* 13:*13* 45:*1*
relating 53:*11*
release 25:*5*
released 24:*5* 39:*11*
relevant 8:*4* 41:*2*
rely 18:*12*, *14* 19:*1*, *3* 20:*24*
relying 17:*18* 18:*5*, *22* 20:*1*
remotely 1:*14* 2:*2*, *3*, *10* 38:*19*
render 21:*14*
reply 4:*7* 5:*18* 14:*4*
report 11:*15* 12:*7*
REPORTER 3:*4* 11:*12* 55:*10* 56:*5*, *23*
represent 22:*11*, *21* 31:*5*
represented 10:*5*
represents 31:*5*
Requests 11:*12*
require 33:*23* 37:*3* 44:*25* 51:*22*
required 21:*10* 22:*4* 40:*1*, *14*, *18* 44:*21* 46:*17*
Research 6:*12* 7:*8*, *15*, *16*, *20*, *21* 8:*4* 10:*25* 11:*1*
resistance 49:*22*
RESMED 1:*3* 6:*14*, *20*, *23* 7:*6*, *13*, *16*, *18*, *19* 8:*6*, *12*, *16*, *21* 9:*11*, *22*, *23* 10:*1*, *3*, *6*, *8*, *9*, *12*, *15*, *19*, *22* 11:*1*, *9*, *23* 12:*8*, *16*, *22* 13:*2*, *4*, *21*
resolution 44:*9*
resolve 44:*6*
resolved 44:*7*
respect 9:*14*
respiratory 6:*11* 7:*11* 11:*2* 45:*16*, *17*
respiratory-related 27:*18* 48:*23*
respiring 49:*7*
respond 35:*18* 36:*16*
response 17:*19* 32:*3*, *7*, *25* 33:*7*, *14* 34:*4*, *5* 35:*20*, *23* 37:*4*
responses 32:*8* 33:*17*
restate 17:*16*
restfulness 49:*12*
result 23:*13* 36:*19*
results 34:*3*
resumé 10:*20*
review 8:*18* 9:*5*
rewards 7:*4*
Richards 12:*14*, *15* 13:*7*
right 20:*4* 22:*15* 49:*8* 50:*8*
roles 11:*19*
rolling 36:*10*, *11*
room 39:*3*
Rooney 1:*15* 56:*4*, *22*
roughly 5:*13*
RPR 1:*15* 56:*22*
running 36:*9*

< S >
saying 8:*25* 9:*2* 32:*23* 33:*3*, *4*, *5* 36:*4*
says 6:*9* 17:*23* 24:*20* 47:*3* 48:*10*
scientific 12:*22*
scientist 12:*10*
scope 28:*14* 30:*4* 51:*11*
scoring 23:*25* 27:*4*, *5*, *7*, *11*, *16* 28:*1*, *22*
scrolling 6:*20*
seal 56:*19*
second 19:*12* 47:*25*
seconds 28:*20* 31:*11*, *12*
second-to-the-final 19:*18*
section 6:*21* 15:*16* 16:*19* 20:*13* 30:*25*
see 4:*7* 6:*1* 12:*24* 13:*24* 15:*7*, *12*, *13* 19:*15*, *23* 22:*13*, *18*, *22* 23:*15* 33:*21* 34:*21* 38:*11* 50:*15* 52:*14*, *18*
seen 53:*15* 54:*8*
segment 16:*1*
sensing 15:*22* 17:*24* 34:*18*, *25*

sensor 19:*14*, *22* 20:*25* 21:*9* 52:*5*
sensors 18:*21* 19:*25* 20:*7*, *8*, *10*, *11*, *17*, *20*, *23*, *25* 21:*5*, *6*, *8*, *11*, *22*, *24*, *25* 22:*4* 29:*24* 30:*2*, *5*
sentence 14:*9* 15:*5*, *7*, *9*, *19* 17:*22* 19:*12*, *18* 35:*25* 38:*7* 42:*1* 47:*25* 48:*10*
sentences 48:*13*
session 45:*18*
set 45:*4*, *12* 46:*22*
settings 51:*5*
setup 46:*11*
seven 26:*6*, *11*
severe 23:*11* 31:*13* 32:*18*
severity 21:*16* 22:*12*, *21*, *25* 23:*5*, *18* 30:*19* 31:*2*, *6*, *9*, *17* 32:*22* 33:*3*, *12* 35:*8*, *11* 36:*10*, *11* 52:*25* 53:*3*, *13*
Shores 2:*13*
short 47:*7*
shorter 33:*20*
shorthand 56:*8*
shouldn't 48:*25*
show 45:*14*, *15*
sign 8:*9*
signature 5:*11* 56:*19*
signed 9:*4*
signs 44:*3*
similar 29:*21*, *22* 30:*6*
simple 28:*15*
sir 6:*4* 8:*1*
situation 47:*11*
situations 49:*14*
six 43:*20*
size 45:*11*
skill 25:*10*, *12*, *21* 31:*3* 38:*17* 43:*25* 46:*10*, *22* 47:*8* 48:*16*
skipped 48:*4*
sleep 6:*25* 7:*13* 11:*6* 13:*14*, *15* 21:*17* 23:*5*, *13*, *14*, *17*, *25* 24:*7*, *13*, *14* 26:*23* 27:*12* 31:*6* 36:*22*, *23* 38:*9*, *14*, *21*, *24* 39:*15* 41:*1*, *19* 42:*4*, *6*, *10*, *14*, *16*, *19*, *24* 43:*8*, *14*, *18*, *22*, *23* 44:*3*, *9*, *16*, *17*, *19* 45:*1* 48:*1*, *25* 49:*3*, *9*, *10*, *11*, *12* 50:*21* 52:*4*, *9* 53:*18*, *25* 54:*5*
sleep-disordered 24:*9* 26:*22* 48:*11*, *20*, *21* 53:*1* 54:*9*
sleepfulness 49:*19*
sleepiness 33:*22*
sleeping 41:*21*
sleep-related 23:*3* 27:*17* 49:*22*
sleepy 33:*21*
SMART 39:*20*
SMITH 2:*10*
snore 30:*18* 47:*6*
snores 22:*11*, *20*, *24* 31:*1* 35:*13*, *15*
snoring 44:*2* 49:*21* 53:*3*
solely 19:*20*
somebody 33:*19* 42:*18* 43:*23* 44:*1* 47:*12*
somebody's 45:*10*, *11*, *12*
sorry 6:*23* 9:*20* 15:*25* 16:*1* 20:*14* 26:*8*, *23* 48:*24*
sort 42:*22*
space 11:*5* 12:*6*
specific 4:*21* 12:*22* 40:*15* 43:*3* 51:*24*, *25* 53:*21* 54:*10*
specifically 29:*11*
speculate 25:*8*
spelled 9:*16*, *17*
spend 5:*13*
spent 5:*15*, *19*
Sponsorship 6:*18*
Ss 56:*2*
stage 10:*4* 22:*3* 41:*5*
standards 27:*11*, *15* 28:*1*, *22*
start 51:*2*, *3*
started 30:*17*
starts 16:*5*
State 1:*16* 14:*9* 34:*15* 35:*5* 36:*8* 42:*2* 49:*1*, *3*, *18*, *25* 52:*7* 56:*2*, *6*
stated 21:*14* 43:*12* 44:*13*
statement 7:*12* 16:*18* 17:*11*, *13*
STATES 1:*1* 15:*20* 16:*9*
stating 9:*9*
storage 39:*20*
strike 41:*19*
studies 11:*8* 13:*12*, *13*
study 11:*10* 12:*23* 13:*8*, *11* 43:*22*
subject 21:*16*, *17* 53:*1*
submitted 4:*7*
subsequent 46:*4* 49:*18*
Subsequently 46:*2*
sufficient 33:*2*
Suite 2:*13*
supply 41:*15*
supplying 37:*2*
support 30:*9* 33:*24* 34:*18*, *20*, *25* 35:*2*
sure 9:*21* 14:*5* 15:*25* 16:*24* 17:*6* 20:*3* 37:*13*
sworn 4:*2*
sympathetic 11:*6*
symptom 31:*7* 39:*18* 41:*1*
symptoms 21:*17* 23:*6*, *17* 33:*18* 40:*25* 43:*8* 44:*3*, *9* 48:*2*, *12*, *21* 49:*20* 53:*1*, *4*
syndromes 49:*22*
system 19:*14* 34:*20* 35:*2*

< T >
take 37:*12* 54:*13*
taken 1:*14* 37:*16* 54:*15* 56:*8*
talk 45:*16*
talking 32:*11* 36:*21* 43:*16* 49:*4*, *5*, *6* 52:*24*, *25*
technologies 29:*15*, *20*
technology 28:*23* 29:*7*, *18*
tell 8:*10* 12:*9* 25:*9* 27:*24* 46:*24* 48:*5*
Ten 37:*13*
term 16:*21*
terms 10:*1* 25:*16* 27:*19* 30:*25* 31:*20* 33:*6* 48:*22*
test 41:*6*, *8* 43:*5* 45:*5* 46:*9*, *23* 47:*10* 48:*18*

49:25 50:14, 18 51:20 53:18 54:5
testified 4:3
TESTIMONY 3:3 29:1 46:13 56:7, 12
testing 38:14 42:9, 22
Thank 14:3 37:15 55:7
therapist 45:16
therapy 11:2, 3, 4 12:1, 3, 4 13:16 21:19 36:13, 14 38:15
thereof 20:16 56:17
thermistors 29:17
thermocouples 29:17
things 45:9, 13
think 10:18 24:14 26:20 30:3 38:16 40:5 50:4
third 42:1
thousands 54:8
three 11:16
threshold 50:17 52:23
thresholds 50:10
time 7:25 9:20 10:16 13:2, 5, 6 23:9 28:24 29:5 30:7 36:2, 6 39:16 43:19 47:7 51:1 52:9 55:5
times 24:12 43:20 47:3
TIMOTHY 2:12
timothy.layden@hsfkramer.com 2:14
today 13:20 29:9 30:6
top 29:5 54:12
topic 6:8
to-wit 38:3 55:3
TRADEMARK 1:1
Transcription 56:10, 12
treat 44:11 48:1
treating 38:19 39:7 40:9 45:8
treatment 6:11, 22, 24, 25 7:2, 10 13:14, 17 21:18 39:9 40:8, 16 41:12, 13, 17
treatments 38:25
TRIAL 1:2
true 56:11
Truitt 14:10 15:12 16:19 17:1, 7, 17 18:5, 13, 21 19:2, 13, 25 20:4, 21, 25 21:12, 21 22:11, 20 35:15, 18, 23
Truitt's 19:20 34:16, 23 35:6, 8
try 45:19
trying 18:10 47:19
turn 9:8 12:17 14:3, 6 15:16 38:5
Twin 2:12
two 12:16 26:4 48:13
type 34:5, 17, 20 35:1
types 14:25
typewriting 56:9
Typically 47:3 48:2

< U >
U.S 1:3 10:17
unable 40:3
unclear 10:4
undergoing 42:8
undergone 54:5
understand 15:24 16:11, 25 31:4 32:19 44:1 45:18
understanding 10:2 14:20 28:21
understood 20:17 28:16, 18 38:18
UNITED 1:1
University 7:22, 25 9:5
updates 25:4 36:12
upper 49:21
usability 11:9
usage 21:15 35:9 39:18, 21, 22, 23 44:4
use 13:13, 16 16:21 19:13 21:23 25:11 30:8 36:1, 5 39:11 40:10 42:2, 12, 18 43:12 44:7, 14, 20 45:18 48:2 50:2, 3, 5 56:9
uses 40:21
utilized 35:8

< V >
vague 18:15 19:5 34:9 53:19 54:6
valve 20:15
variable 32:1
variables 33:13 34:2
various 7:8, 9, 10 9:19 10:24 11:19 23:2 24:9, 13 29:17 53:8
vascular 11:6
ventilation 11:4, 5 12:5, 6 44:23
ventilatory 34:20 35:2
verify 8:19, 20
Version 24:2, 4, 6, 23
versus 25:18 32:9 33:20 35:19 36:17
VIDEOCONFERENCE 1:5, 13
view 21:13
volume 12:1 15:21 17:24 35:3

< W >
waiting 43:18, 20
wake 49:1, 3
wakeful 49:25
wakefulness 44:24 45:23 49:8
want 14:2 20:3 25:8 34:11
waveform 47:6
waves 27:23
way 8:21 13:12 31:24 32:1 56:14
wearing 50:23, 24 52:7
weight 45:11
Well 10:10, 14 11:1 17:4 18:12 19:1, 11 25:20 26:2 34:15 35:25 36:8 38:9 39:1, 12 40:2 45:2 47:1 49:13 53:2
went 6:6
we're 16:2 36:21 43:16 49:4, 5, 6 50:1
Western 8:1
we've 37:10 41:25
whereabouts 30:21
WHEREOF 56:18
whilst 42:19 49:10

window 47:*7*
wish 40:*17*
within 1:*15* 7:*12* 18:*1* 29:*25* 32:*21* 56:*6*
without 29:*3* 46:*8*, *23* 47:*9*, *15* 48:*11*, *18* 49:*25* 50:*14*, *17* 51:*20* 54:*4*
WITNESS 2:*2*, *3* 11:*14* 18:*16* 19:*6* 29:*2* 34:*10* 46:*14* 51:*12* 53:*20* 54:*7* 55:*7* 56:*13*, *18*
witnessed 44:*1*
word 6:*19*
work 8:*2*, *3* 10:*10*, *11*, *13*, *21* 12:*12*
working 5:*14*, *16* 10:*17* 12:*10*, *12* 13:*1*, *4*, *6*, *10* 39:*15* 53:*25*
works 5:*5* 46:*11*
worse 29:*9*
would 8:*3*, *7*, *17*, *20* 9:*5*, *15* 12:*15* 13:*22* 19:*8* 21:*7*, *14* 25:*4*, *10*, *13*, *15*, *19*, *22*, *24* 27:*1*, *21* 28:*15*, *18*, *24* 29:*10*, *16*, *20* 30:*5*, *6* 31:*3*, *20*, *24* 32:*1*, *10*, *24* 33:*1*, *10* 34:*5*, *10* 35:*8*, *15*, *18*, *19* 36:*16*, *19* 37:*1*, *3* 38:*8*, *9*, *18* 40:*8*, *25* 41:*1*, *7*, *8*, *12*, *14*, *16*, *18*, *20* 42:*2*, *5*, *7*, *12*, *15*, *21* 43:*2*, *12* 44:*1*, *10*, *14*, *16* 45:*3*, *6*, *7* 46:*10*, *15*, *17*, *21* 47:*8*, *13*, *15*, *16*, *19* 48:*2*, *16*, *20* 49:*7*, *17*, *19*, *24* 50:*4*, *7*, *8*, *16* 51:*19*, *21*, *22* 52:*10*, *11*, *14*, *16*
wouldn't 8:*7*, *10* 14:*2* 25:*8* 26:*3* 43:*2* 52:*13*
written 8:*22* 9:*7* 10:*1*, *23* 14:*16* 21:*4* 30:*5*
wrote 10:*19*
www.aasm.org 24:*21*

< Y >
Yeah 8:*17*, *22* 13:*25* 18:*7* 19:*6* 24:*19* 26:*10* 33:*25* 34:*10* 36:*3* 48:*13*
years 29:*19* 30:*7* 38:*23*
Yes 4:*12* 5:*9* 6:*1*, *4*, *13* 7:*14* 8:*14* 9:*12*, *18*, *20* 12:*19*, *25* 14:*8* 15:*8*, *15*, *18*, *25* 16:*7*, *13* 19:*16*, *24* 22:*8*, *18* 23:*23* 24:*3*, *24* 30:*24* 34:*22* 35:*4*, *10*, *14* 38:*12* 55:*12*
York 2:*17*

< Z >
zero 47:*16*