

In the Matter Of:

MAX vs VHS HURON VALLEY SINAI HOSPITAL, INC., ET AL.

JOHN KRESS, M.D.

September 13, 2018

Prepared for you by



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1 Q. How long have you been providing testimony
2 in medical-legal cases?
3 **A. 20 years.**
4 Q. Approximately --
5 MS. BANSAL: I cannot see the witness.
6 MR. RYAN: Is that better?
7 MS. BANSAL: That's better. Thank you.
8 BY MR. RYAN:
9 Q. In that 20-year period, approximately how
10 many cases have you reviewed as an expert?
11 **A. I would say several hundred.**
12 Q. How many depositions have you given?
13 **A. 200, maybe 300. I don't keep a running tab.**
14 **It's something in that range.**
15 Q. Have the majority of your deposition
16 testimonies been where you were retained on behalf of
17 the Plaintiff?
18 **A. No.**
19 Q. The majority have been the Defense?
20 **A. Yes.**
21 Q. What's the approximate percentage?
22 **A. About 60 to 40.**
23 Q. How long has been that consistent?
24 **A. I don't think it's changed over the years.**
25 Q. Is this a copy of your CV?

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1 **A. That's the most recent one, yes, it is.**
2 MR. RYAN: Let's mark that as 1.
3 (Whereupon, Deposition
4 Exhibit No. 1 was marked
5 for identification.)
6 BY MR. RYAN:
7 Q. I'm going to ask you some questions about
8 this CV. Since we're not sitting even at the same
9 table, if you need to look at it, let me know and I
10 can pass it to you.
11 **A. Okay.**
12 Q. Is it current, accurate, up to date?
13 **A. It's dated July, I don't remember the exact**
14 **day, but it's -- so it's 2 months behind, but it's**
15 **mostly up to date. There may be a paper or two and I**
16 **think a couple of lectures that I've done in that**
17 **2-month time interval, otherwise it's up to date.**
18 Q. Would any of those papers or lectures that
19 you've done in this 2-month time interval have any
20 bearing on the issues that we're going to discuss in
21 this case today?
22 **A. No.**
23 Q. No?
24 **A. No.**
25 Q. Okay. You received your undergraduate

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1 degree in 1987 from Notre Dame?
2 **A. Yes.**
3 Q. And then went to St. Louis University school
4 of medicine graduating in '91?
5 **A. Correct.**
6 Q. Where did you do your residency?
7 **A. University of Chicago.**
8 Q. In what?
9 **A. My first residency was in anesthesiology.**
10 **My second residency was in internal medicine.**
11 Q. Did you graduate from anesthesiology
12 residency?
13 **A. Yes.**
14 Q. What year?
15 **A. 1995.**
16 Q. And what year did you graduate from the
17 internal medicine residency?
18 **A. 1996.**
19 Q. Any other residencies?
20 **A. No.**
21 Q. Presume after the internal medicine
22 residency you did a fellowship?
23 **A. Yes.**
24 Q. In what?
25 **A. Pulmonary and critical care.**

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1 Q. Is that a combined program?
2 **A. Yes.**
3 Q. Where did you do your fellowship?
4 **A. Here at the University of Chicago.**
5 Q. What year did you graduate?
6 **A. 1999.**
7 Q. And have you remained on staff at the
8 University of Chicago since then?
9 **A. On faculty, yes.**
10 Q. On faculty. Are you employed by the
11 university?
12 **A. I'm employed by the University of Chicago**
13 **Biological Science Division, not the hospital.**
14 Q. But you spend your time and your clinical
15 practice is done at the hospital?
16 **A. That's right.**
17 Q. Do you have privileges at any other
18 hospitals aside from where we are today?
19 **A. No.**
20 Q. Have you since '99?
21 **A. For a year right after I finished my**
22 **fellowship, I think it's on my CV, there was a**
23 **hospital called Vencor, which is a long-term**
24 **ventilator facility, that I had privileges at.**
25 Q. What kind of physician are you?

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1 **A. I practice pulmonary and critical care.**
2 Q. What percent of your time is devoted to
3 pulmonary versus critical care?
4 **A. I would say it's probably 20 to 30 percent**
5 **pulmonary and 70 to 80 percent critical care.**
6 Q. And how long has that been true?
7 **A. I think that's been ever since I was out of**
8 **my fellowship.**
9 Q. So since 1999?
10 **A. Yes.**
11 Q. You're board certified in what specialties?
12 **A. Anesthesiology, pulmonary medicine, critical**
13 **care medicine.**
14 Q. Are you --
15 MS. BANSAL: The audio keeps going in and
16 out, so I can't hear everything clearly.
17 MR. RYAN: Let's go off the record for a
18 second.
19 (Whereupon, a discussion
20 was had off the record.)
21 MR. RYAN: We'll go back on the record.
22 Q. So you said you're board certified in
23 anesthesiology, pulmonology, and critical care?
24 **A. Correct.**
25 Q. All right. Are you board certified by the

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1 American Board of Internal Medicine --
2 **A. Yes.**
3 Q. -- in pulmonology or pulmonary disease and
4 critical care?
5 **A. Pulmonary medicine and critical care, and**
6 **I'm board certified by the American Society of**
7 **Anesthesiologists in anesthesiology.**
8 Q. The American Board of Anesthesiology?
9 **A. Yes, sorry. American Board.**
10 Q. Part of the reason I ask is my understanding
11 is you can get a critical care subspecialty
12 certification from the American Board of
13 Anesthesiology or the American Board of Internal
14 Medicine. Yours is from the American Board of
15 Internal Medicine, correct?
16 **A. That's correct.**
17 Q. Based on your prior testimony that 20 to
18 30 percent of your time was in pulmonary, 70 to
19 80 percent of your time has been in critical care
20 since 1999, is it fair for me to assume you've never
21 practiced as an anesthesiologist?
22 **A. Since I finished my residency, that's**
23 **correct.**
24 Q. No portion of your professional practice has
25 been within the specialty of anesthesiology since

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1 1999, correct?
2 **A. Correct.**
3 Q. Okay. You're no longer a member of the
4 American Society of Anesthesiologists; is that
5 correct?
6 **A. That's correct.**
7 MR. RYAN: Off the record.
8 (Whereupon, a discussion
9 was had off the record.)
10 BY MR. RYAN:
11 Q. Do you teach residents?
12 **A. Yes.**
13 Q. In pulmonary and critical care?
14 **A. Correct.**
15 Q. How long have you been teaching residents?
16 **A. Well, as a faculty member since I finished**
17 **my fellowship in 1999.**
18 Q. Do you have administrative responsibilities
19 here at the hospital?
20 **A. Yes.**
21 Q. Describe those for me.
22 **A. I'm the director of the medical ICU. That's**
23 **probably my biggest administrative responsibility, so**
24 **I am involved in coordinating patient care plans with**
25 **nursing staff and respiratory therapy and the other**

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1 **disciplines that work in the medical ICU. I am the**
2 **director of our procedure team, which is a team that**
3 **does inpatient and outpatient invasive procedures.**
4 **So I make the schedule for those various teams. I'm**
5 **part of the hospital's multidisciplinary care team**
6 **that works on trying to coordinate plans for future,**
7 **new hospital planning, things like that.**
8 Q. How much of your time is devoted to these
9 administrative roles?
10 **A. Very small, probably 5 percent at most.**
11 Q. How long has that been true?
12 **A. Well, I mean, I became the MICU, the medical**
13 **ICU director, in 2006, procedure service director in**
14 **2001. And then these other hospital jobs have come**
15 **and gone over the years, so I think it's probably**
16 **since 2006.**
17 Q. Do you see patients in an office setting?
18 **A. Yes.**
19 Q. What percent of your time is spent seeing
20 patients in an office setting?
21 **A. I have a half day every week of pulmonary**
22 **clinic.**
23 Q. How often do you see patients in an
24 inpatient setting?
25 **A. The majority of my time as a clinician**

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1 outside of my half day of pulmonary clinic is seeing
2 patients in the inpatient setting in the intensive
3 care unit.
4 Q. How many days a week would that be then?
5 A. Well, the way our schedules work is we go in
6 blocks of time, so the time block is 2 weeks. So it
7 would be 14 days and then we switch. I probably do
8 six, seven, eight of those a year, something like
9 that.
10 Q. So you have 14 days where you work every
11 day?
12 A. Yeah, well, there's two of us, so each of us
13 gets one weekend off, so out of 14 days you work 12.
14 Q. And you do that how many times per year?
15 A. Between six and eight depending on the year.
16 Q. And then outside of those 12 days for six to
17 eight times per year, are you seeing patients in the
18 hospital outside of that?
19 A. Yes.
20 Q. Why?
21 A. Well, we have the procedure team and so when
22 the procedure service is on, we do procedures, again
23 for 2-week blocks of time, and the procedures that we
24 do are things like spinal taps or putting central
25 lines in for dialysis or draining fluid from, you

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1 know, if a patient has a pleural effusion, for
2 example, draining fluid, those sorts of things.
3 Probably on average we do about 10 of those a day, so
4 when you're on service for 2 weeks, those are no
5 weekends, so that would be 10 days.
6 Q. So you have 12 days on where you are on for
7 the medical ICU rounding on patients in the ICU and
8 things like that?
9 A. Yes.
10 Q. And then you have a separate block of
11 another 12 days where you're on the procedure team?
12 A. Correct.
13 Q. And you do that --
14 A. 10 days. 10 out of 14 because we don't do
15 weekends.
16 Q. Any other type of patients that you see on
17 an inpatient --
18 A. No.
19 Q. The patients that you see in an inpatient
20 setting, are those all ICU patients?
21 A. No.
22 Q. Do you also round on the general medical
23 floor?
24 A. I round insofar as I'm asked to do
25 procedures on patients on a general medical floor. I

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1 don't see patients as a primary attending on the
2 general medical floor.
3 Q. The patients who you see as a primary
4 attending would be in the ICU, correct?
5 A. Yes.
6 Q. Outside of perhaps doing a procedure on a
7 patient outside of the ICU, would all the patients
8 you treat be ICU patients?
9 A. Except for the outpatient pulmonary clinic,
10 yes.
11 Q. You don't treat patients in an operating
12 room, correct?
13 A. No. Yes, what you said is correct.
14 Q. I notice some of your publications dealt
15 with post extubation stridor; is that right?
16 A. I believe so. I'd have to look at the CV,
17 but yes.
18 Q. What is stridor?
19 A. A stridor is a noise that's heard and it
20 occurs as a result of turbulence of air flow across
21 the upper airway. And when you hear stridor, it
22 usually is seen clinically in the context of upper
23 airway obstruction.
24 Q. Did this patient in your opinion have any
25 upper airway obstruction?

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1 A. Well, so upper airway obstruction and
2 stridor are not synonymous necessarily. I didn't see
3 stridor described in the chart. She had difficulty
4 visualizing her airway and reintubating her. Whether
5 she had upper airway obstruction or simply
6 anatomic -- her anatomy was challenging with regard
7 to placing an endotracheal tube, I can't tell from
8 the records.
9 Q. Okay. Do you believe any of your
10 publications would have much bearing on the issues
11 that we're going to discuss in this case?
12 A. Well, the original research that I
13 published, I don't think so. Certainly I edited a
14 textbook and I imagine in our textbook there's
15 something about respiratory failure and circulatory
16 collapse, so it's certainly not something that I
17 would write original research on, it's not my area,
18 but what happened here is fairly basic, fundamental
19 physiology so it likely would be in a textbook.
20 Q. You mentioned you edited a textbook. What's
21 the name of that?
22 A. Principles of Critical Care.
23 Q. Fair for me to assume that you would regard
24 that as a generally reliable authority?
25 A. I mean, authority is always a word that we

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1 have to be careful because it has different meanings
2 to different people. I think the book is generally
3 reliable. Any book always has to be taken in the
4 context of what you're trying to answer, the clinical
5 context of the questions being asked, and also the
6 timing, because things change. I mean, that book was
7 published in 2015. This case is pretty basic. I
8 don't think the anatomy or the physiology of the
9 human body has changed, but just to give you one
10 example, I mean, when I was an anesthesia resident
11 laryngeal mask airways didn't exist. They came out
12 right at the end of my anesthesia residency so that
13 certainly has been an advance in the field, albeit
14 old, so that could mean that an old textbook compared
15 to a current textbook might change, but the basic
16 anatomy and physiology is the same.
17 Q. Any other textbooks or journals that you'd
18 regard as generally reliable or authoritative?
19 A. Nothing that comes to mind.
20 Q. Are you listed with any services that pair
21 you with attorneys?
22 A. Did you say something?
23 MS. BANSAL: I need Chris to speak up.
24 BY MR. RYAN:
25 Q. Okay. Are you listed with any services that

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1 pair you with attorneys?
2 A. No.
3 Q. You're licensed to practice in Illinois?
4 A. That's correct.
5 Q. Ever had any adverse action taken against
6 your license?
7 A. No.
8 MR. JENKINS: Objection to relevance and
9 prejudice.
10 THE WITNESS: Hang on a second. Are you
11 better now?
12 MS. BANSAL: Yes.
13 THE WITNESS: Okay.
14 BY MR. RYAN:
15 Q. Are you licensed to practice in any other
16 states?
17 A. No.
18 Q. Have you ever been?
19 A. No.
20 Q. Have you ever testified in a case with
21 Mr. Jenkins' firm in the past?
22 A. Yes.
23 Q. How long ago?
24 A. I'm going to say a couple of years. I don't
25 remember exactly.

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1 Q. Was it with Mr. Jenkins or another lawyer at
2 his firm?
3 A. I think there's been one with Mr. Jenkins
4 and I think one with someone else as well. I don't
5 remember the details. I'm sorry.
6 Q. Do you remember what those cases involved?
7 A. I don't off the top of my head.
8 Q. Do you remember the names?
9 A. No.
10 Q. Were you testifying as to causation in those
11 cases or standard of care or perhaps both or perhaps
12 neither?
13 A. As I recall, in the cases I've been asked to
14 look at it's either causation or standard of care or
15 both. I don't remember as I'm sitting here. I'm
16 sorry.
17 Q. Do you ever recall testifying in any other
18 Michigan cases?
19 A. Yes.
20 Q. For what attorneys?
21 A. There's a firm called McKeen and I don't
22 know where they're located. I think that's the only
23 one that comes to mind.
24 Q. Do you recall approximately how many times
25 you've testified for McKeen?

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1 A. Probably two.
2 Q. Do you recall the names of those cases?
3 A. No.
4 Q. Were you deposed in those cases?
5 A. I think I was in one.
6 Q. Do you recall the name of the attorney that
7 deposed you?
8 A. On the other side?
9 Q. Yeah.
10 A. No. I don't even recall the name of the
11 attorney who asked me to look at the case. Sorry.
12 Q. Have you ever testified in federal court?
13 A. No.
14 Q. How much do you charge to review records?
15 A. \$400 an hour.
16 Q. And how about for time spent in deposition?
17 A. The same, 400, an hour.
18 Q. And how about to testify at trial?
19 A. Trial is 500 an hour.
20 Q. Do you charge the hourly rate just for the
21 time that you spend under oath or is it from the time
22 you leave Chicago until the time you get back?
23 A. No, I'm in the middle. My attitude is that
24 the time that I'm away from what I would be doing as
25 my real job, so if I miss a whole day, then that's --

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1 I'm going to charge for a whole day and if I miss a
2 half a day, it's a half a day, but I don't charge to
3 sleep in a hotel or something like that.
4 Q. How many hours would a full day for you be?
5 A. 12.
6 Q. And a half would be six?
7 A. Correct.
8 Q. Do you have any billing records in this
9 case?
10 A. I do actually and I printed them, but I need
11 to go next door to get them, if that's all right.
12 Q. Yeah, go for it.
13 MR. RYAN: Let's mark those as 2.
14 (Whereupon, Deposition
15 Exhibit No. 2 was marked
16 for identification.)
17 BY MR. RYAN:
18 Q. So I marked your two pages of billing as
19 Exhibit 2. Looks like you spent 1.25 hours reviewing
20 medical records and a total of 3 hours reviewing two
21 depositions, Dr. Kim and Mary K. Vaske; is that
22 right?
23 A. I believe that's right.
24 Q. And then you had -- and that would -- the
25 date of the invoice anyway is May 17, 2018. Do you

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1 recall when you were first retained in this case?
2 A. I don't. I think the case is relatively
3 new, so I believe it was within the last year or so,
4 but I don't remember the exact date.
5 Q. Whether or not you were sent the depositions
6 of Dr. Kim and Mary K. Vaske with the medical records
7 or whether they were sent separately?
8 A. I don't remember.
9 Q. You have a \$1,200 retainer; is that right?
10 A. I was given one, yes.
11 Q. When did you receive that?
12 A. Well, it would have been shortly -- whatever
13 the date of the invoice is, I'm assuming it was a few
14 weeks before, but I don't remember exactly.
15 Q. Okay. The reason I ask is the invoice is
16 dated May 17, 2018, and it says the invoice total is
17 1,700 minus the \$1,200 retainer. I take that to mean
18 that \$1,200 retainer had been paid prior to the date
19 of this invoice?
20 A. I think that's right.
21 Q. Do you know how far prior?
22 A. No, I don't. I mean, so whether the
23 records, the first set of records that were mailed to
24 me, had a letter -- a check in there, whether that
25 check came as a separate letter, I just don't

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1 remember.
2 Q. Prior to the start of your deposition today
3 is it fair for me to assume that you would have spent
4 a total of 4.75 hours on this case?
5 A. Well, in addition to more recent material
6 that I have and have not sent a bill for yet.
7 Q. And what more recent material have you
8 received?
9 A. Well, so that's the electronic stuff. So I
10 have -- Are you still able to hear me?
11 MS. BANSAL: Yes.
12 THE WITNESS: I have Alan Schneider
13 deposition. I have an An King Ang deposition. I
14 have endocrinology records. I have David Benkoff
15 records. I have the last name is Juco, J U C O,
16 CRNA, deposition. I have the whole Huron Valley
17 chart electronically. I have N -- Neil Buettner,
18 CRNA, deposition, and I have West Bloomfield Internal
19 Medicine. I have Malgorzata Baumann, B A U M A N N,
20 deposition. I have Tina Meador, M E A D O R,
21 deposition. And so the total amount of time that
22 I've spent on those would be in addition to this.
23 BY MR. RYAN:
24 Q. And how much time did you spend on all of
25 those?

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1 A. You know, I don't have it in my head as I'm
2 sitting here. I have to go back and review the total
3 amount. I just don't remember. That's a fair amount
4 of material. I'm guessing 5 hours or something like
5 that.
6 Q. Did you review all the depositions and all
7 the records that you just described?
8 A. Yes.
9 Q. The record from Huron Valley, for example, I
10 think, is, like, over 2,000 pages. Would you have
11 reviewed that entire record?
12 A. 2,500 and something pages, yes.
13 Q. You would have reviewed the
14 2,500-something-page chart from Huron Valley, all
15 these depositions, all these other records, and it
16 took about 5 hours?
17 A. Of the new material. You know, as I said,
18 that's my best estimate. It may be a little bit
19 more, a little bit less. I'd have to go back and see
20 what the number of pages is, but it's been over the
21 last 4 or 5 days.
22 Q. Have you listed for us all the information
23 that you've reviewed relative to this case?
24 A. Everything that we've talked about, yes.
25 You know, I've got paper material here. I'm not sure

Page 25

1 if we -- I'm sorry, we did, we talk about it in the
2 bills. Yes.
3 Q. The paper material that you have there would
4 have been medical records and the depositions of
5 Dr. Kim and Vaske?
6 A. That's correct.
7 Q. And the medical records that you have in
8 front of you that you reviewed initially, that's not
9 a complete set of medical records from Huron Valley;
10 correct?
11 A. That is correct.
12 Q. You've got some flags, pink, sticky flags on
13 those records. Do you have any highlighting or notes
14 contained in those records?
15 A. No.
16 Q. Did you place the flags on those records?
17 A. Yes.
18 Q. Fair for me to assume you didn't review any
19 radiology studies but rather maybe just the reports
20 of the radiology studies?
21 A. In this case, that's correct.
22 Q. Did you do any medical literature research
23 in connection with your opinions?
24 A. No.
25 Q. Talk to any other physicians about this

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1 case?
2 A. No.
3 Q. You mentioned you received a lot of these --
4 Well, let me ask you this. Did you receive all the
5 depositions aside from Kim and Vaske within the last
6 4 or 5 days?
7 A. Something like that, yeah.
8 Q. You received them all at the same time?
9 A. I think I received them over the course of a
10 few days. I don't remember. I could look at my
11 emails but --
12 Q. Your -- One of your bills indicates that you
13 had a phone conversation on June 15, 2018. I assume
14 you had formulated some opinions in this case as of
15 June 15, 2018?
16 A. Yes.
17 Q. You since received the various depositions,
18 correct?
19 A. Correct.
20 Q. Did any of those depositions change your
21 opinions?
22 A. No. My opinion is on causation. They
23 didn't.
24 Q. Did you take any notes or write a report in
25 connection with formulating your opinions?

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1 A. No.
2 Q. I think you just answered one of my
3 questions, which is it's not your intention to offer
4 any standard of care opinions in this case, correct?
5 A. That's correct.
6 Q. What were you asked to do in this case when
7 you were retained?
8 A. Well, my role in this case is to offer
9 opinions about the cause of this patient's arrest and
10 subsequent outcome.
11 Q. Okay. Were you asked to do anything else
12 other than to opine on the cause of the patient's
13 arrest?
14 A. Well, the subsequent outcome, as I said,
15 which is -- follows the arrest.
16 Q. Okay. Have you formulated an opinion as to
17 the cause of the patient's arrest?
18 A. Yes.
19 Q. What is that opinion?
20 A. The patient had a primary respiratory arrest
21 that culminated in circulatory collapse.
22 Q. Why do you say that the patient had a
23 primary respiratory arrest? What do you base that
24 opinion on?
25 A. Well, I base it upon the evidence in the

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1 chart and what I know about the nature of
2 cardiopulmonary arrest.
3 Q. Can you be more specific about what
4 information in the chart allows to you conclude that
5 it's a primary respiratory arrest?
6 A. Yes, she was extubated in the operating
7 room. Post extubation she had respiratory distress.
8 There was difficulty reintubating her and during that
9 time of the difficulty reintubating her, it
10 ultimately culminated in circulatory collapse. That
11 process is well described in the pathophysiology of
12 the primary respiratory arrest leading to circulatory
13 collapse and the data that were present in the case
14 are fairly typical of that sort of event. In
15 conjunction with that, since we all know she had a
16 circulatory collapse, one might assess the situation
17 and formulate a differential diagnosis for what might
18 have led to the circulatory collapse, so there's a
19 list of possibilities and primary respiratory arrest
20 is certainly at the top of the list, but to complete
21 the list, there are other things that one would
22 consider. When I list all the possibilities, all the
23 other plausible -- biologically plausible
24 explanations are inconsistent with what happened
25 here. What are they? Well, there was some talk

<p style="text-align: right;">Page 29</p> <p>1 about pulmonary embolism. This is not a pulmonary 2 embolism, it's inconceivable because in spite of what 3 Miss Vaske said because the patient recovered after 4 CPR and ACLS and if the pulmonary embolism caused her 5 to arrest, that's inconceivable because they didn't 6 do anything to treat pulmonary embolism and indeed I 7 think Miss Juco agreed in her deposition, so 8 pulmonary embolism to me is just not sensible as an 9 explanation. Acute myocardial infarction, that would 10 be something that you wouldn't expect someone to 11 recover the circulation from after the arrest. The 12 recovery of the circulation occurred after she was 13 intubated and received ACLS and then reestablished a 14 pulse. Tension pneumothorax would be another 15 possible cause, but she didn't have a pneumothorax. 16 A primary rhythm disturbance, a primary heart rhythm 17 disturbance -- If she had a primary heart rhythm 18 disturbance, you would have seen it on the monitor 19 and the ultimate rhythm that she had was a 20 bradycardia and then a PEA. Bradycardia and PEA 21 around the time of respiratory compromise, difficult 22 intubation is very often the preterminal event. 23 Furthermore, if one were to say that the rhythm 24 disturbance, bradycardia, was the primary event, you 25 would have to ignore the concomitant difficult</p>	<p style="text-align: right;">Page 31</p> <p>1 reestablished, way, way, way, way more probably true 2 than not those two things are related and to say that 3 the airway struggle that happened in the -- before 4 they finally got her reintubated and the bradycardic 5 event are two things that are true, true, and 6 unrelated, to me would approach nonsense because 7 they're just so -- that would just be to ignore the 8 obvious facts in front of you and based on 9 statistical probability alone, not to mention 10 biological plausibility, way, way, way more likely 11 than not that's not what happened here. 12 Q. It would be possible, correct? 13 A. It is possible, but I would say less than 14 one, one-thousandth of 1 percent. 15 Q. Based on what? 16 A. Based on what I know about human physiology. 17 Q. Can a primary cardiac event cause 18 respiratory arrest? 19 A. Well, when your heart stops beating, you 20 stop breathing. Of course. 21 Q. Short of your heart stopping -- Short of an 22 absent heartbeat, can a primary cardiac event cause 23 respiratory arrest? 24 A. It is conceivable, yes, of course. The two 25 are intimately linked.</p>
<p style="text-align: right;">Page 30</p> <p>1 airway, so you'd have two events going on 2 simultaneously and you're going to tell me that it's 3 a primary cardiac rhythm event, that makes me ignore 4 the respiratory difficulty that she had, that would 5 be a blatant violation of the principle of Occam's 6 razor, which says that generally speaking a 7 condition, whatever it might be, has a unifying 8 diagnosis, so I think the unifying diagnosis here is 9 primary airway trouble leading to respiratory arrest 10 and then subsequent circulatory collapse. 11 Q. What allows you to rule out a rhythm 12 disturbance is your testimony that it would have been 13 seen on the monitor? 14 A. No, no, no. She had a rhythm disturbance, 15 of course, she had bradycardia and then PEA. The 16 critical question is what caused the rhythm 17 disturbance. 18 Q. The -- What -- Your basis for ruling out a 19 primary rhythm disturbance is because you say it 20 would have been seen on the monitor? 21 A. No, it was seen on the monitor. She had 22 bradycardia. What I'm saying is if you see a 23 bradycardia on the monitor in the simultaneous 24 circumstances are challenging difficult airway with 25 multiple operators before the airway is finally</p>	<p style="text-align: right;">Page 32</p> <p>1 Q. Under what circumstances can a primary 2 cardiac event cause respiratory arrest? You 3 mentioned one, if the heart stops beating. What 4 other primary events? 5 A. The term primary cardiac events covers a 6 vast array of possibilities. Typically with a 7 primary cardiac event initially what you see is 8 respiratory distress, not respiratory arrest. But 9 respiratory distress, for example, in congestive 10 heart failure causing pulmonary edema could 11 ultimately lead to respiratory arrest, that's 12 certainly possible. And the key -- And I think 13 probably my biggest role in this case since I am 14 trained in pulmonary and critical care is to do 15 precisely what you're asking me, which is to 16 disentangle these two. What I told you at the very 17 beginning is this one is not hard, this is 18 straightforward because the pathophysiology is so 19 clear. The primary event was respiratory distress 20 after the extubation and the subsequent event was 21 circulatory and I see no other way that this could be 22 possible. 23 Q. You say respiratory -- You used two 24 different terms, respiratory distress and respiratory 25 arrest. How do you define respiratory distress?</p>

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1 A. Respiratory distress means that the patient
2 is distressed and is manifesting the stress by some
3 abnormality in respiratory function. Typically what
4 that means is the patient is breathless, that the
5 patient is struggling to breathe, that the patient is
6 having -- dropping oxygen saturations in a clinical
7 context. The clinical context here is she was
8 extubated and then had difficulty after the
9 extubation moving air. And -- Respiratory arrest is
10 you stop breathing.

11 Q. Okay. Is it your opinion -- You already
12 testified that you believe the patient had a
13 respiratory arrest; is that right?

14 A. Ultimately, yes.

15 Q. Is it your opinion that she before
16 experiencing respiratory arrest experienced
17 respiratory distress?

18 A. It is my opinion, yes.

19 Q. At what point in time did the respiratory
20 distress begin, do you have an opinion?

21 A. Well, I mean, the records about exactly what
22 happened are somewhat inconsistent, as we have heard
23 in numerous depositions. But when she started to --
24 When the care provider started to notice
25 desaturations, she was pale and was having difficulty

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1 breathing that led them to begin mask ventilation and
2 prepare to reintubate her, that's when the
3 respiratory distress began.

4 Q. Do you have an opinion as to the time?

5 A. Well, it was very shortly after extubation.

6 Q. What time is extubation?

7 A. Extubation is 1715, I believe.

8 Q. Okay. So what point in time do you believe
9 the patient started experiencing respiratory
10 distress, if you have an opinion on that?

11 A. Yeah, I mean, I'll say immediately after.
12 Can I precisely pin it down to a minute or a second?
13 No. I think it's very shortly after the extubation.

14 Q. And at what time did the patient experience
15 respiratory arrest in your opinion?

16 A. Well, the respiratory arrest occurred in
17 conjunction as best as I can tell from the records
18 with the circulatory collapse and the institution of
19 CPR. So the way that works is the patient is
20 struggling to breathe. The oxygen level is falling.
21 The carbon dioxide level is rising. There's an
22 attempt to improve that with mask ventilation that is
23 unfortunately ineffective, such that the decision is
24 made to reintubate her. All the while, carbon
25 dioxide rising, oxygen falling, adrenaline,

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1 catecholamines being released by the patient's body,
2 laryngoscopy and airway manipulation, and that
3 ultimately culminates in the distressed patient's
4 heart giving out and that's -- and the bradycardia is
5 the preterminal event. When the heart stops beating,
6 the patient stops breathing.

7 Q. Okay, so do you believe that when the
8 patient was experiencing bradycardia that she was
9 still experiencing respiratory distress and had not
10 experienced respiratory arrest at that point?

11 A. She's transitioning. I don't think you can
12 precisely pinpoint it. When the heart rate starts to
13 slow, the cardiac output is falling, the blood flow
14 to the brain and the respiratory centers of the brain
15 is falling, so you're seeing -- I can't precisely
16 pinpoint for you whether she stopped breathing the
17 moment CPR began, a few moments before or a few
18 moments after. There's no way that anyone can pin
19 that down.

20 Q. So you don't have an opinion as to when the
21 patient transitioned from respiratory distress to
22 respiratory arrest?

23 A. No different than what I said, I don't. Not
24 more precisely.

25 Q. You mentioned that the patient's CO2 was

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1 rising and the oxygen was falling after extubation;
2 is that right?

3 A. Yes.

4 Q. During that time is it your understanding
5 that mask ventilation was being provided?

6 A. At some -- During some portion of that time,
7 that's correct, yes.

8 Q. What's the basis for your testimony that the
9 CO2 is rising and the oxygen was falling?

10 A. Well, she's desaturating, we know that, and
11 she ultimately culminates in arrest, so even though
12 the mask and the Ambu bag were being utilized, that's
13 different than effective movement of air in and out
14 of the chest. So you can Ambu bag somebody, but
15 whether you're getting full ventilation of
16 oxygen-enriched air into the chest or not, the
17 magnitude of that and the squeeze of the bag aren't
18 necessarily connected.

19 Q. They often are, true? I mean, that's the
20 point of using a bag and mask is to ventilate the
21 patient, correct?

22 A. They often are, but in this case because
23 after doing that she was getting no better and they
24 chose to intubate her, more probably true than not in
25 this case they weren't. But as you said correctly,

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1 they often are.

2 Q. You say again that she was desaturating?

3 A. Yes.

4 Q. What evidence can you point to in the record

5 that the patient was desaturating?

6 A. Well, I believe that Miss Juco said in her

7 deposition she heard the pulse oximeter falling and

8 that's a noise that's very apparent to any person

9 that works in an acute setting. It's a noise that

10 once you've heard it a few times, you'll never forget

11 it because the pulse oximeter when the saturation is

12 high is high pitched and as the saturation starts to

13 fall, the noise, the pitch of the sound, goes down

14 and that will catch anyone's attention and usually

15 bring people running, so that's what they did. And

16 at least what I see from the -- what she said in her

17 deposition was she remembered 91 percent. Several

18 people said that. My experience in dealing with this

19 kind of problem many, many times is you do remember

20 that because it's a crisis when it happens. So

21 everybody was coming to the scene. I say everybody,

22 various care providers at various points in time were

23 coming to the scene because of this and knowing what

24 ultimately happened to her and what I know about

25 human physiology and the circulatory collapse more

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1 probably true than not the mechanism for that is

2 hypoxemia and hypercapnia or rising carbon dioxide,

3 which in a patient who isn't ventilating often go

4 concomitantly.

5 Q. You say the O2 saturations were at

6 91 percent?

7 A. Well, that's what I see charted or

8 mentioned. It was talked about in the deposition.

9 Q. Do you see any evidence in the record or any

10 of the deposition testimony that the O2 saturations

11 ever went below 91 percent?

12 A. No.

13 Q. Can we agree that O2 saturation of 91

14 percent is not low enough to re -- to lead to cardiac

15 issues?

16 A. It depends on the other circumstances that

17 are surrounding it. You can't look at the O2 sat in

18 a vacuum. You have to look at the other

19 circumstances.

20 Q. What other circumstances?

21 A. Well, the last recorded piece of data and

22 the subsequent timeframe, the adequacy of the signal

23 that comes because as the patient is struggling and

24 the circulation is -- struggling to breathe and the

25 circulation is compromising, many times the utility

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1 of pulse oximetry will become less valuable because

2 the strength of the pulse from the heartbeat, which

3 is what the pulse oximeter looks for, starts to wane

4 and you can't pick up a signal anymore. So those --

5 And the fact that they attempted Ambu bagging and

6 were unsuccessful such that they needed to

7 reintubate, all of those things to me are

8 consistent -- precisely consistent with what I

9 believe happened here.

10 Q. So my original question was whether a pulse

11 ox of 91 percent is low enough to cause cardiac

12 compromise and your answer is it is or it's not?

13 A. No, I think I'll keep my answer is what I

14 said. I said in a vacuum you can't make that

15 interpretation and there was a bunch else that I'll

16 just let the record stand.

17 Q. Okay. As a pulmonologist you're not

18 consulted intraoperatively about which patients

19 should be extubated versus which patients should

20 remain intubated at the end of an operation, correct?

21 A. It's quite rare. Once in a while I am.

22 Usually in that setting it's my patient in the

23 outpatient clinic maybe going for a surgery and I

24 might give advice to the anesthesia and surgery teams

25 about what I think would be the best course of

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1 events, but the ultimate judgment for that I would

2 always defer to the anesthesia team.

3 Q. You're not consulted intraoperatively to

4 evaluate patients for extubation criteria, true?

5 A. Gosh, in my life a couple times maybe. It's

6 been years. That would be extremely rare.

7 Q. If a patient like Kim Max at the end of the

8 case is left intubated and transferred to the ICU

9 would -- who would ultimately be the one then to make

10 the decision to extubate or not extubate that patient

11 after transfer to the ICU?

12 A. Well, in my intensive care unit it would be

13 the pulmonary critical care doc. I think in most

14 places that's true. Would there ever be a

15 circumstance where maybe the anesthesia team would

16 be? It's conceivable to me. I suppose particularly

17 with a very difficult airway you might wish to have

18 the airway operators at least present for the

19 extubation, but in general terms it's going to be the

20 ICU doctors.

21 Q. And in your experience with a patient like

22 Kim Max I want you to assume hypothetically that she

23 had gone to the ICU intubated, do you have an opinion

24 as to how long she would have remained intubated at

25 the end of after -- following the procedure?

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1 A. Well, I think it would have been short.
2 Depending on -- So the procedure finished at 5:30 or
3 something like or the time of the procedure was
4 5:00 o'clock in the afternoon, so part of it depends
5 on when the patient arrives. Sometimes people are
6 reluctant to extubate patients at night because
7 there's less people around, so I don't spend a ton of
8 time in surgical ICU, but I certainly work there from
9 time to time and have over the years, so sometimes
10 we'll keep patients intubated overnight just for
11 logistical reasons. She would need to go through a
12 spontaneous breathing trial and then an assessment of
13 her airway. But I certainly would expect at the very
14 latest by the following morning, so later that
15 afternoon or evening or the following morning,
16 depending on those various pieces that I just
17 outlined.
18 Q. So, I mean, at what point after she comes
19 into the ICU would you begin evaluating her for
20 extubation?
21 A. It would depend on -- Her specifically or
22 just general patient?
23 Q. Her specifically, again, assuming
24 hypothetically that she had remained intubated at the
25 end of this case.

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1 A. Well, I'd want to hear the details of the
2 case. You know, there's some discussion in this case
3 about neuromuscular blockade and its reversal. You
4 certainly want to know that the neuromuscular
5 blockade is fully reversed. We know that the
6 half-life of these drugs, depending on which drug is
7 used, a drug like Rocuronium, somewhere in the order
8 of I think about an hour or so, so those drugs are
9 going to wear off in a matter of a few hours, so
10 probably by the time the assessment comes around the
11 residual neuromuscular blockade question if she's
12 hypothetically in the ICU will largely be irrelevant.
13 What are the other things? What's her temperature?
14 Is she really cold? Sometimes patients need to warm
15 up. Blood pressure and respiratory status while
16 intubated have been stable. The operation was
17 relatively uneventful, so I would say very shortly
18 after she arrives in the ICU I'm going to ask myself
19 that question.
20 Q. An hour maybe, less?
21 A. Yeah. Yeah. That's when I'll begin the
22 assessment.
23 Q. And you mentioned a couple of things that
24 you're going to look for after the patient is in the
25 ICU in order to determine whether she's ready to be

Page 43

1 extubated. One was spontaneous breathing trial I
2 think you said?
3 A. Yes.
4 Q. What does that mean?
5 A. Well, she has to be asked to breathe on her
6 own without the ventilator supporting her. They did
7 that in the operating room. That's pretty standard.
8 Q. What else are you going to look for?
9 A. I need to know does she have airway
10 difficulty. Does she have an upper airway that's
11 swollen? Does she have upper airway anatomy that
12 would be challenging? That would be something I
13 could decipher from the anesthesia team and/or the
14 records.
15 Q. And based on your review of the records in
16 this case, had you been consulted, what would your
17 conclusion be?
18 A. I would certainly be curious to know if she
19 was -- had to be intubated with a glide scope and the
20 first attempt was unsuccessful, so I'd like to know
21 more about the specifics of that.
22 Q. Is it your understanding that the first
23 attempt with the glide scope was unsuccessful or the
24 first attempt overall was unsuccessful?
25 A. The latter.

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1 Q. Anything else that you're going to look for
2 in order to determine appropriateness to extubate in
3 the ICU?
4 A. Well, we talked about the neuromuscular
5 blockade and its reversal. The patient's level of
6 alertness. The gas exchange. The circulation.
7 Whether the surgeon has any particular concerns about
8 what he or she did in the abdomen. I don't think any
9 of those things are greatly relevant here. Sometimes
10 patients come back with big abdominal operations and
11 the wound is perhaps viewed as unstable and they
12 don't want the patient to bear down and dehiscence the
13 wound, but I don't think that's relevant here. So I
14 generally will have a conversation with the
15 anesthesia team, the surgery team, to confirm that
16 there aren't any things outside of my area that I
17 wouldn't necessarily know about and assuming the
18 answer to those questions is no, I would proceed
19 forward with a breathing trial.
20 Q. And if the patient is able to breathe on
21 their own, you leave the tube in place, you remove
22 the ventilator and see if they're able to breathe on
23 their own, is that what you mean?
24 A. Yes. Most people will do it with the
25 ventilator still connected but on what's called CPAP,

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1 which means the ventilator isn't pushing any air.
2 Q. Where they're breathing over the vent?
3 A. Yes.
4 Q. Okay. And if they're able to do that and
5 assuming surgery and anesthesia doesn't object, then
6 you'll extubate?
7 A. That's right.
8 Q. You mentioned an assessment of the
9 neuromuscular blockade, correct?
10 A. Yes.
11 Q. In the ICU, how do you go about assessing
12 that? Is that asking anesthesia or is there a way
13 for you to assess that in the ICU?
14 A. Well, there are ways. There are three ways
15 to assess it. The first is asking anesthesia. The
16 second is looking at the drug and knowing its
17 pharmacology, how much time, and the third is you can
18 actually test by using what's called a neuromuscular
19 stimulator, a train of four device. Those are the
20 different things that are available to utilize.
21 Q. Are you familiar with the term full train of
22 four?
23 A. I am.
24 Q. What does that mean to you?
25 A. It means that when you twitch typically it's

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1 the ulnar nerve and looking at the adductor pollicis
2 muscle, which is the muscle that moves the thumb
3 towards the center part of the hand, twitches four
4 times with four consecutive stimuli and the magnitude
5 of the twitch is the same over all four, they have a
6 train of four. They have four out of four. I mean,
7 it's subjective. There actually are very
8 sophisticated tools that are routinely used that will
9 actually put a little transducer on the thumb and
10 measure the strength of each contraction, but that's
11 practically and clinically never used. Rather what's
12 used is you look at the patient's hand, you look at
13 the twitch, and you see that the thumb moves
14 vigorously and the fourth movement looks the same as
15 the first. That's clinically how we do it.
16 Q. And what you're looking for to assess
17 reversal of the neuromuscular blockade is full train
18 of four, correct?
19 A. That's one tool. There are others, but
20 that's one.
21 Q. If you're using the stimulator, the nerve
22 stimulator, that's what you're looking for, correct?
23 A. If you're stimulating it and you program the
24 stimulator to give a train of four, then yes. You
25 can have the stimulator do other things, too.

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1 Q. You mentioned you also look for alertness.
2 What are you looking for?
3 A. Well, the patient should be able to follow
4 instructions, usually pretty simple, open your eyes,
5 squeeze my hand, sometimes I'll ask them to stick
6 their tongue out when I ask them to, things like
7 that.
8 Q. You mentioned gas exchange. What are you
9 looking for?
10 A. Oxygenation, so pulse oximetry usually
11 assuming the signal is accurate, good waveform, and
12 CO2 elimination.
13 Q. What about circulation? You mentioned
14 you're going to assess circulation as well.
15 A. Yeah, I mean, the tools used to assess
16 circulation would start with the history, you know,
17 was there blood loss, was there any hemodynamic
18 instability during the case. The blood pressure, the
19 heart rate, and then end-organ perfusion, so is the
20 patient making urine. If the patient is mentally
21 alert, you can infer from that that brain perfusion
22 is adequate. Are their extremities warm with pulses
23 that are strong or normal, those are the kinds of
24 things.
25 Q. In your experience would a patient like Kim

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1 Max be the type of patient who would come to the ICU
2 intubated?
3 A. I don't make those decisions. I certainly
4 have seen people like Kim Max come and I've seen them
5 not -- come intubated and I've seen them come
6 extubated.
7 Q. In your experience more often than not a
8 patient like her is going to come to the ICU
9 extubated, correct?
10 A. Yeah, I mean, with the one caveat that she
11 was difficult to intubate initially, but in general
12 my experience has been for this type of operation,
13 which is an abdominal surgery for an abscess, usually
14 they come extubated.
15 Q. You mentioned earlier I think some
16 hemodynamic assessment during surgery as part of your
17 evaluation in the ICU. Would -- This patient was
18 hemodynamically stable during the surgery, correct?
19 A. I believe that's right.
20 Q. She wasn't hypovolemic either, was she?
21 A. To the best of my ability to answer that
22 very challenging question from the records I have, I
23 believe that's correct. I mean, she had one drop in
24 her blood pressure what that was transient, that's
25 not uncommon in the operating room, and I see no

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1 evidence from the history, she didn't lose a lot of
2 blood, there wasn't any reason for me to say a priori
3 she was hypovolemic.
4 Q. If a patient comes to the ICU intubated, are
5 they kept sedated?
6 A. It depends.
7 Q. On what? Or if you're not the one that
8 makes that assessment, then you can tell me that,
9 too.
10 A. Oh, I am the one that makes that assessment.
11 Q. Okay, well, then --
12 A. Well, I mean, if I'm planning to extubate
13 the patient then, no, because the best way to
14 extubate the patient is to not have them on sedation
15 because to do a breathing trial, the drugs that we
16 use as sedatives, almost all of them have respiratory
17 suppression as one of their side effects, so you'd
18 like to have the patient awake. That's why -- We've
19 done -- That's the research my group has done for
20 decades, so in general if the intent is to extubate
21 the patient, then I wouldn't have the sedatives on.
22 If the intent is to keep the patient intubated
23 overnight, then I might be inclined to sedate the
24 patient, but it depends on the patient's behavior. I
25 learned over the years it's remarkable to me how some

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1 people are intubated and require deep sedation to
2 tolerate the endotracheal tube and other patients are
3 intubated wide awake and watching television with an
4 endotracheal tube and they don't seem to mind it, so
5 it really depends on the individual.
6 Q. You never practiced as a neurologist, true?
7 A. Correct.
8 Q. If you have a patient who you suspect may
9 have encephalopathy, is there -- are you going to
10 consult neurology?
11 A. Sometimes yes, sometimes no. It depends on
12 the nature of the encephalopathy and my experience
13 and expertise in assessing it.
14 Q. So if you have a patient who you suspect may
15 have an ischemic injury, what type of specialists are
16 you going to consult?
17 A. It depends on what part of the body is
18 ischemic.
19 Q. The brain.
20 A. It depends on the nature of the ischemia and
21 what the clinical manifestations are.
22 Q. Okay.
23 A. I mean, to cut to the chase, this patient
24 had a cardiac arrest and got CPR and post arrest she
25 had obvious anoxic encephalopathy. I don't need a

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1 neurologist to tell me this. I can test the patient,
2 the history is clear, the circulation down time is
3 clear, and the assessment is to see what the patient
4 does neurologically after the arrest. We see
5 patients like this all the time in my ICU and are
6 there times -- so we do imaging so there's going to
7 be a CAT scan of the brain, there's going to be an
8 EEG, there's going to be neurological assessment of
9 the patient's ability to interact. Sometimes an MRI
10 is done and the data are pretty clear. Now, if we
11 start getting into more sophisticated tests and/or
12 family asking for prognostication, then we might be
13 dealing with a neurology input for sophisticated
14 neurological testing. One of the keys is in the case
15 like this, it's -- to me it's blatantly obvious. I
16 mean, my medical student would be able to tell you
17 this, this patient has severe anoxic brain injury and
18 she's very unlikely to recover and I think the
19 decision to recognize that by her care providers in
20 the ICU and her family was wise. There are times
21 where families and/or care providers, more often
22 families, will be of the mindset that they'd like to
23 pursue ongoing care in the spite of dire brain injury
24 and sometimes we end up doing tracheostomies and
25 putting in feeding tubes and sending patients with

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1 anoxic brain injury to long-term care facilities, we
2 do that all the time, so in that case many times
3 neuroprognostication may be helpful, but for a case
4 like this, I wouldn't routinely need a neurologist.
5 In fact, very unusual to need one.
6 Q. Are you going to render any sort of opinion
7 about encephalopathy relative to Kim Max, whether or
8 not that would have been permanent, is expected to be
9 permanent?
10 A. Oh, I believe this is permanent. Yes.
11 Q. And what do you base that opinion on?
12 A. The nature of the injury, the circulation
13 down time, and her subsequent behavior post arrest.
14 Her electroencephalographic patterns that are
15 described as severe brain injury. Those are all
16 completely consistent with the event that happened.
17 Q. Do you interpret EEGs?
18 A. I don't read them, but I know what the
19 interpretations mean and they have to be interpreted
20 in a clinical context.
21 Q. You mentioned circulation down time?
22 A. Yes.
23 Q. How many minutes was this patient's
24 circulation down time?
25 A. Well, it looks like 12.

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1 Q. From when to when?
2 A. 1738 to 1750.
3 Q. Was this patient ever in asystole?
4 A. I didn't see a documented asystole. She had
5 pulseless electrical activity. What that means is
6 that the heart is showing electrical signals, but
7 it's not sending any blood. Asystole means a flat
8 line, meaning the heart not only isn't pumping, but
9 also there's no electrical activity at all.
10 Q. Was this patient receiving CPR during that
11 circulation down time period that you just described?
12 A. Yes.
13 Q. What's the purpose of CPR?
14 A. CPR is intended to mechanically compress the
15 heart in an effort to send blood out of the heart and
16 into the lungs on the right side of the circulation
17 and out of the heart to the rest of the body on the
18 left side of the circulation. Typically good CPR
19 will get you the literature will suggest about
20 25 percent of normal cardiac output, which is a huge
21 drop, which is why circulation down time is so
22 important with regard to prognostication and indeed
23 that's why if you go to O'Hare, there's
24 defibrillators in the airport because when you go
25 down, the faster you reestablish a spontaneous rhythm

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1 and pulse, the better your neuro outcome. 12 minutes
2 is a long time.
3 Q. You believe she had encephalopathy?
4 A. From her circulatory collapse, yes, anoxic
5 encephalopathy.
6 Q. So you believe it is anoxic, not hypoxic?
7 A. I mean, the terms is a bit semantics.
8 Strictly speaking, the word anoxic, Latin oxix is
9 oxygen, a means absence. The only way you can have
10 anoxia is if you have no blood flow. The blood
11 always has oxygen in it, no matter how low the
12 saturation goes. The hemoglobin saturation is never
13 zero, so if you have any flow to your brain, you have
14 hypoxic encephalopathy to the extent that you're
15 hypoxic in your blood.
16 Q. Right. So that what's I'm asking is do you
17 believe it was hypoxic or anoxic?
18 A. I think it's both.
19 Q. So you believe there was a period of time
20 where she had no flow to her brain?
21 A. Yes.
22 Q. For what period of time?
23 A. It's hard to tell. I mean, you know, the
24 initiation of the CPR and, of course, we don't know
25 the magnitude or the effectiveness of the CPR, that's

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1 clinically not measurable.
2 Q. So how do you base your opinion then that
3 she had an anoxic encephalopathy?
4 A. Because her brain -- her heart stopped
5 beating and at the moment it stopped beating, there's
6 no blood flow. Even if it's short, that's anoxic.
7 Q. So you believe that her anoxic
8 encephalopathy would have lasted between the time her
9 heart stopped beating and the time CPR began?
10 A. At the very least and then subsequent to the
11 beginning of CPR the question is how effective was
12 the CPR to send blood to the brain and the answer is
13 I don't know how you measure that, but probably there
14 was some blood flow to the brain at that point, which
15 would transition the word anoxic to hypoxic.
16 Practically and clinically speaking this is
17 semantics.
18 Q. Did the CPR start when the patient was
19 experiencing bradycardia or an absence of pulse?
20 A. When the patient has no pulse is when we
21 start CPR.
22 Q. Your understanding is that in this case the
23 CPR was not started because of severe bradycardia; is
24 that correct?
25 A. Well, it was started in the setting of

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1 severe bradycardia in conjunction with no pulse.
2 That's pulseless electrical activity, that's what it
3 is. I mean, if the patient has no pulse and is
4 bradycardic, you don't wait for the line to go flat
5 before you start CPR. I mean, I think the CPR and
6 the resuscitation here was very adequate. It did
7 what they're supposed to do. Best I can tell,
8 there's some discrepancies in the chart, but I see no
9 evidence that the CPR and the ACLS resuscitation was
10 inadequate, notwithstanding the piece about the
11 airway and all that, but certainly from the CPR
12 standpoint, they did what seemed to be the right
13 thing to do. I mean, you don't wait until -- The
14 moment you feel no pulse, you start CPR.
15 Q. So is it your opinion that the patient
16 experienced encephalopathy as a result of circulatory
17 collapse as a result of respiratory arrest?
18 A. And after the circulatory collapse in spite
19 of CPR the blood flow to the brain, which was
20 reestablished, but we don't know to what magnitude,
21 was not reestablished to an adequate level in order
22 to deliver oxygen to the brain such that brain neuron
23 injury was avoided, which is not a criticism of the
24 CPR, the CPR is doing the best you can, but as I said
25 the longer the circulation down time, the more likely

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1 it is to have injury to the brain because even good
2 CPR is a mere fraction of what the brain's blood flow
3 and oxygen delivery is normally.
4 Q. So you believe the patient experienced
5 respiratory arrest, which led to circulatory
6 collapse; is that correct?
7 A. Yes.
8 Q. Which led to encephalopathy?
9 A. Because of inadequate oxygen delivery to the
10 brain, yes.
11 Q. Yeah, I know, but I hear what you're saying,
12 but is the encephalopathy caused by the circulatory
13 collapse, the respiratory arrest or a combination of
14 both?
15 A. Well, I think it's a combination. There's
16 no -- We don't have a probe that's measuring blood
17 flow to the brain and the oxygen content of the blood
18 flow in the brain, but if I had my choice between
19 having a low oxygen level but good blood flow to my
20 brain and having a normal oxygen level but no blood
21 flow to my brain in terms of how my brain outcome is,
22 there's no question which one is worse, and that is
23 no blood flow because it doesn't matter what the
24 oxygen level in your blood is, if it's not going to
25 your brain, it's not giving you any oxygen.

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1 Q. Do you have an opinion as to the cause of
2 respiratory arrest?
3 A. Yes. She had post extubation respiratory
4 distress on the basis of the inability to adequately
5 ventilate.
6 Q. So you believe the inability to ventilate
7 led to the respiratory arrest?
8 A. Yes.
9 Q. What caused the inability to ventilate?
10 A. Well, she had respiratory distress and they
11 had to reintubate her, so she was unable to
12 effectively move air in and out of her chest enough
13 to maintain homeostasis.
14 Q. Do you have an opinion as to why?
15 A. Well, I mean, so whether it was that she was
16 taking shallow breaths and not effectively
17 ventilating, whether there was some component of
18 upper airway swelling that was adding a resistor to
19 her airway or some combination of those, I don't
20 think you can discern from your records, but her
21 hypoxemia, her respiratory distress, the description
22 of her looking pale is all a manifestation of those
23 pieces and that combination led to a drop in oxygen
24 and a rise in carbon dioxide.
25 Q. So aside from shallow breathing or upper

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1 airway swelling, what other things could have caused
2 an inability to ventilate in your opinion?
3 A. Well, upper airway obstruction of any sort,
4 it doesn't have to be swelling. It could be the
5 tongue getting in the way of the upper airway. There
6 could be weakness which would lead to shallow
7 breathing. Her position. She could still have
8 residual anesthetic on board. The fact that she was
9 in respiratory distress makes it not likely that it
10 was opiate because if it was opiate she would
11 typically not be in respiratory distress but have
12 respiratory suppression. So this is not a case where
13 morphine or Fentanyl or some narcotic made her stop
14 breathing. This is a case where after the tube came
15 out, she wanted to breath, her brain stem recognized
16 she needed to breathe, but because of a strength or
17 load problem on the respiratory system or a
18 combination, could be both, impaired strength,
19 increased load led to the respiratory distress.
20 Q. And I just want to, again, it sounds like I
21 think I know what your answer is, that there are a
22 lot of things that you believe could cause an
23 inability to ventilate in this case. Fair for me to
24 assume you don't have an opinion as to what caused it
25 in this case?

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1 A. I think probably it's more than one thing,
2 but I think a big piece of it is some increased
3 resistance to breathing from the upper airway, be it
4 swelling, be it the tongue, a combination of those, I
5 don't know. And the reason I say that is that by
6 laryngoscopy at the beginning of the case and
7 subsequently she was difficult to reintubate, which
8 typically is an associated with some altered airway
9 anatomy. Exactly what that is, I don't think you can
10 tell.
11 Q. You're not able to say what caused her
12 inability to ventilate more likely than not, correct?
13 A. No, I just told you.
14 Q. You believe more likely than not it was an
15 upper airway obstruction?
16 A. Well, I believe it's an upper airway
17 obstruction and shallow breathing. Whether the
18 shallow breathing is a function of upper airway
19 obstruction, whether the shallow breathing is a
20 function of residual inhalational anesthetic,
21 probably not. Whether it's a function of residual
22 neuromuscular blockade, whether it's a function of
23 the fact that she just had an operation on her
24 abdomen and her diaphragmatic excursion is impaired
25 or some combination of all those, no, I can't tell

<p style="text-align: right;">Page 61</p> <p>1 you and, to be fair, I honestly don't think anyone 2 can. If somebody were to tell you, oh, yeah, I know 3 what it is, I think they'd be -- I would disagree 4 with being able to precisely nail that down. 5 Q. Do you believe respiratory muscle fatigue 6 played a role? 7 A. It could have at the end of the event 8 because she's working hard to breathe and respiratory 9 muscle fatigue could have been a piece of it, but 10 from the beginning of the respiratory distress, no. 11 There's no reason that I can think of postoperatively 12 that she would begin the experience as the 13 endotracheal tube is pulled out of her trachea with 14 respiratory muscle fatigue, but, you know, if I put a 15 resistor on your trachea, you know, if I close off 16 your trachea and ask you to breathe, the energy 17 expenditure required to breathe through a narrowed 18 airway, regardless of the anatomic reason for it, is 19 exponential. We don't do this to people because it 20 would be unethical, but in animal experiments if you 21 take an animal and anesthetize it, because it would 22 be cruel if you didn't, with a drug like Ketamine, 23 for example, that doesn't suppress respiratory drive, 24 and then gradually put a clamp on the trachea and 25 measure respiratory muscle energy expenditure, as you</p>	<p style="text-align: right;">Page 63</p> <p>1 they can breathe a little longer, but they're going 2 to run out of gas very quickly because respiratory 3 muscle energy expenditure can go up many orders of 4 magnitude very quickly, so it's going to be as the 5 case is unfolding from the extubation until the 6 circulatory collapse, probably closer to the tail end 7 of that timeframe than the front end, but I can't 8 nail it down to a precise minute. 9 Q. Is it possible for a patient to have normal 10 oxygen saturation and still sustain encephalopathy? 11 A. Oh, yes, of course. 12 Q. What types of things can cause that? 13 A. Drugs. A drug overdose. A stroke. A 14 massive bleed. There are innumerable reasons for 15 encephalopathy and then, of course, if you have a 16 normal saturation but don't have adequate blood flow 17 to your brain so, for example, if the patient has 18 cerebral edema and the brain is so swollen that it 19 chokes off the capillaries, you can have 100 percent 20 saturation in your blood. The blood is not getting 21 to the brain, you're going to have major 22 encephalopathy. 23 Q. Do you have an opinion in this case as to 24 when encephalopathy became irreversible? 25 A. Well, when she had the circulatory collapse.</p>
<p style="text-align: right;">Page 62</p> <p>1 clamp the trachea, energy expenditure of the rest of 2 your muscles just skyrockets exponentially, we know 3 that, so I think she could have had respiratory 4 muscle fatigue at the end, but not right coming out 5 of the extubation. 6 Q. When you say at the end, you mean right as 7 the O2 sats were starting to come down or -- 8 A. Well -- 9 Q. I don't know what you mean by end. 10 A. Yeah, I know. Good question. I'm sorry. I 11 should be more precise. What I know is when the tube 12 came out, she did not have respiratory muscle fatigue 13 to the extent that there was upper airway 14 obstruction. I believe there was. What magnitude it 15 was, I don't think anybody can say, and to the extent 16 that in conjunction with that upper airway 17 obstruction, that added a resistor to her air 18 movement in and out that's going to task the 19 respiratory muscles to work harder. The longer 20 they're working harder, the more likely they are to 21 be fatigued. That can happen over the course of a 22 matter of minutes. Somebody is suffocating, if 23 somebody has their airway completely closed off, 24 they'll stop breathing in a matter of a couple of 25 minutes. If the airway is narrowed to a pinhole,</p>	<p style="text-align: right;">Page 64</p> <p>1 But I say that with the luxury of 20/20 hindsight 2 because I know that the circulatory collapse, what 3 ensued was 12 minutes of CPR. If you were asking me 4 to stand there like a commentator in a play-by-play, 5 you know, baseball game and say they just begun CPR, 6 she will have irreversible brain injury at this 7 moment in time, no, because if they reestablished 8 circulation in one minute, I think probably she 9 wouldn't, but I believe looking at the case from 10 retrospect which, of course, is the only thing any of 11 us can do, that the circulatory collapse was the 12 irreversible break point where anoxic or hypoxic 13 brain injury was going to be permanent. 14 Q. So you mentioned if they had restored 15 circulation at one minute, so at 17 -- I think you 16 said CPR started at 1738, so at 1739 if they had 17 restored circulation, she would not have had 18 encephalopathy; is that correct? 19 A. I think more probably true than not that's 20 correct. And I say that, it's not speculation, but 21 it's a hypothesis based upon what I know about, you 22 know, physiology and brain microcirculation. 23 Q. And I think from your prior testimony, after 24 12 minutes of CPR it's your opinion that she had 25 encephalopathy at that point?</p>

<p style="text-align: right;">Page 65</p> <p>1 A. Well, I mean, I think the chart speaks loud 2 and clear to that, yes. 3 Q. Okay. So at what point between 1739 and 4 1750 do you believe had blood flow been restored, she 5 would have not have sustained encephalopathy? 6 A. I don't think anybody can answer that 7 question. 8 Q. Do you have an opinion or not? 9 A. No, because I'm in the anybody category. 10 Q. Okay. 11 A. Let me -- Maybe I can help to clarify it. 12 When a patient has an upper airway or respiratory 13 distress crisis and intubation is challenging, every 14 person at the table knows that as long as I don't 15 lose the pulse, my chances of having a good outcome 16 are much, much greater. That doesn't mean for 17 certain, but much, much greater. The moment I start 18 CPR, it's a frame shift, which is why when you call 19 the anesthesia team, I do this all the time in my 20 ICU, when the patient's respiratory distress, they 21 get there quickly and they do everything possible to 22 get that ventilation and oxygenation reestablished 23 because the moment you have circulatory collapse from 24 a primary respiratory event, prognostication and 25 outcomes frame shift dramatically.</p>	<p style="text-align: right;">Page 67</p> <p>1 Q. Pancreatitis, do you treat that? 2 A. Yes. 3 Q. Septic shock? 4 A. Yes. 5 Q. Acute kidney injury? 6 A. Yes. 7 Q. Elevated troponin? 8 A. Yes. 9 Q. Miss Max had all of these, correct? 10 A. Yes. Those are all acute. 11 Q. She had Crohn's? 12 A. Sorry, those are all acute problems, save 13 the pancreatitis. She had Crohn's, that's a chronic 14 problem. 15 Q. All of these problems were prior to the 16 surgery, correct? 17 A. Yes. 18 Q. She had type II diabetes, correct? 19 A. Yeah, that's right. 20 Q. Chronic kidney disease? 21 A. Yes. 22 Q. Lactic acidosis? 23 A. Yes. 24 Q. Chronic iron deficiency? 25 A. Yes.</p>
<p style="text-align: right;">Page 66</p> <p>1 Q. This patient, had a number of comorbidities, 2 correct? 3 A. Yes. 4 Q. As a pulmonologist, do you feel qualified to 5 render an opinion as to how the various comorbidities 6 will impact Kim Max's life expectancy? 7 A. Yes. 8 Q. Do you treat her various comorbidities as a 9 pulmonologist? 10 A. Yes. 11 Q. Do you treat patients with an abscess, for 12 example? 13 A. Yes. 14 Q. You don't treat the abscess, correct? 15 A. Oh, it depends on where the abscess is and 16 what its treatment is. I give antibiotics. I might 17 plan to have it drained. I don't do the drainage 18 procedure myself, but diagnose and treat with 19 systemic treatment. If the patient has shock, septic 20 shock, I'll treat that, but I'm not a surgeon and I'm 21 not an interventional radiologist. 22 Q. Diverticulitis, for example, 23 gastroenterologists treat diverticulitis, correct? 24 A. They do, but so do I if it's severe enough 25 to bring them to the ICU.</p>	<p style="text-align: right;">Page 68</p> <p>1 Q. Bacteremia? 2 A. Yes. 3 Q. Cushing's? 4 A. I don't remember that being a major problem, 5 but I have no reason to dispute it. 6 Q. Do you treat Cushing's? 7 A. Sometimes. It depends, if it's acute in the 8 ICU, yes. If it's not, in an outpatient setting, 9 that's an endocrinologist's role typically. 10 Q. If you had a patient who you suspected 11 Cushing's, would you treat it or would you consult an 12 endocrinologist? 13 A. Generally we'd get endocrine involved for 14 that if it's an outpatient issue. 15 Q. Miss Max prior to the surgery had renal 16 failure? 17 A. Yes. 18 Q. And hypertension? 19 A. Correct. 20 Q. These various comorbidities, do you have an 21 opinion as to whether or not they would have reduced 22 her life expectancy? 23 A. I do. 24 Q. And what's your opinion? 25 A. Well, I think you have to separate the acute</p>

<p style="text-align: right;">Page 69</p> <p>1 problems from the chronic problems. The vast 2 majority of what you mentioned was acute and the 3 treatment was to treat the abscess with medical 4 treatment and surgical treatment. Had that been done 5 successfully, I think we don't know the answer 6 because she died before we learned that. But the 7 lactic acidosis, the acute kidney injury, there's a 8 whole list of things that you mentioned that are 9 acute. I don't think those have any bearing on her 10 life expectancy. Those morbidities that have a 11 bearing on her life expectancy are her diabetes, her 12 hypertension, her Crohn's, theoretically the 13 pancreatitis, I suppose, and the two big ones are 14 going to be hypertension and diabetes. Diabetes, I 15 think at least in part, was related to 16 corticosteroids. And so those are the major 17 contributors to her life expectancy if we look at 18 life expectancy from what I think is the relevant 19 vantage point, which is had the acute problems that 20 got her hospitalized been remedied, which I think 21 they had a plan, that more likely than not had she 22 not arrested and died would have been successful. 23 Those acute problems would not have an impact on her 24 life expectancy. 25 Q. She had diverticulitis, true?</p>	<p style="text-align: right;">Page 71</p> <p>1 her life expectancy would have been reduced as a 2 result of her diabetes and hypertension? 3 A. I would say, you know, the average life 4 expectancy for a woman in this timeframe is mid 80s, 5 probably 5 years, something like that. 6 Q. What do you base that on? 7 A. I base that on the Minnesota Life Tables for 8 what the average life expectancy is and the impact of 9 diabetes in somebody who's reached this point in age 10 on the prognosis down the road. 11 Q. Yeah, no, I understand, so you said 5 years 12 would be her reduced -- her life expectancy would be 13 reduced 5 years from the tables. What do you base 14 the 5-year number on? 15 A. What I know about the pathophysiology of 16 those diseases in a patient who has reached this 17 point in her life with those diseases and the 18 duration of those diseases vis-à-vis their 19 treatments. 20 Q. Can you point me to any journals or 21 literature or textbooks that would support that 22 opinion? 23 A. Not as I'm sitting here. It's my experience 24 over the years of close to 30 years being a doctor. 25 Q. Patients with chronic kidney disease have</p>
<p style="text-align: right;">Page 70</p> <p>1 A. Yes. 2 Q. That can have an impact on life expectancy, 3 correct? 4 A. Generally not. Unless it's acute. If you 5 perforate a diverticulum, absolutely in the short 6 term, but long term, no. I mean, diverticulosis is 7 very common in the American -- in the industrialized 8 world because we eat food that isn't particularly 9 great with regard to fiber, that's what people think 10 at least, and some people unfortunately those little 11 diverticula get irritated and inflamed. They may 12 need antibiotics, but, in general, that's not going 13 to have any impact on life expectancy. 14 Q. Okay. 15 A. I mean, it might to the extent that you who 16 eat a bad diet and get and have diverticula might, 17 you know, and you're overweight and you have diabetes 18 and other things like that, sure, but the 19 diverticulitis per se, no. 20 Q. Pancreatitis can, true? 21 A. It can, but hers was quiescent, so I don't 22 think that's going to be a major issue. I think the 23 major issues are the diabetes and hypertension from 24 that standpoint. 25 Q. And do you have any opinion as to how much</p>	<p style="text-align: right;">Page 72</p> <p>1 reduced life expectancy, true? 2 A. Yeah, they may. It depends on the 3 magnitude, it depends on the reason for it, and it 4 depends on what treatments are being offered to slow 5 its progression. I think in this case it's 6 hypertension and diabetes, so the treatment is going 7 to be focused on, again, on the hypertension and the 8 diabetes. 9 Q. Do you know the details surrounding Kim 10 Max's chronic kidney disease? 11 A. Well, beyond the hypertension and the 12 diabetes, as they're likely etiologies, I don't know 13 of much more than that. If there are other details, 14 I'm not aware of them. 15 Q. Was Kim Max in renal failure? 16 A. Can you specify what timeframe you're 17 talking about? 18 Q. Prior to the surgery. 19 A. I'd have to look and see what her creatinine 20 was prior to surgery. I don't remember. Certainly 21 not to the point that she was needing -- as I recall 22 needing renal replacement therapy. I just need to 23 find what her creatinine was at the time. And if 24 somebody knows it, I don't think this is a memory 25 test. If somebody knows it --</p>

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1 Q. No, by all means.
2 A. -- you can tell me. It will certainly
3 expedite things.
4 Q. You can consult --
5 A. I mean, her creatinine on 7/23 was 0.56,
6 which is in the normal range. That's on the 23rd.
7 Usually it's measured once a day, so I don't recall
8 what it was on the 24th. Here on the 26th it's 0.62,
9 so I don't see any evidence that she's in renal
10 failure, kidney failure. The arrest is on the 23rd,
11 so even a few days later she still is not in kidney
12 failure, so presurgery, no.
13 Q. Would you agree that there's no evidence to
14 suggest that Kim Max aspirated?
15 A. I agree with that.
16 Q. Do you have any opinions concerning whether
17 or not reversal of the neuromuscular blockade caused
18 or contributed to the outcome?
19 A. No.
20 Q. No opinions or you don't think it did?
21 A. I don't have an opinion. I would defer to
22 an anesthesia doctor for that.
23 Q. Would you agree that Kim Max was not likely
24 to survive had this surgery not gone forward?
25 A. I think that's more likely than not true.

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1 Q. Do you believe that Kim Max had extended
2 periods of prednisone toxicity?
3 A. The word extended is vague, but with that
4 caveat, yes.
5 Q. Explain to me your opinions regarding her
6 prednisone toxicity.
7 A. Well, I mean, one of the side effects of
8 prednisone is hyperglycemia. She had that. That's
9 probably the main -- There are other toxicities or
10 side effects of prednisone. I don't recall seeing or
11 reading any of those. What are those other ones?
12 Some people can become psychotic. You can have bone
13 leaching, so you get osteoporosis. You can have
14 weight gain. She was not, you know, her weight was
15 more than ideal so maybe the prednisone was
16 contributing to that as well.
17 Q. Patients with prednisone toxicity have
18 reduced life expectancy, correct?
19 A. Depends on the nature of the toxicity and
20 the duration. I think in this case it's mainly the
21 diabetes and that will impact her life expectancy as
22 I've already outlined.
23 Q. Would the prednisone toxicity also have
24 impacted Kim Max's life expectancy?
25 A. In the absence of diabetes? Probably not.

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1 Q. She had diabetes, so how about in the
2 presence of diabetes?
3 A. Insofar as the diabetes does, yeah, and
4 that's what I've already answered.
5 Q. You don't think there would be any
6 additional reduction in her life expectancy based on
7 the prednisone toxicity; is that correct?
8 A. Probably not. I mean, the other things,
9 what are the other possibilities? I mean, she could
10 have bone leaching and she could break her hip, I
11 suppose, but that's just speculation. You know, she
12 could become psychotic and jump off a bridge, I
13 suppose, but, again, those are just speculations. I
14 see no evidence of that.
15 Q. Are you going to be rendering any opinions
16 concerning the timeline between the point of
17 extubation and when CPR was stopped at 1750 and by
18 that I mean things like at what point the oxygen
19 saturation began to decline, at what point Dr. Kim
20 was paged, at what time Dr. Kim came back into the
21 room, the various intubation attempts? Are you going
22 to be rendering an opinion concerning when those
23 events occurred?
24 MR. JENKINS: Object to form.
25 THE WITNESS: Well, I'll say a couple things

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1 about that. The first is I don't think anybody would
2 disagree with the fact that there's inconsistency in
3 the records and the depositions.
4 BY MR. RYAN:
5 Q. So are you going to be giving an opinion
6 concerning when certain events occurred or are you
7 not?
8 A. I wasn't quite finished with my answer.
9 Q. Go ahead.
10 A. So sorry. So I also see so different care
11 providers and different experts offer different
12 viewpoints on that. I think based upon what happened
13 to her and based upon what's recorded in the chart,
14 it appears to me that the patient shortly after
15 extubation began to have respiratory distress. I
16 don't think anybody disagreed with that. If you're
17 asking me precisely nail down to a minute, no, I'm
18 not going to have opinions like that.
19 Q. So if I asked you at what time the -- at
20 what point Dr. Kim was called to the patient's room,
21 you would have no opinion?
22 A. Well, we see that the patient's recorded or
23 the doctor's recorded arrival time is 1730 and his
24 note says that CRNA laryngoscopy with a glide scope,
25 et cetera, and then he attempted to intubate with an

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1 IMA unsuccessful and then second attempt and then
2 shortly thereafter there's circulatory collapse. So
3 to the extent that the start of the CPR is 1738, his
4 note suggests that his beginning and end of the
5 intubation exercise was a few minutes before that.
6 Q. Okay. So my question --
7 A. That's my opinion.
8 Q. My question was whether you had an opinion
9 at what time he was called to the room, paged to come
10 back to the room.
11 A. And I -- I think I said as a part of my
12 answer it says here arrival time of physician 1730.
13 Q. So is it your understanding that's when he
14 arrived back in the room or when he was called back
15 in the room?
16 MR. JENKINS: Object to form.
17 THE WITNESS: I don't think you can
18 distinguish the two. I can't.
19 BY MR. RYAN:
20 Q. Okay. That was my question is whether you
21 have an opinion as to when he was called to the room.
22 A. No, it's fair and my answer was somewhat
23 imprecise and I hope I've clarified it.
24 Q. And do you have an opinion as to when he
25 arrived in the room?

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1 MR. JENKINS: Objection, foundation.
2 THE WITNESS: To the extent that it says
3 here 1730, that's one data point. That's what it
4 says, arrival time of physician.
5 BY MR. RYAN:
6 Q. Would you agree that that arrival time
7 doesn't say it's the time that Dr. Kim arrived, it
8 says that's the time a physician arrived?
9 A. I agree with that, yes.
10 Q. And there were multiple physicians in the
11 room, correct?
12 A. Right.
13 MR. JENKINS: Object to foundation.
14 BY MR. RYAN:
15 Q. Do you have any evidence to suggest that
16 that refers to Dr. Kim?
17 A. No.
18 Q. Are you going to be rendering an opinion as
19 to whether or not there was esophageal intubation?
20 A. Well, same answer as the previous one.
21 There's discrepancy in the chart as to whether that
22 happened or not. You have it charted in this
23 resuscitation code note, which doesn't have a Bates
24 stamp on it, but it's the cardiopulmonary
25 resuscitation report form. And it's charted with

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1 esophageal intubation marked. It's charted that
2 there's no CO2 detected. It's charted that there are
3 abdominal breath sounds, so those three data points
4 are all consistent with esophageal intubation. So
5 that to me is compelling enough to say we have
6 evidence to support that notion. Notwithstanding the
7 fact that there's other data points in the chart that
8 speak to it not being the case, like the follow-up
9 note that's written on 8/19/15, that's signed by four
10 different individuals, three nurses and one CRNA,
11 that says there was no attempt to pass the oral
12 endotracheal tube and no esophageal intubation
13 occurred, so we have conflicting data, but those are
14 the data. I mean, they speak for themselves.
15 Q. Understood, and I appreciate your answer.
16 My question is simply are you going to render an
17 opinion that one of those is accurate and the other
18 is not accurate?
19 A. I don't see how anyone could.
20 Q. Okay. You don't believe it's part of your
21 role in this case to weigh the or analyze the
22 different medical records and choose which one to
23 believe and which one not to believe; is that right?
24 MR. JENKINS: Object to form.
25 THE WITNESS: It depends on the question at

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1 hand. I mean, the -- You have to also quite apart
2 from the difference of opinion about what happened
3 when, you also have to base what we know happened and
4 I know about human physiology and biology and what I
5 know about human physiology and biology is that when
6 respiratory distress which culminates in respiratory
7 failure occurs around the time of an attempted
8 intubation and when the records say that around the
9 time of attempted intubation it was difficult but
10 ultimately established an endotracheal tube in the
11 trachea and then shortly thereafter as Kim's note
12 says we had to begin CPR that I believe that's all
13 very consistent with the biology of what happens in
14 this circumstance, so that part of it I think is more
15 plausible than some alternative like the patient was
16 intubated for a long period of time and subsequent to
17 that the patient had a circulatory collapse. That
18 isn't to say that, I mean, it isn't my job to judge
19 who's giving the story that's correct and who isn't,
20 but rather to look at the biology behind what
21 happened and to tell you based upon what I know about
22 that, it's a struggle to intubate and around the time
23 of the intubation there's circulatory collapse,
24 whether it's right as the tube is going in, shortly
25 before or shortly after, no one can tell you, but to

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1 have a tube in for 10 minutes, for example, and then
2 have circulatory collapse, that is still consistent
3 with the primary respiratory etiology to the
4 circulatory collapse, but I think the statistical
5 probability of that scenario compared to the tube
6 intubation happening closer to the circulatory
7 collapse, the second one is much more likely based on
8 what I know about biology.
9 BY MR. RYAN:
10 Q. Let me ask you this then, do you have an
11 opinion as to when Dr. Kim successfully reintubated
12 Miss Max?
13 A. It seems like it was right before the
14 circulatory collapse. Exactly a time minute, no.
15 Q. And what do you base that on?
16 A. I base that on what his notes says and just
17 as important what I know about the typical time --
18 the typical out -- unfolding of this scenario of
19 respiratory-failure-induced circulatory collapse.
20 Q. Are you able to state a time that you
21 believe Dr. Kim reintubated the patient?
22 A. Not to the minute, but I would say very
23 shortly within a couple of minutes before a
24 circulatory collapse.
25 Q. Which you believe occurred at 1738?

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1 A. Well, I mean, that's what it says and I
2 believe that, yes. The other thing that's important
3 for all this is, and I think this applies to
4 Plaintiff or Defense, is anybody who's been involved
5 in a situation like this, nobody is standing around
6 synchronizing their watches and making sure that
7 everything is -- The charting is not -- I don't want
8 to say it's unimportant -- Hold on.
9 (Whereupon, a break was taken,
10 after which the following
11 proceedings were had:)
12 THE WITNESS: Let me start over. Sorry for
13 that interruption. That was not usual, somebody
14 coming this soon to check the trash, but at any rate,
15 I think any reasonable person will recognize that in
16 the midst of a medical crisis no one is synchronizing
17 their watches and charting is less important than
18 attending to the patient's needs. We have systems in
19 place that strive to make charting as accurate as
20 possible, but I've been a doctor for nearly 30 years
21 and timing discrepancies in the midst of a
22 resuscitation and a code I would say are more the
23 rule than the exception. So to try to precisely nail
24 these timeframes down and to make that the foundation
25 of your criticism or your opinion or whatever, to me,

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1 I think is flawed. So, rather, look at the -- look
2 at what you know about the biology here because that
3 doesn't lie. I'm not saying anyone is lying. But
4 biology is pretty reliable in terms of its
5 predictability. This case is a textbook case. It's
6 classic. You lose respiratory function. You
7 struggle. You try to reintubate. It's ultimately
8 successful, albeit with a struggle, and unfortunately
9 in the setting of hypoxemia and inadequate
10 ventilation, the patient culminates in circulatory
11 collapse. I mean, you know, again, I said this
12 already, I apologize for saying it again, I would
13 hope that my fourth-year medical student would read a
14 case on rounds and be able to explain what happened
15 here. This is not difficult in terms of causation.
16 BY MR. RYAN:
17 Q. I think you said that you would defer to
18 anesthesia on this, but I want to make sure, do you
19 have an opinion as to whether or not the amount of
20 reversal or the neuromuscular blockade played a role
21 in the patient's outcome?
22 A. I don't have an opinion.
23 Q. Do you believe that the patient's O2
24 saturations declined because she was still under the
25 effects of anesthesia?

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1 A. To the extent that that might have
2 contributed, I think it was a very tiny part of it
3 and the reason I say that is that she was in
4 respiratory distress. The effects of anesthesia in
5 general are going to lead to respiratory suppression,
6 not respiratory distress, and she didn't manifest
7 respiratory suppression, she manifests stress.
8 Q. Do you have an opinion as to the latest
9 point in time that the patient could have been
10 reintubated to avoid brain injury?
11 A. Not to the precise second, but I would say
12 very close to the end, in other words, you know, as I
13 said, when we're dealing with this kind of problem,
14 if you can get the endotracheal tube in before the
15 circulatory collapse, you usually have won this
16 battle. When the bradycardia starts, you're pretty
17 much out, so I would say prior to the bradycardia,
18 which is a very end result right before the arrest,
19 had she been intubated successfully that more likely
20 than not circulation collapse would not have ensued.
21 Q. Would you agree that it is possible for a
22 patient to be intubated 10 minutes to elapse to
23 experience a circulatory collapse --
24 A. Oh, sure.
25 Q. -- manifested initially with bradycardia?

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1 A. Yeah, and indeed that is plausible in terms
2 of what we know about biology. It's just
3 extraordinary less likely because over the course of
4 10 minutes it depends on how badly hypoventilation
5 and/or hypoxemia had accumulated up to that point,
6 the effectiveness of ventilation through the Ambu
7 bag, the effectiveness of blood perfusion to the
8 lungs in that setting, 10 minutes is a pretty long
9 time, so is it conceivable that 10 minutes and then
10 she has a respiratory-induced circulatory collapse,
11 it's conceivable. I already told you that I think it
12 is inconceivable that the primary event was cardiac,
13 and so to the extent that there's that 10-minute
14 hypothetical timeframe it still is conceivable, but
15 it would be unusual.

16 Q. So you believe it's possible for the patient
17 to have been intubated, 10 minutes to elapse, and
18 then experience a cardiac event, be it separate or
19 related to the initial respiratory event; is that
20 right?

21 A. In this case, no.

22 Q. That's not possible in this case?

23 A. In general? Well, it's possible, but I
24 would say it's less than 1 percent.

25 Q. Why do you say it's less than 1 percent?

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1 A. Because the nature of the problem speaks
2 dramatically in a different direction. She had
3 respiratory distress, she's hypoxemic, and she has
4 after a struggle to get reintubated, reestablishing a
5 circulation, I'm sorry, a respiratory status and then
6 for 10 minutes why would she be sitting in the
7 operating room for 10 minutes after intubation?
8 That's seems -- And just sitting there, what were
9 they doing? That would be not only just
10 pragmatically speaking she's intubated, it's not
11 going to take 10 minutes to put her on the bed and
12 get her out of the operating room and, secondly,
13 you've got all these other data that speak pretty
14 convincingly in a different direction, all the things
15 I already outlined so and, lastly, the biology just
16 doesn't resonate with that possibility with any
17 reasonable degree of likelihood. Is it impossible?
18 No, it's not impossible, but it would be, you know,
19 99.99 to 1, so that it's .01 that it happened where
20 the arrest was shortly before the intubation in my
21 view.

22 Q. When you say the biology doesn't align with
23 it, what do you mean?

24 A. Well, if you're intubated and ventilated for
25 10 minutes, whatever degree of respiratory

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1 dysfunction and dyshomeostasis you have, with
2 10 minutes of ventilation through an intact
3 endotracheal tube should be able to remedy that
4 problem.

5 Q. Okay.

6 A. So we've got an end point that I already
7 told you is primary respiratory based on what I know
8 about the biology. The alternatives, pulmonary
9 embolism and all these other things are just not
10 biologically plausible with any degree of
11 believability and then so that's the foundation upon
12 which you're sitting to answer these other questions
13 and then I'm saying, well, it's respiratory, if I
14 have 10 minutes to fix that problem, could it still
15 culminate in circulatory collapse on the basis of
16 respiratory problem? It's conceivable, but you'd
17 have to have really bad respiratory insufficiency to
18 take 10 minutes to remedy it.

19 Q. You mentioned that the patient was
20 hypoxemic; is that right?

21 A. Is that a question?

22 Q. Yeah. Did you say that? Did I hear that
23 right?

24 A. Yes.

25 Q. When was she hypoxemic?

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1 A. Well, I mean, we hear that her sats went
2 down to 91. I can't tell you the exact time stamp on
3 that, but it's at the beginning of her post
4 extubation timeframe.

5 Q. 91 percent wouldn't cause hypoxemia,
6 correct?

7 A. Well, 91 percent is hypoxemia.

8 Q. So is that what you mean when you say the
9 patient was hypoxemic, that her sats were 91 percent?

10 A. Well, that's the objective piece of data we
11 have with the subsequent difficulty ventilating her,
12 which leads me to say more likely than not that the
13 saturation, were it measurable, was lower, but we
14 don't have objective data probably because they
15 couldn't pick up a signal on the pulse oximeter,
16 which happens all the time.

17 Q. Or they were picking up a pulse oximeter and
18 nobody was recording it, like you mentioned about --

19 A. Yeah, that's possible.

20 Q. -- caring for the patient first and
21 recording?

22 A. Absolutely. It's just that -- First of all,
23 to answer your initial question, 91 percent is not
24 normal. 91 percent is dramatically abnormal. I
25 mean, if I put a pulse ox on any of us right now and

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1 it's 91 percent, I'd be telling you you need to come
2 to see me on Tuesday in clinic because something is
3 wrong with you. So is 91 percent so low that you're
4 about to arrest? As we already talked about, in
5 isolated tunnel vision vacuum, I would say I need
6 more information to answer that question. What is
7 the more information? She's not getting ventilated
8 effectively, so you have hypoxemia and hypercapnia
9 running together. That's more than enough to cause
10 this problem.

11 Q. When did hypoxemia end for Kim Max in your
12 opinion?

13 A. When did hypoxemia?

14 Q. End. When did it stop? When she was
15 intubated?

16 A. Well, once they reestablished the
17 circulation and she was intubated, it may take a few
18 minutes for the inadequate cardiac output to the
19 lungs to reestablish oxygenation, so probably be a
20 couple of minutes.

21 Q. After?

22 A. After circulation is reestablished.

23 Q. After return of spontaneous circulation?

24 A. Yes. Now, is it possible that while doing
25 CPR and she's intubated you're getting, if your

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1 sending enough blood to the lungs, 25 percent to
2 reoxygenate the blood? Sure. It's hard to measure
3 that because with CPR you almost never get a good
4 pulse ox signal. You can get a blood gas. I don't
5 think they did. But you can get a blood gas during
6 CPR and the patient is intubated and sometimes you'll
7 see the oxygen level is normal. What I generally say
8 what I see that is a couple things, first of all, the
9 endotracheal tube is in the right spot and, secondly,
10 you're doing pretty good CPR, so I don't know the
11 answer beyond that.

12 Q. You don't know whether or not her hypoxemia
13 ended at the point of intubation or continued through
14 until, like, 1752; is that right?

15 A. I don't. I don't think anyone can know
16 that.

17 Q. Okay. Can cardiopulmonary resuscitation
18 dislodge a pulmonary embolus?

19 A. I suppose it's possible, sure.

20 Q. Have you heard of that happening?

21 A. Yeah, but where would it go? It would go
22 downstream and still block the pulmonary circulation.
23 Have I heard of it happening? I've heard of people
24 presuming that could be a mechanism simply on the
25 basis of what we know about anatomy and what a blood

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1 clot will do when forces are subjected on the
2 circulation outside of it. Certainly not going to
3 dissolve the clot.

4 Q. It's not going to clear it?

5 A. No. No, that's impossible. That's why I
6 think Miss Vaske's fairly strong opinion that it was
7 pulmonary embolism is just not sensible. With all
8 due respect, she's wrong.

9 Q. Why do you say it was a strong opinion?

10 A. Well, the way she stated it, 22 years of
11 doing this and things of that sort, you know, I think
12 pulmonary embolism is -- massive pulmonary embolism,
13 I said, well, the problem with that opinion is if
14 that's true, then why did they get her circulation
15 back? That's inconceivable. And, in fact, Juco said
16 that. She agreed with that. To me, that's pretty
17 standard, pretty simple.

18 Q. What did you do to rule out a primary
19 cardiac event?

20 A. I used what I know about physiology.

21 Q. Okay. And what is it that allows you to
22 conclude it was not a primary cardiac event?

23 A. Because of the concomitant respiratory
24 events that are well-known to lead to cardiac events
25 and the basic principle that's stood the test of time

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1 called Occam's razor.

2 Q. Have you seen a copy of the deposition
3 notice in this case?

4 A. Yeah, I think I have it. Yes, I have seen a
5 copy of it.

6 Q. We marked a copy of your CV. We marked a
7 copy of your billing records. Both of those items
8 were requested in the deposition notice. There's a
9 number of other things that are requested in that
10 deposition notice. Do any of the other things exist?

11 A. Yes. All records relevant to the current
12 case, they exist, and I think I've known you that.
13 All notes, they don't exist. All depositions, I've
14 shown you that. All radiology studies, not the
15 original films, you asked me that question. Number
16 6, 7, 8, and 9, which are research, literature,
17 photographs, I mean, you can read it, but
18 demonstrative evidence, those don't exist.
19 Number 10, your contracts, agreements, billings.
20 Well, I showed you my billings. I don't have a
21 contract. Number 11, a copy of all contracts, seems
22 somewhat redundant, but it's just the billing. 12, I
23 don't have a list of medical malpractice cases.
24 13, an inclusive list of each and every medical-legal
25 referral group. I don't have that list. And then

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1 number 14 is copies of any and all deposition
2 transcripts in which you've testified in. I don't
3 have that.
4 Q. Have we talked about all your opinions in
5 this case?
6 A. I believe so, yes.
7 Q. Is there anything else that you think would
8 be important for a jury to understand about your
9 opinions other than what we already talked about?
10 MR. JENKINS: Object to form.
11 THE WITNESS: Nothing that comes to mind. I
12 mean, I suppose if other questions were asked that
13 touched on points from different perspectives, I
14 might have different answers, but in the absence of
15 that, nothing comes to mind.
16 MR. RYAN: I think those are all the
17 questions I have. Miss Bansal?
18 MR. JENKINS: Did you have any questions,
19 Monica?
20 MS. BANSAL: Yes, I do.
21 EXAMINATION
22 BY MS. BANSAL:
23 Q. Dr. Kress, I'm assuming that you had the
24 opportunity to review the complaint in this matter,
25 am I correct?

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1 A. Yes.
2 Q. I'd like to direct your attention to
3 paragraph 85 of the complaint, which is on page 17.
4 It indicates that Miss Max was caused to suffer
5 cardiopulmonary arrest resulting in anoxic
6 encephalopathy.
7 A. Yeah, I don't --
8 Q. What is that?
9 A. I don't have it in front of me, but, yeah,
10 anoxic encephalopathy, okay.
11 MR. JENKINS: I'm just going to object to
12 the form and the foundation and the relevance.
13 BY MS. BANSAL:
14 Q. My question is what exactly does the term
15 cardiopulmonary arrest resulting in anoxic
16 encephalopathy mean to you?
17 A. Well --
18 MR. JENKINS: Same objection.
19 THE WITNESS: Cardiopulmonary arrest means
20 that the heart stops working, stops pumping blood,
21 and the absence of blood flow with subsequent CPR so
22 there's reduced blood flow leads to inadequate blood
23 flow to the brain, which leads to death to the brain
24 cells because the oxygen level is low in the blood
25 and/or the blood is not flowing adequately to the

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1 brain.
2 BY MS. BANSAL:
3 Q. Do you believe that was the case with
4 Miss Max?
5 MR. JENKINS: Same objection.
6 THE WITNESS: Yes.
7 BY MS. BANSAL:
8 Q. And is there a difference between a
9 cardiopulmonary arrest and circulatory collapse? Is
10 there a difference between the two terms?
11 MR. JENKINS: Same objection.
12 THE WITNESS: Cardiopulmonary arrest and
13 what?
14 BY MS. BANSAL:
15 Q. Circulatory collapse.
16 A. Ultimately, no, they're the same. There's
17 no -- The circulation isn't functioning, there's no
18 blood flow.
19 Q. Did you have the opportunity to review the
20 Affidavit of Merit of Alan Schneider?
21 MR. JENKINS: Same objection.
22 THE WITNESS: I read his deposition. I
23 don't recall looking at the Affidavit of Merit.
24 MR. BANSAL: No? Steve, you can have a
25 standing objection if you like.

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1 MR. JENKINS: I'm going to object to this
2 form of questioning. It's a causation opinion. He's
3 not an anesthesiologist, he's not offering standard
4 of care, and you're parsing terminology that is
5 irrelevant to the opinions. It's form over
6 substance.
7 MS. BANSAL: That's fine. I'm still going
8 to ask my questions.
9 MR. JENKINS: Understand.
10 BY MS. BANSAL:
11 Q. I just wanted to represent to you that in
12 the Affidavit of Merit by Alan Schneider it indicates
13 that, "As a result of the breaches of the standard of
14 care, Kim Max suffered a cardiopulmonary arrest
15 secondary to hypoxemia." Now, my question is what
16 does the term cardiopulmonary arrest secondary to
17 hypoxemia mean to you?
18 A. Well, it's pretty much what we've outlined
19 in the numerous questions that I've been asked over
20 the course of the last few hours with regard to that
21 particular point. I mean, obviously, there were
22 other questions I was asked, but I think I've
23 explained it in detail.
24 Q. Do you believe that Mrs. Max's underlying
25 adrenal insufficiency contributed to her respiratory

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1 or circulatory collapse or distress in any way?
2 **A. No.**
3 Q. What is the basis of that opinion?
4 **A. The basis of that opinion is that the**
5 **mechanism of her cardiopulmonary arrest was**
6 **respiratory distress that culminated in circulatory**
7 **failure and the adrenal axis is not a physiologic**
8 **component with regard to that pathophysiology.**
9 MS. BANSAL: Thank you, I have no further
10 questions.
11 MR. JENKINS: I just have a couple for you,
12 Dr. Kress.
13 **EXAMINATION**
14 BY MR. JENKINS:
15 Q. Have you formed an opinion more likely than
16 not that had adequate ventilation been provided to
17 Kim Max prior to CPR being initiated 1738 whether the
18 outcome would have been prevented?
19 **A. I have.**
20 Q. And what is your opinion?
21 **A. That it would have been prevented.**
22 Q. And what is the basis of that opinion?
23 **A. Pretty much everything we already talked**
24 **about, that the patient is in respiratory distress**
25 **that is leading to lung not getting enough oxygen**

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1 into the blood and lung not getting rid of carbon
2 dioxide adequately, that's going to stress the heart
3 and eventually culminate in circulatory collapse.
4 Had reestablishment of ventilation and oxygenation,
5 which in this case would be hand-in-hand, been
6 established before the circulatory collapse more
7 probably true than not the circulatory collapse would
8 have been avoided.
9 Q. Do you have an opinion more likely than not
10 that had Kim Max been adequately ventilated prior to
11 the code called at 1738 whether the anoxic brain
12 injury would have been prevented?
13 **A. I do.**
14 Q. And what is your opinion?
15 **A. That it would have been prevented.**
16 Q. And what is the basis of that opinion,
17 notwithstanding what you've already testified to?
18 **A. Yeah, because the anoxic brain injury is the**
19 **product of her circulatory collapse, perhaps in**
20 **conjunction with the hypoxemia, and the key is to**
21 **prevent the heart from -- the circulation in the**
22 **heart from collapsing. If you do that, more probably**
23 **true than not the patient will not suffer anoxic**
24 **encephalopathy.**
25 Q. Based on your review of the medical records,

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1 the EEGs postoperatively, the CT scans
2 postoperatively, would you consider the anoxic brain
3 injury serious cognitive impairment for Miss Max?
4 MR. RYAN: Form and foundation.
5 **THE WITNESS: Oh, certainly. I mean, she's**
6 **got severe anoxic brain injury. She's not able to**
7 **interact or communicate. And those findings in**
8 **conjunction with this type of arrest unfortunately**
9 **are fairly common.**
10 BY MR. JENKINS:
11 Q. Do you have an opinion as to whether had she
12 been kept alive, she would have been able to perform
13 activities of daily living at any point in the
14 future?
15 **A. I do have an opinion.**
16 Q. What is your opinion?
17 **A. She would not have been able to.**
18 MR. JENKINS: I have no further questions.
19 MR. RYAN: I have hopefully one.
20 **FURTHER EXAMINATION**
21 BY MR. RYAN:
22 Q. Mr. Jenkins used the term adequately
23 ventilated or inadequately ventilated. How do you
24 define that term?
25 **A. Well, in this case it was that she was not**

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1 **adequately ventilated enough to avoid having**
2 **circulatory collapse.**
3 Q. So your opinion is if she had been
4 ventilated enough to avoid circulatory collapse, she
5 would have avoided circulatory collapse?
6 **A. Yes.**
7 Q. Okay.
8 **A. I mean, so that sounds crazy, but let me**
9 **explain. Circulatory collapse is the end result of**
10 **inadequate ventilation. Had she been ventilated**
11 **enough, more, better -- better sounds judgmental, I'm**
12 **not here to judge. I'm here to tell you what I**
13 **understand about the physiology, but more effectively**
14 **than she was, to the extent that the more effective**
15 **ventilation would have avoided the bradycardia and**
16 **subsequent circulatory collapse, then that would have**
17 **been -- that wouldn't have resulted.**
18 Q. And the basis for you saying that the
19 ventilation was inadequate is the subsequent
20 cardio -- circulatory collapse?
21 **A. Oh, Absolutely, yes.**
22 MR. RYAN: Okay. That's all I have.
23 MR. JENKINS: Any other questions?
24 MR. RYAN: I'm all done.
25 MS. BANSAL: I'm done.

1 MR. RYAN: I'll order the original, E-tran.
2 MR. JENKINS: I'd like an E-tran copy.
3 MS. BANSAL: E-tran copy, also.
4
5 (The deposition was concluded at 1:25 p.m.)
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1
2 STATE OF ILLINOIS)
3) SS:
4 COUNTY OF C O O K)
5
6
7 BARBARA G. SMITH, being first duly sworn on
8 oath says that she is a court reporter doing business
9 in the City of Chicago; that she reported in
10 shorthand the proceedings given at the taking of said
11 deposition and that the foregoing is a true and
12 correct transcript of her shorthand notes so taken as
13 aforesaid and contains all the proceedings given at
14 said deposition.
15
16 
17
18 Barbara G. Smith, CSR, RPR
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22
23 SUBSCRIBED AND SWORN TO
24 before me this 24th day
25 of September, A.D., 2018.

Notary Public

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