

# Exhibit 614

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DEPOSITION SUPPORT INDEX

DIRECTIONS NOT TO ANSWER:

PAGES: None

REQUESTS FOR DOCUMENTS OR INFORMATION:

PAGES: None

STIPULATIONS AND/OR STATEMENTS:

PAGES: None

MARKED QUESTIONS:

PAGES: None

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## WITNESS

## PAGE

STEPHEN MICHAEL GOLLOMP, M.D.

By Mr. Dowling

8

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## EXHIBIT

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Welch)

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(Exhibits Gollomp 1 through  
7 were premarked.)

1 THE VIDEOGRAPHER: Good  
2 morning. We are now on the  
3 record. My name is Chris Clee.  
4 I'm a videographer for Golkow, a  
5 Veritext division. Today's date  
6 is July 25th, 2025, and the time  
7 is 9:05 a.m. Eastern Standard  
8 Time.

9 This video deposition is  
10 being held in the matter of Camp  
11 Lejeune Water Litigation. The  
12 deponent is Dr. Stephen Michael  
13 Gollomp.

14 Will counsel please  
15 introduce themselves?

16 MR. DOWLING: Mike Dowling,  
17 Plaintiffs' co-lead counsel,  
18 Raleigh, North Carolina, on behalf  
19 of the Plaintiffs, and in  
20 particular, Robert Welch and Diane  
21 Rothchild.

22 MR. BLANCO: Alejandro  
23 Blanco, also out of -- also for  
24 Plaintiffs, Glendale, California.



1 MS. ELLISON: Anna Ellison  
2 on behalf of the United States  
3 Department of Justice.

4 MR. TURNER: And Joseph  
5 Turner on behalf of the United  
6 States Department of Justice.

7 THE VIDEOGRAPHER: The court  
8 reporter is Eileen Barth, who will  
9 swear in the witness.

10 STEPHEN MICHAEL GOLLOMP,  
11 M.D., having been duly sworn, was  
12 examined and testified as follows:

13 BY MR. DOWLING:

14 Q. Good morning, Dr. Gollomp.

15 A. Good morning, Mr. Dowling.

16 Q. We briefly introduced  
17 ourselves beforehand, but as you  
18 indicated, my name is Mike Dowling. I  
19 represent the Plaintiffs, and we're here  
20 to take your deposition today.

21 Is that your understanding?

22 A. That is my understanding as  
23 well.

24 Q. I'm going to hand you a

1 document which has been premarked as  
2 Exhibit 1 to your deposition.

3 MR. DOWLING: Do you need a  
4 copy of that, Madam Court  
5 Reporter?

6 BY MR. DOWLING:

7 Q. Take a minute to review that  
8 document, Dr. Gollomp.

9 A. Okay.

10 Q. Do you recognize the  
11 document that's Exhibit 1?

12 A. Yes, I do.

13 Q. And it is actually two  
14 documents that have been combined.  
15 There's a Subpoena to Testify at a  
16 Deposition in a Civil Action and then  
17 there's a schedule to the subpoena as  
18 well, and there is also a notice of the  
19 deposition.

20 Did you receive all three of  
21 those documents?

22 A. Yes. I think I received  
23 them as a package of two, but I recognize  
24 them.

1           Q.       Okay. And so you understand  
2 the subpoena is a command for you to come  
3 today and provide your testimony in  
4 regards to the cases of Robert Welch and  
5 Diane Rothchild pending in the Eastern  
6 District of North Carolina?

7           A.       Yes, I understand that.

8           Q.       And you understand you're  
9 under oath at this moment and you will be  
10 throughout the course of this deposition?

11          A.       I do.

12          Q.       You understand that if you  
13 provide any materially false information,  
14 that that is the crime of perjury and is  
15 not allowed?

16          A.       I understand.

17          Q.       And you also understand that  
18 omitting any material information in  
19 response to a question is not allowed?

20          A.       I understand that as well.

21          Q.       Turning to the attachment,  
22 or Schedule A to the deposition, did you  
23 spend any time reviewing the specific  
24 requests for documents in Schedule A?

1           A.       Yes, I did review it.   Yeah.

2           Q.       How much time did you spend  
3 reviewing Schedule A?

4           A.       I can't tell you exactly,  
5 but probably 10 or 15 minutes.

6           Q.       Okay.   And then on Page 5 of  
7 Schedule A, there begins a section  
8 entitled Requests For Production.

9                   Do you see that, sir?

10          A.       Yes.

11          Q.       Did you review those  
12 specific numbered requests for  
13 production?

14          A.       Yes, I did.

15          Q.       Did you search your files,  
16 your records, your email accounts, and  
17 anywhere else there may be responsive  
18 materials for the requested documents?

19          A.       Yes, I did.

20          Q.       How long did you spend  
21 searching your files and materials and  
22 emails for the requested documents?

23          A.       Again, I can't tell you very  
24 specifically, but probably somewhere in

1 the range of a half hour or so.

2 Q. Okay. And you've produced a  
3 copy of your CV, which we have. Thank  
4 you for that.

5 A. You're welcome.

6 Q. And in terms of your billing  
7 invoices, have you provided all your  
8 billing invoices to your counsel for  
9 production?

10 A. Yes.

11 Q. Do you know approximately  
12 how many invoices that was?

13 A. Maybe eight, nine; somewhere  
14 in that range.

15 Q. And following up on Request  
16 Number 3, I don't believe I saw a  
17 produced retention letter or a contract.

18 Do you have a written  
19 contract with the Department of Justice?

20 A. I know there is one, but I  
21 don't have one directly because there's  
22 an intermediary involved.

23 Q. Okay. Who's the  
24 intermediary?

1 A. Versed Experts.

2 MS. ELLISON: And just for  
3 the record, I believe we did  
4 produce contracts. If you didn't  
5 receive them, we can follow up  
6 after, but --

7 MR. DOWLING: That's fine.

8 MS. ELLISON: -- if they  
9 were unintentionally omitted.  
10 Yeah.

11 MR. DOWLING: I'm not  
12 suggesting they were intentionally  
13 omitted. I just -- I did not see  
14 them. It's possible they were in  
15 the production.

16 BY MR. DOWLING:

17 Q. But to be clear, you do  
18 believe there's a contract between an  
19 entity and the Department of Justice, and  
20 you are working under that contract?

21 A. Correct.

22 Q. And are you an employee of  
23 that entity?

24 A. No.

1 Q. You're a consultant?

2 A. Consultant, expert;  
3 whatever.

4 Q. And is this entity --  
5 describe the entity for me.

6 A. As best as I understand  
7 them, they act as a go-between as far as  
8 seeking experts in various medical  
9 issues. And I've worked with this team a  
10 number of times --

11 Q. Okay.

12 A. -- over the years.

13 Q. How many times do you think  
14 you've worked with them?

15 A. Oh, probably 15, 20 times,  
16 easily. I know the principal. I  
17 certainly have worked with him.

18 Q. Okay. And can you describe  
19 your financial arrangement with that  
20 entity?

21 A. Sure. They compensate me on  
22 an hourly basis subject to invoices I  
23 send to them, and then I believe they  
24 reimburse them. And they must take some

1 percentage; I don't know exactly what  
2 that is.

3 Q. So you're not aware of the  
4 details of how the entity itself is  
5 compensated?

6 A. No. I don't know the exact  
7 details.

8 MS. ELLISON: And I should  
9 clarify just for the record  
10 because I don't -- I want to make  
11 sure I didn't misstate anything.

12 To the extent that there are  
13 any contracts between Dr. Gollomp  
14 and the United States, they would  
15 have been produced, but that was  
16 how Number 3 was interpreted and  
17 responded to.

18 MR. DOWLING: Okay. Thank  
19 you.

20 BY MR. DOWLING:

21 Q. In regards to the work you  
22 did to search for responsive documents,  
23 did you search your email account?

24 A. Yeah, I did, actually.



1 Q. And did you find any  
2 responsive documents?

3 A. Nothing specific outside of  
4 what we already know.

5 Q. Okay. And I'm not asking  
6 about emails to the lawyers at the  
7 Department of Justice.

8 A. Oh, okay.

9 Q. But did you find any emails  
10 with anyone else that would be responsive  
11 to these requests?

12 A. No. No.

13 Q. Okay. Is this the first  
14 engagement you've had, whether with  
15 Versed or not, where you've done work for  
16 the benefit of the United States?

17 A. Yes, it is.

18 Q. It's Versed, right, is the  
19 --

20 A. Yeah. Yeah, it's Versed. I  
21 think that's how they pronounce it. And  
22 they changed their name recently and they  
23 moved their office. I don't know exactly  
24 where their office is. I've never set

1 foot there.

2 Q. Okay.

3 I'm going to hand you a  
4 number of other exhibits just to speed  
5 things up, if you'll bear with me for a  
6 second.

7 MS. ELLISON: And, Mike, I  
8 don't believe Number 3 was handed  
9 to Dr. Gollomp. I don't know if  
10 you intended --

11 MR. DOWLING: Did you -- I  
12 thought I had an extra. That  
13 would explain it. I've got one  
14 here. Sorry about that.

15 THE WITNESS: That's all  
16 right.

17 BY MR. DOWLING:

18 Q. Did I give you 5 yet?

19 A. No.

20 Q. What did I do with the other  
21 ones? I'm going crazy here.

22 MR. DOWLING: Can we go off  
23 the record real quick? I just  
24 need to get my documents in order.

1 THE VIDEOGRAPHER: Going off  
2 the record. The time is 9:14 a.m.

3 (Whereupon, a discussion was  
4 held off the record.)

5 THE VIDEOGRAPHER: We are  
6 now back on the record. The time  
7 is 9:15 a.m.

8 BY MR. DOWLING:

9 Q. Dr. Gollomp, I've handed you  
10 a number of exhibits that have been  
11 premarked as Exhibits 2 through 7.

12 Do you have those in front  
13 of you?

14 A. Yes, I do.

15 Q. Okay. And just very  
16 briefly, do you recognize the document  
17 that's been admitted as Exhibit 2?

18 A. Yes.

19 Q. What is that document?

20 A. That is the expert report I  
21 issued on Diane Rothchild.

22 Q. Okay. And is this expert  
23 report a complete and accurate written  
24 statement of the opinions you hold as of

1 today's date regarding Diane Rothchild?

2 A. Yes.

3 Q. And do you have in front of  
4 you Exhibit 3?

5 A. Yes.

6 Q. Now, I'll state for the  
7 record that this is a portion of Exhibit  
8 3, the first three pages, because the  
9 remainder of Exhibit 3 is over 130 pages  
10 of Bates-stamped documents.

11 But subject to that  
12 explanation, do you recognize Exhibit 3?

13 A. Well, I recognize many of  
14 the things -- many of the reports it's  
15 citing and the names of the authors. So,  
16 yeah, I do recognize it, not necessarily  
17 in this specific format because I've seen  
18 the bigger document.

19 Q. Okay. Exhibit 3, the title  
20 is, Stephen Gollomp, M.D. - List of  
21 Materials Considered, and there are a  
22 series of bullet points listed here.

23 Did you make this document?

24 A. I did not make this document

1       myself, no.

2               Q.       Do you know who made this  
3       document?

4               A.       I do not know.

5               Q.       Did you review this document  
6       at any time before I handed it to you a  
7       few minutes ago?

8               A.       I have not seen this  
9       document in this form before, though I'm  
10       very familiar with what the report's  
11       citing.

12              Q.       What form of this document  
13       have you seen before?

14              A.       The full -- full  
15       hundred-somewhat page compilation.

16              Q.       So in other words, with the  
17       130-page listing of Bates stamps  
18       afterwards?

19              A.       Yes.   Yes.

20              Q.       I guess what I'm asking is  
21       did you sit down at some point in the  
22       past --

23              A.       Uh-huh.

24              Q.       -- and type up this portion

1 of this document?

2 A. No. That's what I'm saying,  
3 is I didn't type up this portion of the  
4 document.

5 Q. And you don't know who did?

6 A. I'm not sure, no.

7 Q. And did you have any input  
8 into creating this portion of this  
9 document?

10 MS. ELLISON: Objection.

11 To the extent that it has to  
12 do with any communications that we  
13 had, I'll instruct you not to  
14 answer.

15 But if you can answer  
16 without discussing anything we  
17 discussed, you're free to.

18 THE WITNESS: Yeah.

19 Like I said, I'm not sure  
20 how this was generated. I  
21 certainly recognize all of these  
22 documents cited, but I did not  
23 type this compilation.

24 BY MR. DOWLING:

1           Q.       Is it fair to say that this  
2       was not a part of the work that you  
3       billed anyone for, creating this  
4       document?

5                   MS. ELLISON:   Objection;  
6       form.

7                   MR. DOWLING:   What's your  
8       objection?

9                   MS. ELLISON:   Form?

10                  MR. DOWLING:   Yeah.

11                  MS. ELLISON:   I didn't  
12       understand your question.

13                  MR. DOWLING:   I'll repeat  
14       it.

15       BY MR. DOWLING:

16           Q.       Is it fair to say that you  
17       did not bill anyone for generating  
18       Exhibit 3?

19           A.       That is correct.

20           Q.       And you said that you  
21       recognize these materials, I think,  
22       generally. Is that how you testified?

23           A.       Oh, I recognize almost all  
24       of them very specifically.

1 Q. Is that from -- in what  
2 context do you recognize these materials?

3 A. Because I reviewed them;  
4 again, a much larger, full compilation.

5 Q. Okay.  
6 Do you have Exhibit 4 in  
7 front of you? Do you recognize Exhibit  
8 4?

9 A. Yes, I do.

10 Q. Okay. What is Exhibit 4?

11 A. Exhibit 4 is referencing  
12 medical records on Diane Rothchild.

13 Q. Okay. And this is entitled  
14 a Supplemental List of Materials  
15 Considered.

16 A. Uh-huh.

17 Q. Did you generate the  
18 document that is reflected in Exhibit 4?

19 A. No. No, I did not generate  
20 it.

21 Q. Do you have in front of you  
22 Exhibit 5?

23 A. I do.

24 Q. Do you recognize Exhibit 5?



1 A. I do.

2 Q. What is Exhibit 5?

3 A. Exhibit 5 is my expert  
4 report on Robert Welch.

5 Q. Is your expert report on  
6 Robert Welch a complete and accurate  
7 listing -- does it reflect a complete and  
8 accurate listing of your opinions that  
9 you hold regarding Mr. Welch as of today?

10 A. Yes.

11 Q. Is there any material  
12 information that you did not include in  
13 this report?

14 A. No.

15 Q. Is there any material  
16 information that you did not include in  
17 Ms. Rothchild's report, which is in  
18 Exhibit 2?

19 A. No.

20 Q. Turning to Exhibit 6, do you  
21 recognize Exhibit 6?

22 A. Again, similar to what I  
23 said about Exhibit 3, I definitely  
24 recognize the materials that this listing

1       cites, but I did not generate this  
2       specific bullet-pointed listing.

3               Q.       Okay. And you don't know  
4       who did?

5               A.       No, I do not.

6               Q.       And again, for the record,  
7       Exhibit 6, which is entitled Stephen  
8       Gollomp - List of Materials Considered,  
9       it's a portion of your materials  
10       considered, but there's, I believe, over  
11       200 pages in addition to this one that,  
12       for the sake of the environment, I did  
13       not print out and admit here.

14                      But suffice it to say you  
15       recognize the materials on this list?

16               A.       Yes. Yes, and I recognize  
17       the bulk -- you know, the size of the  
18       materials that this is attempting to make  
19       sure we have a catalog of, actually.

20               Q.       Okay. And, finally, Exhibit  
21       7, sir. Do you recognize Exhibit 7?

22               A.       Yes.

23               Q.       What is Exhibit 7?

24               A.       Again, Exhibit 7 is

1       referencing medical records particularly  
2       from Kaiser -- but not just on Kaiser,  
3       but mostly since that's where Mr. Welch  
4       got most of his medical care -- in  
5       reference to Mr. Welch.

6               Q.       And did you provide any  
7       input or do any of the work to generate  
8       Exhibit 7?

9               A.       No, I did not generate  
10       Exhibit 7.

11              Q.       Okay. Tell me how you got  
12       involved in the case, Dr. Gollomp.

13              A.       Yeah. I was approached by  
14       Versed to become involved in this case,  
15       and I'm going to guesstimate it was  
16       probably sometime in the fall of '24. It  
17       may have been early '25. I don't  
18       remember the exact dates, but somewhere  
19       in there.

20              Q.       And who approached you at  
21       Versed?

22              A.       Oh, I don't remember  
23       specifically. I don't remember  
24       specifically. I know several of the

1 members of the team there and I've worked  
2 with them before, and I can't remember  
3 off the top of my head.

4 Q. Are the people at Versed --  
5 are they, themselves, doctors, or do  
6 they --

7 A. No. No.

8 Q. And was the person who  
9 approached you someone you'd worked with  
10 on a prior case?

11 A. Oh, I'm sure of it. I'm  
12 sure of it.

13 Q. And do you recall what was  
14 said during the initial conversation in  
15 the fall of 2024?

16 A. Yeah, I do. They said to me  
17 they were looking for an expert in  
18 Parkinson disease. They had -- there had  
19 been a relationship with another expert  
20 who could no longer participate, and they  
21 asked me if I would be able and willing  
22 to participate and assist.

23 Q. In that initial  
24 conversation, did the individual at

1 Versed tell you that it would be -- the  
2 work would be for the Department of  
3 Justice?

4 A. Yeah, he told me. Yeah,  
5 sure. Sure.

6 Q. And did he indicate to you  
7 the nature of the assignment?

8 A. Yeah. He gave me a rough  
9 idea, for sure.

10 Q. Did he in any way indicate  
11 to you that the client, the Department of  
12 Justice, was looking for an expert  
13 specifically to rebut the Plaintiffs'  
14 allegations in this case?

15 A. Well, I don't know if he  
16 framed it that way, but he said they were  
17 looking for an expert to analyze the  
18 cases.

19 Q. And so there was no  
20 suggestion to you one way or another as  
21 to what kind of opinion they were looking  
22 for from your perspective? They could  
23 have been looking for a plaintiffs' --

24 MS. ELLISON: Objection;

1 form.

2 BY MR. DOWLING:

3 Q. From your perspective, they  
4 could have been looking for a plaintiff's  
5 position?

6 A. Well, I didn't appreciate  
7 that it was from the plaintiffs'  
8 position. I thought it was from the  
9 defense position -- also because I know  
10 Versed usually does defense type of  
11 things. So I pretty much figured that  
12 out.

13 Q. Okay. So even if it wasn't  
14 like, hey, expressly, we need you to  
15 testify for the defense, you sort of  
16 understood that's what this assignment  
17 would be?

18 MS. ELLISON: Objection;  
19 form.

20 THE WITNESS: Yeah, I  
21 assumed it was probably the case  
22 having had a relationship with  
23 them before.

24 BY MR. DOWLING:

1 Q. Okay.

2 And so do you remember when  
3 in the fall, what month that would that  
4 -- that contact would have happened?

5 A. I'm thinking  
6 November/December time frame. If it  
7 wasn't then, it would have been January.  
8 I just don't remember exactly.

9 Q. Okay. And did you take any  
10 time to consider whether to take the  
11 assignment, or did you accept right away?

12 A. No. I thought about it for  
13 a couple of weeks.

14 Q. And what did you think about  
15 during those weeks?

16 A. Well, I thought about the  
17 time commitment involved and whether I  
18 could do it, whether I could fit it into  
19 my schedule.

20 Q. And just briefly -- I'm sure  
21 you are a busy guy -- but were you  
22 concerned about whether you had the  
23 resources and the capacity to do the  
24 assignment?

1           A.       Well, I know I have  
2 resources; I know I have the capacity. I  
3 just didn't know if I had the time.

4           Q.       Fair enough. And that was a  
5 bad question on my part.

6                    But why did you feel like  
7 you may not have the time to do it?

8           A.       Well, I'm a busy clinician,  
9 even though I'm not as busy as I once was  
10 earlier in my career because I've chosen  
11 to cut back somewhat, but -- and I have,  
12 obviously, many obligations, both  
13 clinical as well as administrative as  
14 well as consulting work that I do both  
15 for the pharma industry as well as for  
16 the legal world, both defense and  
17 plaintiffs, and I just didn't know if I  
18 could make it all work.

19           Q.       Okay. So let's break that  
20 down, then, so that -- this is my one  
21 bite at the apple.

22           A.       Yeah, yeah. I hear ya.

23           Q.       I'd love to figure out what  
24 your professional life entails.



1                   So you, obviously, are doing  
2 consulting work in a legal capacity?

3                   A.       Absolutely.

4                   Q.       That's what you're doing  
5 here today?

6                   A.       Right.

7                   Q.       Is all of your consulting  
8 work through Versed?

9                   A.       Oh, no. Not at all.

10                  Q.       Do you do consulting work  
11 for other independent law firms?

12                  A.       Yes.

13                  Q.       Are those defense law firms  
14 or plaintiffs' firms?

15                  A.       Both.

16                  Q.       Both. And --

17                  A.       Including this one that  
18 we're sitting in.

19                  Q.       You've done work for this  
20 Anapol Weiss firm?

21                  A.       Uh-huh. Sure.

22                  Q.       And what percentage -- and,  
23 obviously, this is something that -- you  
24 didn't bring your general ledger in

1       here -- but what percentage --

2               A.       Yeah. I'm not sure I would  
3       know, actually, but that's okay.

4               Q.       What percentage from just  
5       your best good faith estimate of your  
6       professional time is spent on legal  
7       consulting?

8               A.       Probably about 10, 15  
9       percent.

10              Q.       Okay. And you said, then,  
11       you're a clinician as well?

12              A.       Yes.

13              Q.       A medical doctor?

14              A.       Yes.

15              Q.       A practicing neurologist?

16              A.       Correct.

17              Q.       And what percentage of your  
18       time is spent in that capacity, your  
19       professional time?

20              A.       About 80 percent.

21              Q.       Eighty percent. Okay.

22                      And then there's a residual  
23       small amount of time that you're doing  
24       something else?

1           A.       Yeah. Yeah. I do  
2 consulting to pharma and the medical  
3 device industry.

4           Q.       Okay. And what's the nature  
5 of that consulting?

6           A.       Both direct scientific  
7 consulting as well as speaking for them  
8 as well as a certain amount of research  
9 and reviewing of data.

10                   And what I left out was, of  
11 course, publications. I'm the editor of  
12 a journal called Practical Neurology, and  
13 I spend it -- it depends on the amount of  
14 time I need to spend, but I'm certainly  
15 involved in that as well reviewing the  
16 panoply of what's going on in neurology  
17 and helping to get it out there.

18           Q.       In terms of -- so you have  
19 an employment relationship with pharma  
20 companies?

21           A.       Consulting.

22           Q.       Consulting?

23           A.       Yeah.

24           Q.       So they issue you a 1099?

1 A. Yes.

2 Q. Okay. Is it more than one  
3 pharmaceutical company?

4 A. Oh, yeah.

5 Q. How many pharmaceutical  
6 companies?

7 A. Let me think for a second.  
8 That obviously varies depending upon the  
9 ebb and flow of the pharmaceutical  
10 industry, but at this time, probably  
11 about three or four, and then two -- two  
12 or three device companies right now.

13 Q. When did you start  
14 consulting for either pharmaceutical  
15 companies or medical device companies?

16 A. Over 40 years ago.

17 Q. And so you've consistently,  
18 over the course of 40 years, provided  
19 consulting services to the pharmaceutical  
20 industry and to the medical device  
21 industry?

22 A. Oh, yeah. Sure.

23 Q. Do you have a sense of how  
24 much in terms of gross income you've

1 generated from that consulting work?

2 A. Over what time frame?

3 Q. Over the 40 years that  
4 you've done it.

5 A. I have -- I have no idea,  
6 Mr. Dowling, but -- you know, I have a  
7 rough idea on an annualized basis; but  
8 over 40 years, I have no idea.

9 Q. Can you give us a rough idea  
10 on an annualized basis?

11 A. On an annualized basis, it  
12 probably comes out -- the consulting work  
13 comes out between 50 and 100K a year.

14 Q. Just for the pharma and  
15 medical device?

16 A. Yes.

17 Q. And then in terms of your  
18 legal consulting which you do, do you  
19 have a sense of, on an annualized basis,  
20 how much income you generate from that?

21 A. Yeah. Probably in the same  
22 range.

23 Q. And in terms of your  
24 neurology practice, on an annualized

1 basis, how much income are you generating  
2 from that?

3 THE WITNESS: Am I required  
4 to answer that?

5 MS. ELLISON: Yes.

6 And I'll just say it now, is  
7 that we'll mark this as  
8 confidential after the fact so  
9 that -- just so that you're aware  
10 and we have it on the record.

11 But, yes, answer the  
12 question.

13 BY MR. DOWLING:

14 Q. I'm not trying to --

15 A. No, no. And I just know  
16 from prior litigation, I know that I  
17 don't have to answer that question.  
18 That's why I was asking that.

19 Q. So for the record, we think  
20 it's relevant just to establish, you  
21 know, what your financial interests are.  
22 That's always --

23 A. Sure.

24 Q. -- fair game for any

1 witness.

2 A. Yeah. Yeah. So do you want  
3 to know the gross income of the practice,  
4 then?

5 Q. I would like to know -- so  
6 you're a partner in the practice?

7 A. I'm the sole proprietor. I  
8 am --

9 Q. You're the sole proprietor.  
10 So what's your net income?

11 A. Okay. That's fair. It's  
12 450K.

13 Q. And that's an approximation?

14 A. Yeah, that's an  
15 approximation. I happen to know my  
16 fiscal year just ended, so I have a  
17 pretty rough idea of what that number is.

18 MS. ELLISON: And I'll just  
19 say it again just so we have a  
20 clean record, we'll just mark that  
21 area as confidential after the  
22 fact.

23 MR. DOWLING: Of course.

24 And I -- yeah. We don't have any

1 dispute about that.

2 BY MR. DOWLING:

3 Q. So in reviewing your  
4 invoices -- and I did not bring them here  
5 today -- but I saw an invoice issued  
6 February 5th, 2025; February 28th, 2025;  
7 March 31st, 2025; April 30th, 2025; May  
8 31st, 2025; and June 30th, 2025. So  
9 about six invoices.

10 Does that comport with your  
11 recollection of how many invoices you've  
12 issued?

13 A. It sounds -- it sounds about  
14 right. I think I overestimated,  
15 actually, when you asked me earlier, but  
16 that's definitely in the ballpark for  
17 sure.

18 Q. And I added those invoices  
19 up and came up with an amount just over  
20 \$31,000 in terms of billed time under  
21 those invoices.

22 Does that sound consistent  
23 with your recollection of how much time  
24 you've billed the Government?



1           A.       Yeah, that sounds about  
2       right.

3           Q.       Is the 31,000, roughly, that  
4       you billed the Government in this  
5       engagement -- is that solely related to  
6       Mr. Welch and Ms. Rothchild's case, or is  
7       there other work that you performed for  
8       the Government outside of that?

9           A.       No, there's no other work  
10      outside. It's all related to this case.

11          Q.       And so there's no other  
12      cases that you've consulted with the  
13      Government on?

14          A.       No.

15          Q.       Do you have any unbilled  
16      time? I mean, you must if you prepared  
17      for this deposition.

18                    But beyond preparation for  
19      this deposition, do you have any unbilled  
20      time that you are going to submit to the  
21      Government in the near future?

22                   MS. ELLISON: Objection;  
23                   form.

24                   THE WITNESS: Yes, and I

1 don't know exactly what that  
2 number is because it's obviously  
3 very, very recent.

4 BY MR. DOWLING:

5 Q. Okay. All right.  
6 Are any of the -- strike  
7 that.

8 How many pharmaceutical  
9 companies over the course of your career  
10 did you say that you've consulted for?

11 A. Well, I don't think you  
12 actually asked me, and I'm not sure I can  
13 give you a precise answer because many of  
14 them have been acquired or changed names  
15 or don't exist anymore --

16 Q. Okay.

17 A. -- and many of them I've  
18 done research on. I've done many  
19 research projects that have been  
20 sponsored by pharma.

21 But I would guesstimate in  
22 the neighborhood of 25 or 30.

23 Q. And are you able to identify  
24 who some of those companies are?

1           A.       Oh, sure.

2           Q.       Can you tell me who they  
3       are?

4           A.       Yeah.   Sure.   Right now, I'm  
5       actively working with Neurocrine of -- I  
6       guess they're out of San Diego or near  
7       San Diego.   I'm trying to think who else.  
8                    I'm working with Amneal.

9           Q.       I'm sorry?

10          A.       Amneal -- A-M-N-E-A-L.  
11                   And who else am I working  
12       with right now?   I'm working with Merz,  
13       -- M-E-R-Z -- and I'm working with -- I  
14       have been doing some work with AbbVie --  
15       A-B-B-V-I-E.

16                   And I think those are the  
17       ones I have active relationships with  
18       right now.

19          Q.       And generally speaking, are  
20       these pharmaceutical companies ones that  
21       research and manufacture pharmaceuticals  
22       for the treatment of neurological  
23       disorders?

24          A.       Yes; all of them.

1 Q. All of them?

2 Do you work for any  
3 pharmaceutical companies that research or  
4 manufacture pharmaceuticals for anything  
5 other than neurological disorders?

6 A. I don't think so. No, I  
7 don't believe so.

8 Q. Do you know if Neurocrine,  
9 Amneal, Merz, or AbbVie -- any of them  
10 are affiliated in any way with any other  
11 entities, any larger entities?

12 A. No. They're pretty big  
13 themselves, so -- they're all pretty  
14 independent. Merz is privately held;  
15 Amneal, I'm not sure if they're publicly  
16 traded; AbbVie is very big, and they've  
17 acquired Allergan with whom I used to  
18 have a relationship, so -- they own  
19 Allergan now; and Neurocrine is publicly  
20 traded, but they're independent.

21 Q. Have you ever done any work  
22 for any company or person or entity in --  
23 strike that.

24 Have you ever done any work

1 for a company that researches,  
2 manufactures, or distributes solvents?

3 A. No, I haven't.

4 Q. What is the nature of the  
5 speaking engagements that you indicated  
6 you do on behalf of pharma companies?

7 MS. ELLISON: Objection;  
8 foundation, form.

9 BY MR. DOWLING:

10 Q. What's the nature of the  
11 speaking engagements -- I'll withdraw the  
12 question.

13 Can you recall any of the  
14 topics for the speaking engagements that  
15 you've conducted for pharmaceutical  
16 companies?

17 A. They basically -- when I've  
18 actually been speaking, the vast majority  
19 have been promotional for that specific  
20 product --

21 Q. Okay.

22 A. -- when I've actually spoken  
23 publicly.

24 Q. And who are the typical

1 audience members that you're speaking to?

2 A. Other physicians.

3 Q. Is the hope and intent,  
4 obviously, that these physicians will  
5 then prescribe those medications?

6 MS. ELLISON: Objection;  
7 form.

8 BY MR. DOWLING:

9 Q. You can answer.

10 A. Yes, obviously.

11 Q. Do you usually do a speaking  
12 engagement if you've done research on  
13 that particular drug, or are you brought  
14 in after the research is done? If there  
15 is a normal rhyme or reason to it, how  
16 does it typically work?

17 A. Yeah, that's interesting.  
18 It goes both ways.

19 Q. So there are times when you  
20 do the research, the pharma company pays  
21 you to do that, and then you do a  
22 speaking engagement to promote the drug?

23 A. Yes, it does happen, for  
24 sure.

1           Q.     And then there are times  
2     when some other researcher does the  
3     research and then you are paid to promote  
4     the drug to practitioners?

5           A.     Yeah.

6           Q.     Okay.   Have you -- and I  
7     don't mean any offense by this, but --

8           A.     Sure.

9           Q.     -- have you ever been  
10    charged with a crime other than a traffic  
11    offense?

12          A.     God forbid.   None of the  
13    above.

14          Q.     No traffic offenses?   That's  
15    impressive.

16          A.     Well, maybe one, one  
17    speeding ticket on Route 5 in Washington  
18    State 30 years ago on a Sunday morning.

19          Q.     Fair enough.  
20                   Have you ever been  
21    investigated by any kind of professional  
22    licensing board?

23          A.     No.

24          Q.     Have you ever been

1 investigated by any kind of hospital or  
2 medical group?

3 A. No.

4 Q. Have you ever had -- have  
5 you had a complaint or a grievance filed  
6 or lodged by a patient against you?

7 A. No.

8 Q. Have you ever had your  
9 ability to practice medicine suspended or  
10 restricted in any way?

11 A. No.

12 Q. And how long have you been a  
13 licensed medical doctor?

14 A. Since -- well, my first  
15 license was in Massachusetts in '77; so  
16 48 years.

17 Actually, I'm sorry. I  
18 misspoke. First license -- yeah. No.  
19 It would have been in the state of New  
20 York in '77.

21 Q. And you have an active  
22 license in the Commonwealth of  
23 Pennsylvania?

24 A. Yes.



1 Q. Do you have any active  
2 licenses anywhere else?

3 A. No. I have inactive  
4 licenses in Massachusetts, New York, and  
5 Delaware.

6 Q. Have you ever been a party  
7 to a lawsuit?

8 A. Yes.

9 Q. How many lawsuits have you  
10 been a party to?

11 A. Over that time, I think it's  
12 eight.

13 Q. Were you a plaintiff or a  
14 defendant in these lawsuits?

15 A. Defendant.

16 Q. Always?

17 A. Yes.

18 Q. Can you tell me what you  
19 recollect about the lawsuits? And if you  
20 want to just go one by one.

21 A. Sure. As best as I can  
22 recollect, sure, because they all go back  
23 quite a-ways.

24 Q. When was the first one,

1 where was it, and what was the nature of  
2 the lawsuit?

3 A. Sure. The first one was in  
4 the early 1980s, and it was for a woman  
5 who died of staphylococcal septicemia  
6 from an IUD, and, obviously, a very  
7 tragic thing. So I remember that. I  
8 know that settled.

9 Q. Were you her treating  
10 physician?

11 A. I was the treating physician  
12 at the time.

13 Q. Were you deposed in  
14 connection with that?

15 A. Yes.

16 Q. Did the case go to trial?

17 A. No.

18 Q. Oh, you said it settled.  
19 I'm sorry.

20 A. Yeah. That's all right.

21 Q. And essentially, the  
22 allegations were that there was  
23 negligence in the provision of care to  
24 her?

1           A.       Essentially, that's correct.

2           Q.       What about the next one?

3           A.       The next one that I remember  
4 was a young man -- well, he wasn't so  
5 young at that point -- who had a -- who  
6 had disabilities who had a what's called  
7 "ventriculoperitoneal shunt" in his  
8 brain, and that shunt failed. And I  
9 actually don't remember exactly what  
10 happened to him.

11                   And I was a secondary  
12 defendant in that case. I wasn't the  
13 primary treating doc, but I was named in  
14 that case. And that was sometime in the  
15 early 1980s as well.

16                   And then --

17           Q.       Can I stop you just to ask a  
18 follow-up on that one?

19           A.       Yeah. Sure. Sure, sure.

20           Q.       When you say "secondary  
21 defendant" and there was another  
22 physician involved, what was --

23           A.       The neurosurgeon --

24           Q.       The neurosurgeon?

1           A.       -- was named, and I think  
2       the primary defendant.

3           Q.       And so in this particular  
4       instance, there was a surgical -- a  
5       surgery, and something happened after  
6       that surgery?

7           A.       No, I don't think it was  
8       that. I think, if I remember -- again,  
9       the details are hazy, but the shunt had  
10      been put in and there was a failure of  
11      the device, and something amiss happened  
12      when the surgeon tried to fix it or  
13      didn't fix it. Again, I don't remember  
14      all the details.

15          Q.       Okay.

16          A.       And I happened to be the  
17      fellow's neurologist, and I got swept in  
18      on that.

19          Q.       And were you deposed in  
20      connection with that case?

21          A.       I'm pretty sure I was.

22          Q.       Did that case settle?

23          A.       I know it did. I don't know  
24      if it went to trial for the surgeon, but

1 I know I was not involved.

2 Q. And regardless of whether  
3 you admitted it or not, the allegation  
4 there was that you were negligent in  
5 providing care to this patient?

6 A. Yes.

7 Q. Same for the first?

8 A. Yes.

9 Q. The first case. I should be  
10 clear. I'm sorry.

11 A. Yeah, yeah. I know what you  
12 meant.

13 Q. Okay. How about the third  
14 one, to the extent you can recollect?

15 A. I believe that one was,  
16 again, sometime in those years, in maybe  
17 the mid-1980s. A woman had some type of  
18 surgical procedure. I keep thinking it  
19 was an ulnar nerve transposition, but I'm  
20 not sure. And she had an anoxic event  
21 and was left brain damaged. And I  
22 actually was called in after the fact,  
23 but was named in the case.

24 And I know that case

1 settled, but I don't -- I don't think I  
2 was actually even, you know, directly  
3 involved in that settlement at all.

4 Q. But you were a named party  
5 in that?

6 A. Yes. Yes.

7 Q. And the allegation was that  
8 you had been negligent in providing care  
9 to her?

10 A. Yeah, in some manner or  
11 another even though I came into the case  
12 after the event happened. And I can't  
13 remember if I was involved in a  
14 deposition or not --

15 Q. Okay.

16 A. -- but...

17 Q. Were -- all of these cases  
18 that we're talking about, were you  
19 affiliated with the same medical group at  
20 that time?

21 A. Well, I wasn't -- let me  
22 think for a second.

23 I think in all of the cases,  
24 I was independent, so there weren't any

1 other physicians directly affiliated with  
2 me at that time.

3 Q. And so the entity that was  
4 doing business was just Stephen M.  
5 Gollomp, M.D.?

6 A. Uh-huh. M.D., P.C., yeah.

7 Q. How about the fourth one?

8 A. Yeah. Let me think. I'm  
9 probably not remembering them all anyway.  
10 Yeah, I'm sorry. I don't  
11 remember any of the details of that one.

12 Q. Do you remember the details  
13 of numbers four, five, six, seven, or  
14 eight?

15 A. Yeah, I remember the eighth  
16 because that was the most recent one, and  
17 that was -- that's the only one that went  
18 to trial. And that went to trial, I  
19 guess, in 2018 or '19.

20 Q. Okay. And where was that  
21 case filed?

22 A. It was filed in Montgomery  
23 County, Pennsylvania.

24 Q. What were the names of the

1 plaintiffs?

2 A. Leach -- L-E-A-C-H. And the  
3 case was an allegation of failure to  
4 diagnose a condition called Wilson's  
5 disease -- W-I-L-S-O-N.

6 Q. What is Wilson's disease?

7 A. It's an inherited  
8 neurodegenerative disease involved with  
9 excessive accumulation of copper in the  
10 body.

11 Q. And that case went to trial?

12 A. It did.

13 Q. You were represented by  
14 counsel?

15 A. I was.

16 Q. Were there any other  
17 defendants?

18 A. Yes. There were several.  
19 Kelly Geary -- G-E-A-R-Y -- and --

20 Q. What is Ms. Geary?

21 A. She's a neurologist.

22 And then there was May  
23 Donovitch -- M-A-Y D-O-N-I -- or N-O --  
24 V-I-T-C-H. He's a generalist. He's



1       retired now.

2                       And there was one other  
3       generalist. And I can visualize him, but  
4       I can't remember his name.

5               Q.       And was -- the plaintiff's  
6       last name was Leach?

7               A.       Uh-huh.

8               Q.       Do you remember the first  
9       name?

10              A.       Kerry, I think. Kerry or  
11       Kelly. Either K-E-R-R-Y or K-E-L-L-Y.

12              Q.       And who was she represented  
13       by?

14              A.       A law firm by the name of  
15       Phillips in the Pittsburgh area.

16              Q.       What was the result of the  
17       trial?

18              A.       A defense verdict.

19              Q.       So a complete defense  
20       verdict?

21              A.       Yes.

22              Q.       Do you understand -- was it  
23       a finding of no liability at all?

24              A.       Correct.

1           Q.       And has that case resolved?  
2       It's not on appeal or anything?

3           A.       No.    It's long resolved.  
4                    Yeah.   Sorry.   I can't  
5       remember details of the others.   Nothing  
6       else has ever gone to court, so...

7           Q.       Were the other ones all in  
8       the Pennsylvania court system?

9           A.       Yes.   And they all date back  
10       before the mid-naughts; so before 2003,  
11       2004; or they may have just not even been  
12       in the 2000s at all.   They date back a  
13       long time.

14          Q.       In the Leach case, you  
15       understood the theory to be a failure to  
16       diagnose a disease; correct?

17          A.       Yes.

18          Q.       Was that a theory in any of  
19       the other cases?

20          A.       No.    No.

21          Q.       What were the theories in  
22       the other cases the best you recollect  
23       them?

24          A.       It was more failure --

1 negligence kind of questions. And again,  
2 I don't remember the details, but it  
3 wasn't a failure to diagnose.

4 Q. Some other kind of failure?

5 A. Right. Right.

6 Q. Have you seen or heard legal  
7 advertisements regarding contaminated  
8 water at Camp Lejeune?

9 A. I probably have.

10 Q. In what context?

11 A. Just on television.

12 Q. Do you have any opinion  
13 about the legal advertisements that  
14 you've seen regarding the contaminated  
15 water at Camp Lejeune?

16 A. None.

17 Q. Have the advertisements in  
18 any way affected your view of the Camp  
19 Lejeune water contamination?

20 A. No.

21 Q. In one way or another?

22 A. Correct; neither way.

23 Q. Dr. Gollomp, you have  
24 testified that you've provided legal

1 consulting services to lawyers in the  
2 past; correct?

3 A. Correct.

4 Q. And so you've written expert  
5 reports in other cases in addition --  
6 aside from this one?

7 A. Oh, yeah. Of course.

8 Q. How many expert reports do  
9 you think you've written over the years  
10 in the legal consulting?

11 A. Yeah, yeah. No, I  
12 understand the context of the question.  
13 I mean, it numbers into the  
14 hundreds --

15 Q. And --

16 A. -- over the 40-year time  
17 frame.

18 Q. -- those are expert reports  
19 where you're giving an opinion about a  
20 case?

21 A. Correct.

22 Q. Have you -- well, do you  
23 consider yourself an expert in  
24 toxicology?

1 A. No.

2 Q. Do you consider yourself an  
3 expert in genetics?

4 A. No, not specifically.

5 Q. In what way do you consider  
6 yourself an expert in genetics?

7 A. Well, relative to neurologic  
8 disease, I am extremely versed in the  
9 genetics of neurologic disease.

10 Q. Based on your review of  
11 scientific literature?

12 A. Both review of scientific  
13 literature as well as my ongoing practice  
14 where genetics plays a very heavy role in  
15 many neurologic diseases.

16 Q. Did you receive any  
17 education on topics related to genetics  
18 at any point in time?

19 A. Oh, yeah. Of course.

20 Q. When would that have been?

21 A. Certainly in medical school,  
22 but that's a long time ago, and anything  
23 that went on then in genetics is long  
24 out-of-date. And of course I've attended

1 lectures on genetics at various  
2 professional meetings, read any one of a  
3 number of journals about that, and even  
4 edited -- in Practical Neurology, edited  
5 and reviewed publications we've had on  
6 genetics and neurologic disease.

7 Q. Have you ever authored an  
8 expert report in which you held yourself  
9 out to be an expert in genetics?

10 A. No, not specifically. No.

11 Q. Have you ever sought or been  
12 qualified by a court as an expert in the  
13 subject of genetics?

14 A. Not in the broad sense, no.

15 Q. Do you consider yourself an  
16 expert in epidemiology?

17 A. No.

18 Q. Do you consider yourself an  
19 expert in risk assessment?

20 A. Not specifically, no.

21 Q. How do you -- what do you  
22 mean by that?

23 A. Yeah. I mean, when you  
24 drill it down in particular diseases,

1 particularly neurologic diseases -- for  
2 example, stroke, to a lesser degree heart  
3 disease -- that's part of the routine  
4 practice for a neurologist who's doing --  
5 who's taking care of people with stroke  
6 and vascular disease.

7 Q. So my question was about  
8 risk assessment, and let me just make  
9 sure I understand what you're saying.

10 Are you saying that your  
11 knowledge of stroke and heart disease  
12 gives you a basis to opine about risk  
13 assessment?

14 MS. ELLISON: Objection;  
15 form, foundation.

16 THE WITNESS: I meant very  
17 specifically in that realm of  
18 vascular risk disease.

19 BY MR. DOWLING:

20 Q. Okay. What about -- are you  
21 -- do you consider yourself an expert in  
22 environmental exposures?

23 A. No.

24 Q. Do you consider yourself an

1 expert in matters involving water  
2 contamination?

3 A. No.

4 Q. Have you ever authored an  
5 expert report dealing with water  
6 contamination?

7 A. No.

8 Q. And you've never testified  
9 as an expert on the subject of water  
10 contamination?

11 A. No.

12 Q. So this is your first case  
13 in which you've worked on matters of  
14 water contamination?

15 A. That is correct.

16 Q. Separate from water  
17 contamination, any kind of toxic  
18 exposures, have you ever provided an  
19 expert opinion in connection with some  
20 other kind of toxic exposure to a toxic  
21 substance?

22 A. Can you say the question  
23 again?

24 Q. Sure.



1                   So putting aside  
2       contaminated water --

3           A.       Right, right, right.

4           Q.       -- have you ever provided an  
5       opinion related to the subject of toxic  
6       exposure and Parkinson's disease?

7           A.       Well, certainly not in that  
8       realm.

9                   And what I was wondering,  
10       whether you were asking me about a  
11       medical situation where I've commented on  
12       toxic exposure versus legal situations.

13          Q.       So right now, I'm focusing  
14       on just your legal --

15          A.       Okay.

16          Q.       -- expert work, whether  
17       consulting or testifying, and I'm trying  
18       to put to one side the subject of toxic  
19       water contamination.

20          A.       Right. Understood.

21          Q.       And then I'm trying to get  
22       to every other type of toxic substance  
23       that someone could be exposed to.

24                   Have you ever provided an

1 expert opinion about any other toxic  
2 substance?

3 A. Legal realm?

4 Q. In the legal field.

5 A. No.

6 And the reason why -- and  
7 I'll clarify why I'm saying that, is that  
8 I definitely have seen consequences of  
9 toxic exposure, not legally in the  
10 setting of -- for example, the most  
11 common thing I see is chemotherapy for  
12 cancer where I've seen lots and lots --  
13 and, you know, it's not a legal thing.  
14 It's just the patient has a toxic  
15 neuropathy or cerebellar damage or that  
16 kind of thing.

17 So I definitely have seen  
18 and commented clinically on neurologic  
19 consequences of toxic exposure.

20 Q. And so that's in your  
21 capacity as a treating neurologist?

22 A. Correct.

23 Q. And you just gave the  
24 example of chemotherapy.

1           A.       Yes.

2           Q.       So let's shift over to as a  
3 practicing neurologist again.

4                   What other types of  
5 toxic-induced neurological disease have  
6 you seen in your clinical practice?

7           A.       Sure. Another very common  
8 thing, the development of tardive  
9 dyskinesia from certain psychiatric  
10 drugs, not an uncommon thing. And I can  
11 -- and most people would consider that a  
12 toxic reaction.

13                   Various neuropathies from  
14 alcohol, from chemicals from chemotherapy  
15 in particular. Cerebellar damage from  
16 various medications I've certainly seen.  
17 Even medications we use for seizures can  
18 sometimes cause chronic damage to the  
19 nerve and to the balance mechanism, et  
20 cetera.

21                   So this is the kind of thing  
22 as a practicing neurologist I've seen  
23 many times in my career and feel very,  
24 very competent to talk about.

1 Q. And there's a lot of  
2 different types of substances that you've  
3 seen that have caused neurological  
4 diseases in your patients?

5 A. Yes, for sure.

6 Q. How many patients --  
7 shifting back over to your role as a  
8 treating physician --

9 A. Uh-huh. Sure.

10 Q. -- how many patients have  
11 you treated over your career with  
12 Parkinson's disease?

13 A. Several thousands.

14 Q. And you just testified that  
15 you have, in fact, treated patients with  
16 -- well, have you treated patients with  
17 Parkinson's disease --

18 A. Uh-huh.

19 Q. -- that you have believed to  
20 be induced by some toxic exposure?

21 A. Not that I can specifically  
22 speak to, no.

23 Q. So you've seen thousands of  
24 patients over your career?

1           A.       I have.

2           Q.       And you testified a moment  
3 ago that you've seen many different toxic  
4 substances cause various neurological  
5 diseases.

6           A.       Correct.

7           Q.       But in those patients,  
8 you've never seen a patient whose  
9 Parkinson's disease was induced by toxic  
10 exposure?

11          A.       That is correct. I've  
12 wondered about a few where the  
13 psychiatric drugs might have induced  
14 Parkinsonism and might have caused  
15 chronic toxicity, but that's about the  
16 only example I can point to -- type of  
17 example that I can point to with any  
18 assurity. I've not seen anything else  
19 that I can point to over the thousands of  
20 patients over 40 years that I can say  
21 unequivocally that's been induced by a  
22 toxic exposure. And I've seen a lot of  
23 patients through the years.

24          Q.       I'm sure.

1           A.       And I continue to see many  
2       hundreds with Parkinson's alone.

3           Q.       You can't think of a single  
4       instance in which you saw any toxic  
5       substance-induced Parkinson's disease in  
6       any of your patients?

7                    MS. ELLISON:   Objection;  
8       form.

9                    THE WITNESS:   That is  
10       correct, outside of what I just  
11       mentioned.

12   BY MR. DOWLING:

13           Q.       Have you ever spoken to any  
14       of your colleagues in the medical  
15       community about toxic substances causing  
16       Parkinson's disease?

17           A.       Yes.

18           Q.       Have any of those  
19       individuals commented to you that they  
20       have treated individuals with  
21       toxic-induced Parkinson's disease?

22           A.       Yes.   Sure.

23           Q.       Is that a common thing that  
24       you've discussed over the years?

1           A.       Well, not so much now. But  
2       in the early to mid-1980s when Bill  
3       Langston was first reporting the patients  
4       with MPTP-induced Parkinsonism, that was  
5       something that -- you know, I have known  
6       Bill and his colleagues, and that was  
7       certainly a very high topic of  
8       conversation for a good decade, or more,  
9       actually, and still somewhat of a topic  
10      of conversation, but not so much now.

11          Q.       Do you believe acute MPTP  
12      exposure causes Parkinson's disease?

13          A.       In the right individual with  
14      the right dose, yes.

15          Q.       What is MPTP?

16          A.       I do not -- I cannot recite  
17      for you what MPTP stands for today.

18          Q.       Are you familiar with this  
19      -- I guess it was a case study that  
20      happened during that time period you're  
21      referencing where some individuals were  
22      exposed to MPTP?

23          A.       Yeah. It was about Dr. Bill  
24      -- William Langston's work at that time.

1           Q.       And what was the general, to  
2       the best of your recollection, gist of  
3       what happened there?

4           A.       Yeah. I mean, the gist was  
5       there were a series of people who were  
6       addicted to heroin who received a batch  
7       of -- I'm not quite sure. I don't  
8       remember the details of how this all  
9       happened, but they received some type of  
10      artificial opiate and it was contaminated  
11      with MPTP.

12                        So it wasn't actually heroin  
13      proper, but they were heroin addicts, and  
14      they received some type of synthetic  
15      substitute. It wasn't fentanyl. I don't  
16      remember now what it was. And MPTP was  
17      an inadvertent contaminate of that  
18      material that these people received.

19                        And they developed true  
20      Parkinsonism within a period of as  
21      quickly as several days to weeks, if I  
22      remember the reports.

23                        And again, this is sketchy.  
24      This was, you know, reported a long time



1       ago.

2                   THE COURT REPORTER:    Doctor,  
3       can you keep you voice up for me?

4                   THE WITNESS:    Oh, I'm sorry.

5                   THE COURT REPORTER:    Thank  
6       you.

7                   THE WITNESS:    Yeah.    Maybe I  
8       should take a swig.

9       BY MR. DOWLING:

10                Q.       And in your career, that was  
11       obviously a significant event and was  
12       likely discussed in the neurology  
13       circles; correct?

14                A.       Oh, yeah.

15                MS. ELLISON:    Objection;  
16       form, foundation.

17       BY MR. DOWLING:

18                Q.       You said "oh, yeah"?

19                A.       Oh, yeah.    Very much so.

20                Q.       Do you recall any  
21       discussions subsequent to that event  
22       about the mechanism of how the MPTP  
23       caused the Parkinsonisms?

24                A.       Yeah, I do.

1 Q. What was the mechanism of  
2 action?

3 A. Well, the mechanism of  
4 action was MPTP was converted to an  
5 ionized form of MPP+, so an anion, and  
6 that anion bound to -- I think it was  
7 complex I in the mitochondria, and  
8 impaired the mitochondrial metabolism of  
9 the substantia nigra cells.

10 Am I getting too technical?

11 Q. I need you to get a little  
12 technical there, but --

13 A. Okay.

14 Q. -- no. That's fine. Thank  
15 you.

16 A. Okay.

17 And by poisoning the  
18 mitochondria in these highly metabolic  
19 cells, it caused them to die off  
20 prematurely. So that was a real  
21 simplification.

22 Q. The MPTP, through some  
23 complex chemical interactions --

24 A. Specifically complex I of

1 the multiple complex molecules in the  
2 mitochondria. I can go on and on and on.

3 Q. That's fair.

4 But for -- and if you think  
5 my characterization isn't fair, just tell  
6 me, but --

7 A. Sure.

8 Q. -- for layman's terms,  
9 because we're not all going to have the  
10 experience you do.

11 The MTPT caused damage to --  
12 was it dopamagenic [sic] cells in the --  
13 or the mitochondrial cells in the  
14 substantia nigra?

15 A. Yeah. Let me try and  
16 clarify.

17 The mitochondria, which are  
18 the energy powerhouses of cells -- the  
19 mitochondria within the dopaminergic  
20 cells in the substantia nigra were  
21 essentially poisoned by this because  
22 their mitochondria failed, couldn't  
23 provide adequate energy for metabolism of  
24 those highly metabolizing cells, and

1       those cells died.

2               Q.       And that mechanism of action  
3       is something you accept as a valid  
4       scientific truth?

5               A.       Yes.

6                       MS. ELLISON:   Objection;  
7       form, foundation.

8       BY MR. DOWLING:

9               Q.       That's a known effect of  
10       acute MPTP exposure?

11                      MS. ELLISON:   And same  
12       objection.

13                      THE WITNESS:   Yes.

14       BY MR. DOWLING:

15               Q.       And are you aware of any  
16       other scientific research which has  
17       studied either that mechanism of action  
18       or similar mechanisms of action?

19               A.       I'm not aware of anything  
20       that's been established, no.

21               Q.       Are you aware of any studies  
22       that have analyzed that mechanism of  
23       action?

24               A.       That specific mechanism of

1 action?

2 Q. Are you aware -- I'll  
3 clarify.

4 Are you aware of a  
5 researcher named Briana De Miranda?

6 A. No, I'm not aware of that  
7 person.

8 Q. Are you aware of --

9 A. I've heard the name, but I  
10 don't know exactly.

11 Q. Are you aware of any studies  
12 on mice, inhalation studies, in which  
13 mice were exposed to trichloroethylene,  
14 and there were studies inside the  
15 substantia nigra that showed cell death  
16 in the way that you've described?

17 MS. ELLISON: Objection;  
18 form.

19 THE WITNESS: I'd have to  
20 look back at those studies. I'm  
21 aware of some work in that  
22 department, in that area, but I  
23 don't recall them off the top of  
24 my head. And without reviewing

1                   them, I couldn't comment.

2       BY MR. DOWLING:

3                   Q.       So you had not -- or you  
4       were not familiar with Dr. De Miranda's  
5       work until we just started discussing it  
6       right now?

7                   A.       I've heard her name, and  
8       didn't recall specifically what she had  
9       done.

10                  Q.       So you didn't know the  
11       substance of her studies?

12                   MS. ELLISON:  Objection;  
13       form.

14                   THE WITNESS:  Correct.

15       BY MR. DOWLING:

16                  Q.       Have you ever treated a  
17       patient with genetically-caused  
18       Parkinson's disease?

19                  A.       I believe I have, sure.

20                  Q.       How many?

21                  A.       Probably at least a half  
22       dozen.

23                  Q.       So six out of the thousands  
24       that you've treated?

1           A.       Yeah, but let me clarify  
2       that a bit more. I would say that many  
3       as far as a specific gene that I  
4       suspected is abnormal. Obviously, I know  
5       you're thinking about Rothchild.

6                    But as far as there being a  
7       heredity factor, which is not necessarily  
8       a genetic cause -- so I'm making a  
9       distinction here. There probably is a  
10      genetic predisposition in 10 to 15  
11      percent of people with Parkinson disease.

12           Q.       And so you believe the six  
13      patients you've identified fall into that  
14      former category where you thought they  
15      had the specific gene that induced  
16      Parkinson's?

17           A.       Correct.

18           Q.       But if I understand your  
19      testimony correctly, you believe, based  
20      on scientific literature, that there's a  
21      slightly broader class of individuals  
22      that have a heredity factor that could  
23      contribute to their Parkinson's disease?

24           A.       That is correct. And as I

1 say, it's not simply slightly larger.  
2 Ten to 15 percent is a significant  
3 number.

4 Q. And when you identify -- or  
5 when we're talking about that group, the  
6 individuals where you don't have  
7 sufficient evidence that they have the  
8 gene but they have a heredity factor,  
9 what are some of the heredity factors  
10 that you're talking about?

11 A. Sure. First of all, just  
12 family history. I mean, clearly, I see  
13 people -- and this is separate from the  
14 10 to 15 percent I'm going to -- I was  
15 referencing. There are clearly families  
16 in whom there is autosomal dominant  
17 Parkinson disease -- grandparent, parent,  
18 child, and baby even. I've had examples  
19 of a kid with Parkinson disease, and  
20 although we've never been able to  
21 identify a gene in that particular  
22 family, the family history is very  
23 compelling. But that group is relatively  
24 small.



1                   Then there's the group where  
2                   there are definitely other progenitors  
3                   with the disease -- maybe an aunt or an  
4                   uncle, maybe a grandparent, maybe a  
5                   cousin -- which, in my mind and many of  
6                   our -- within the field, our minds feel  
7                   that that represents some type of risk  
8                   loading for that particular individual.

9                   Do you follow where I'm  
10                  going with this?

11                 Q.        Yeah.

12                 A.        And then there are those  
13                   people who carry specific genetic markers  
14                   such as LRRK2, a LRRK gene as we call it,  
15                   or those who carry glucocerebrosides, or  
16                   the GBA gene, who are at higher risk of  
17                   Parkinson disease, and that isn't  
18                   necessarily causative but raises their  
19                   risk.

20                 Q.        Is that --

21                 A.        And that's the 10 to 15  
22                   percent I'm actually specifically  
23                   referencing.

24                 Q.        Is the Parkin gene one of

1       these genetic markers, or does that -- do  
2       you believe Parkin is a genetic cause?

3               A.       Oh, Parkin is a separate  
4       identified genetic cause.

5               Q.       Identified genetic cause?

6               A.       That is more like in the six  
7       I was talking about.

8               Q.       How many -- and what is  
9       Parkin?

10              A.       It's one of the identified  
11       genetic mutations that appears to cause  
12       Parkinson disease.

13              Q.       And the six patients that  
14       you've treated, how many of them had the  
15       Parkin gene?

16              A.       I don't recall how many have  
17       actually done the genetic testing on to  
18       know for sure, but I believe at least one  
19       or two actually were Parkin positive, one  
20       of the Parkin genes.

21                      And, of course, people don't  
22       always want to go genetic -- undergo  
23       genetic testing. They don't always want  
24       to know.

1           Q.       This is helpful. You've  
2       established sort of two buckets where  
3       there's a genetic cause that you believe  
4       is a known cause, and then there are  
5       these heredity markers.

6                    Under the first bucket --  
7       this very small group of people, you  
8       would admit -- right?

9           A.       Uh-huh.

10          Q.       -- it's a very small  
11       percentage?

12          A.       Yeah, it is a --

13                   MS. ELLISON: Objection;  
14       form.

15                   THE WITNESS: I'm sorry.

16                   Yeah, it is a small group.

17       BY MR. DOWLING:

18          Q.       Do those individuals also  
19       have genetic or heredity factors -- for  
20       instance, a mother, grandmother, father,  
21       whatever the sex -- present in their  
22       family tree?

23          A.       I can't remember. I  
24       honestly can't remember. I don't know

1 for sure. I wouldn't be shocked if they  
2 did, but I just don't remember.

3 Q. So you can't rule out the  
4 possibility that if you have a known  
5 genetic cause of Parkinson's that you  
6 would also have -- I believe you  
7 testified, you know, autosomal -- what  
8 was the phrase?

9 A. Autosomal dominant.

10 Q. -- autosomal dominant  
11 representations in your lineage?

12 MS. ELLISON: Objection to  
13 form.

14 BY MR. DOWLING:

15 Q. Do you understand the  
16 question?

17 A. Yeah, I understand the  
18 question, but it's a little confounded  
19 because that autosomal dominant might be  
20 the Parkin -- one of the Parkin genes in  
21 that family, and I wouldn't necessarily  
22 be able to answer that question because I  
23 wouldn't necessarily have genetic testing  
24 on an antecedent who was no longer alive

1       --

2                       THE COURT REPORTER:   Genetic

3               --

4                       THE WITNESS:   I'm sorry.

5                       -- not necessarily have  
6       genetic testing on an antecedent  
7       who's no longer alive.   So that  
8       might be a question that's just  
9       unanswerable.

10    BY MR. DOWLING:

11               Q.       But certainly if you have  
12    someone who you suspect has the Parkin  
13    gene --

14               A.       Uh-huh.   Sure.

15               Q.       -- but they have not had  
16    genetic testing --

17               A.       Correct.

18               Q.       -- one fact that would  
19    strengthen your opinion that they have  
20    genetically caused Parkinson's disease is  
21    if there are other people in their family  
22    tree that have Parkinson's disease?

23               A.       Sure.

24                       MS. ELLISON:   Just let me

1 object.

2 Objection; form, foundation.

3 BY MR. DOWLING:

4 Q. And again, in that same  
5 case, in the absence of these heredity  
6 factors in their family tree, that might  
7 tend to, relatively speaking, weaken your  
8 opinion about whether this is a genetic  
9 cause?

10 MS. ELLISON: Objection;  
11 form and foundation.

12 THE WITNESS: Not  
13 necessarily because the  
14 presumption is either, A, based  
15 upon the clinical presentation,  
16 which obviously these genetic  
17 forms have many -- have a number  
18 -- not all of them, but a number  
19 of them -- very unique features  
20 that are very suggestive; and, B,  
21 the one thing that we sort of all  
22 forget about is paternity is not  
23 always entirely clear.

24 BY MR. DOWLING:

1           Q.       Paternity is not entirely  
2 clear?

3           A.       It is estimated by some  
4 people, including experts I know very  
5 well at the Children's Hospital of  
6 Philadelphia here in Philadelphia, a  
7 well-renowned institution, that upwards  
8 of 20 percent of people's paternity is  
9 not correct, not correctly identified,  
10 meaning that --

11          Q.       Put a finer point on that  
12 for me.

13          A.       Oh, I'd be glad to.  
14                   That the father --  
15 typically, the father, the father that  
16 they suspect is their father is not their  
17 biologic father.

18          Q.       And so you have that fact in  
19 the back of your mind when you're  
20 analyzing the strength of a genetic --

21          A.       Yeah, I always wonder about  
22 it. There's no way, obviously, of  
23 necessarily sorting that out, but it is a  
24 fact that, you know, is known that

1 paternity is sometimes questionable.

2 Q. Gotcha.

3 A. A little-known fact.

4 Q. Yeah, that is a little-known  
5 fact.

6 Have you published or  
7 lectured on solvent exposure and its  
8 relationship to Parkinson's disease?

9 A. No, I have not.

10 Q. Have you evaluated or  
11 treated any other patients involving  
12 trichloroethylene, perchloroethylene,  
13 vinyl chloride, or benzene exposure and  
14 Parkinson's disease?

15 A. No, I have not.

16 Q. So for all you know, none of  
17 your patients have ever been exposed to  
18 trichloroethylene?

19 A. Well, as far as I know,  
20 that's the case.

21 Q. And the same for  
22 perchloroethylene?

23 A. Correct.

24 Q. Do you understand -- if I



1       happen to shift into TCE and PCE, you  
2       understand what I'm talking about?

3               A.       Absolutely.

4               Q.       And so is this the first  
5       time in which you've been asked to  
6       testify regarding TCE exposure and its  
7       causative role in Parkinson's disease?

8               A.       Yes.

9                       MR. DOWLING:   We've been  
10       going for about an hour.

11                      Do you-all want to take a  
12       little break real quick?

13                      MS. ELLISON:   Sure.

14                      THE WITNESS:   Sure.

15                      MR. DOWLING:   We can go off  
16       the record.

17                      THE VIDEOGRAPHER:   All  
18       right.   Going off the record.   The  
19       time is 10:13 a.m.

20                      (Whereupon, a brief recess  
21       was held.)

22                      THE VIDEOGRAPHER:   We are  
23       now back on the record.   The time  
24       is 10:22 a.m.

1 BY MR. DOWLING:

2 Q. Dr. Gollomp, is there any  
3 prior testimony that you've provided that  
4 you want to add to or amend or correct in  
5 any way?

6 A. No.

7 Q. Okay. Are you aware that  
8 volatile organic compounds entered the  
9 drinking water at Camp Lejeune from the  
10 1950s through the 1980s?

11 A. Yes.

12 Q. Are you aware that those  
13 volatile organic compounds included  
14 trichloroethylene, perchloroethylene,  
15 vinyl chloride, and benzene?

16 A. That is my understanding.

17 Q. Are you aware that the  
18 contaminants in the water at Camp Lejeune  
19 were distributed to end users including  
20 Marines, their families, and civilian  
21 workers on the base?

22 MS. ELLISON: Objection;  
23 form and foundation.

24 THE WITNESS: That is my

1 understanding.

2 BY MR. DOWLING:

3 Q. Are you aware that Ms.  
4 Rothchild and Mr. Welch would have been  
5 end users who consumed the contaminated  
6 water at Camp Lejeune during this time  
7 period?

8 MS. ELLISON: Objection;  
9 form and foundation.

10 THE WITNESS: That, again,  
11 is my understanding.

12 BY MR. DOWLING:

13 Q. Are you aware that in 1989,  
14 Camp Lejeune was declared a Superfund  
15 site by the EPA due, in part, to the  
16 extensive chemical contamination of the  
17 water supply?

18 A. I understand that.

19 Q. Are you aware that in the  
20 early 1980s, actual chemical testing  
21 revealed high levels of volatile organic  
22 compound contamination in the supply  
23 wells and water distribution system at  
24 Camp Lejeune?

1 MS. ELLISON: Objection;  
2 form and foundation.

3 THE WITNESS: I don't know  
4 the details, but I have a general  
5 sense that that was the situation.

6 BY MR. DOWLING:

7 Q. So you have no reason or  
8 basis to dispute that the water system at  
9 Camp Lejeune was contaminated with  
10 solvents?

11 A. I have no reason to dispute  
12 that, no.

13 Q. Do you believe that it was,  
14 in fact, contaminated?

15 MS. ELLISON: Objection;  
16 form and foundation.

17 THE WITNESS: From my  
18 understanding of the documents,  
19 yes.

20 BY MR. DOWLING:

21 Q. Are you aware that the  
22 Government spent tens of millions of  
23 dollars for mediating the contamination  
24 of the water supply at Camp Lejeune?

1 MS. ELLISON: Objection;  
2 form and foundation.

3 THE WITNESS: Well, I'm not  
4 aware of how much they really  
5 spent, but I do understand that  
6 they performed some type of  
7 mitigation.

8 BY MR. DOWLING:

9 Q. Are you aware that the  
10 contamination was so extensive that the  
11 remediation is ongoing at this very  
12 moment?

13 MS. ELLISON: Objection;  
14 form and foundation.

15 THE WITNESS: Again, I don't  
16 really know what they are doing  
17 and not doing at this point,  
18 although if that is the case, I  
19 wouldn't be surprised.

20 BY MR. DOWLING:

21 Q. Did you review -- well,  
22 first of all, do you know what the ATSDR  
23 is?

24 A. Well, I'm not sure I

1 remember exactly what that stands for,  
2 but I'm aware that it exists.

3 Q. What is it, to your  
4 knowledge?

5 A. It's a legal document that  
6 outlines issues relative to the  
7 contamination at Camp Lejeune.

8 Q. Do you know any of the  
9 individuals affiliated with the ATSDR?

10 MS. ELLISON: Objection;  
11 form and foundation.

12 BY MR. DOWLING:

13 Q. Are you just aware of who  
14 they are?

15 A. I don't know who they are,  
16 no. I mean, if I saw a document, I'd  
17 probably recognize their names, but I  
18 don't know who they are off the top of my  
19 head.

20 Q. Are you familiar with the  
21 ATSDR water modeling reports?

22 A. Again, I know they exist.  
23 I've definitely seen them, but I can't  
24 quote you any details at this point.

1 Q. Okay. So on Exhibits 3 and  
2 6 -- do you have those in front of you?

3 A. Yeah, I can have them  
4 shortly.

5 Yeah.

6 Q. On Page 2 of Exhibit 3 and  
7 then also Page 2 of Exhibit 6, about a  
8 third of the way down, there's a bullet  
9 point that says, Agency for Toxic  
10 Substances and Disease Registry 2007,  
11 "Analysis of Groundwater Flow,  
12 Contaminant Fate and Transport, and  
13 Distribution of Drinking Water at Tarawa  
14 Terrace and Vicinity, U.S. Marine Corps  
15 Base Camp Lejeune, North Carolina:  
16 Historical Reconstruction and Present-Day  
17 Conditions: Charter A," July 2007. And  
18 I'll represent to you I believe that  
19 document is on both Exhibit 3 and 6.

20 Did you review that document  
21 as part of your work in this case?

22 A. I definitely reviewed it. I  
23 can't say that I reviewed it in great  
24 detail, but I certainly am aware it was

1 included in the materials that were  
2 submitted to me.

3 Q. What did that document say?

4 A. Well, as best as I recall,  
5 that document said that there were over  
6 -- all these hosts of substances that you  
7 have just cited -- PCE, TCE, vinyl  
8 chloride -- were in the drinking water at  
9 Camp Lejeune and that it was -- that it  
10 was widely distributed.

11 Q. And the document cites how  
12 test results showed hundreds of times the  
13 levels of safe -- the safe levels for  
14 these contaminants in the drinking  
15 supply?

16 MS. ELLISON: Objection;  
17 form and foundation.

18 THE WITNESS: I'd have to  
19 look back at the document to see  
20 if it's hundreds or whatever it  
21 is, but I definitely know the  
22 documents talk to, clearly,  
23 excessive levels of these  
24 materials.



1                   And I think I didn't mention  
2                   benzene, but I think benzene was  
3                   included in that too.

4       BY MR. DOWLING:

5                   Q.       Did you rely on any  
6                   particular method or technique to arrive  
7                   at your opinions in Mr. Welch and Ms.  
8                   Rothchild's case?

9                   A.       Well, the technique I relied  
10                  on is clinical history, clinical  
11                  examination, and whatever other objective  
12                  data I could obtain.

13                  Q.       And so clinical history,  
14                  clinical examination --

15                  A.       Uh-huh.   Yes.

16                  Q.       -- and objective data?

17                  A.       Uh-huh.   Yes.

18                  Q.       What do you mean by  
19                  "clinical history"?

20                  A.       Meaning mostly the history  
21                  provided, but not entirely provided by  
22                  both Mr. Welch and Ms. Rothchild as well  
23                  as the medical records which document,  
24                  you know, their history by their treating

1 physicians.

2 Q. And, specifically, what did  
3 your methodology entail related to  
4 clinical history, clinical examination,  
5 and objective data?

6 A. Basically, I conducted a  
7 fairly standard structured examination  
8 looking through the clinical record,  
9 obtaining an independent history from  
10 each one of these individuals; and then  
11 within the confines of the type of exam I  
12 was able to conduct, namely a virtual  
13 exam, obtain examination evidence as to  
14 the status of those individuals.

15 Q. Okay. And using that  
16 methodology, that's how you formulated  
17 your opinion in both of these cases?

18 A. Yes.

19 Q. And that's how you  
20 determined the issue of causation in both  
21 of these cases?

22 A. Essentially correct, yes.

23 Q. How is it not correct?

24 A. Well, I mean, obviously I

1 was aware of the background of the issues  
2 of exposure and when they were exposed,  
3 so of course I was aware of that from  
4 reviewing these other materials.

5 Q. What do you mean by you were  
6 aware of exposure?

7 A. Well, you referenced some of  
8 them; and, obviously, all these documents  
9 go to the fact that there was general  
10 exposure as well as there are other  
11 documents here about -- and I know we'll  
12 get into this -- as far as the specific  
13 potential exposure of these individuals.

14 Q. If you turn to Page 3 of  
15 Exhibit 2, and also, I believe -- is it  
16 fair to say that the bulk of these  
17 reports, Exhibits 2 and 5, follow a  
18 similar format?

19 A. Yes.

20 Q. And Page 3 in Exhibit 2 and  
21 5 are very similar; correct?

22 A. I believe so. Let me just,  
23 of course, make sure I have them in front  
24 of me, but that is presumably correct.

1           Q.       And I guess what I'm getting  
2       at is there's a section in there on Page  
3       3 entitled Methodology.

4           A.       Correct.

5           Q.       And take your time to read  
6       this if you need to, but I just want to  
7       make sure.

8           A.       Uh-huh.

9           Q.       In Section 4, is that a  
10       complete and accurate description of the  
11       methodology you used to determine your  
12       opinions in this case?

13          A.       I believe so.

14          Q.       There's no other technique  
15       or method that you applied in formulating  
16       your opinions in Mr. Welch or Ms.  
17       Rothchild's case?

18          A.       No.

19          Q.       And, specifically, this  
20       section says that you considered -- in  
21       addition to other things, you considered  
22       Mr. Welch and Ms. Rothchild's exposure to  
23       contaminated water, and you cited to  
24       reports of Judy LaKind and Lisa Bailey --

1 A. Uh-huh. Correct.

2 Q. -- in both cases, in Exhibit  
3 5 and in Exhibit 2; correct?

4 A. Correct.

5 Q. What do mean when you say  
6 you relied upon or you considered these  
7 reports?

8 Strike that.

9 Did you rely on them, or did  
10 you consider them?

11 A. That's an interesting way of  
12 putting it.

13 I relied on them.

14 Q. Okay. And what do you mean  
15 by you relied on Judy LaKind and Lisa  
16 Bailey's reports in formulating your  
17 opinions regarding Ms. Rothchild and Mr.  
18 Welch?

19 A. Well, I relied on them as  
20 far as providing as best as possible a  
21 quantitation of the exposure,  
22 essentially.

23 Q. And what is the executive  
24 summary of what those reports state?

1 MS. ELLISON: Objection;  
2 form.

3 BY MR. DOWLING:

4 Q. I'm not talking about the  
5 exact executive summary, but in a very  
6 summary fashion, what do you understand  
7 Judy LaKind and Lisa Bailey's reports to  
8 state?

9 A. I think it's fair to say I  
10 would like to, at least, take a quick  
11 look at the executive summaries just to  
12 make sure I'm citing them properly.

13 Q. So you, as you sit here now,  
14 don't have a recollection of what those  
15 reports state?

16 A. I don't want to opine as to  
17 exactly what they say when I don't  
18 remember exactly how they're phrased.

19 Q. Okay. Candidly, I don't  
20 have a physical copy with me. If your  
21 counsel on redirect wants to address that  
22 with you, they can, but --

23 A. Okay.

24 Q. -- I'll leave that up to

1       them.

2               A.       All right. Fair enough.

3               Q.       Did you talk to Dr. LaKind?

4               A.       No.

5               Q.       Did you talk to Dr. Bailey?

6               A.       No.

7               Q.       Did you review a report  
8 authored by someone named Kelly Reynolds  
9 as part of your work in this case?

10              A.       What page are we looking at  
11 there?

12              Q.       I'm just looking through my  
13 exhibits.

14                      But, first of all,  
15 irrespective of these documents --

16              A.       Uh-huh.

17              Q.       -- do you recall reviewing a  
18 report from an expert named Kelly  
19 Reynolds?

20              A.       Not specifically, but -- it  
21 wouldn't shock me that that name is  
22 somewhere in here, but I don't remember  
23 specifically.

24              Q.       Do you know who Kelly

1 Reynolds is?

2 A. Not specifically, no.

3 Q. Do you know what her  
4 expertise is?

5 A. Again, I don't recall.

6 Q. As you sit here today, is it  
7 your testimony that you did consider  
8 Kelly Reynolds' report or that you didn't  
9 consider Kelly Reynolds' report?

10 A. Well, I don't specifically  
11 remember doing -- including that in my  
12 review, and I don't see the name  
13 listed -- unless I'm missing it -- on the  
14 Exhibits 2 and 6, so -- or 3 and 6 -- I'm  
15 sorry -- so I can't answer the question.

16 Q. So you don't have a  
17 recollection of considering Kelly  
18 Reynolds' report?

19 A. Not specifically. Do you  
20 have it available?

21 Q. I'm the questioner.  
22 I'm just playing with you,  
23 Doctor.

24 A. That's all right.



1 Q. But you genuinely don't have  
2 a recollection of what the Kelly Reynolds  
3 report says, or even if you reviewed it?

4 MS. ELLISON: Objection to  
5 form.

6 THE WITNESS: No, I don't  
7 remember her name specifically,  
8 and I don't see it listed here  
9 either.

10 BY MR. DOWLING:

11 Q. Okay. And you don't discuss  
12 any analysis of Kelly Reynolds in your  
13 report, any opinions of Kelly Reynolds in  
14 your report?

15 A. No. No.

16 Q. Have you ever read the Camp  
17 Lejeune Justice Act?

18 A. I've skimmed it. I've not  
19 read it in its entirety at all.

20 Q. Are you familiar with the  
21 statutory language in the Camp Lejeune  
22 Justice Act?

23 A. I'd have to see it. I mean,  
24 I don't remember off the -- I don't

1 remember it off the top of my head.

2 Q. Do you recall the phrase "at  
3 least as likely as not" appearing in the  
4 text of the Camp Lejeune Justice Act?

5 A. I do.

6 Q. What does the phrase "at  
7 least as likely as not" mean to you?

8 A. Well, that phrase is -- in  
9 my mind, and it's my understanding, is a  
10 legal standard that is meant to convey a  
11 legal causation for an issue, and  
12 obviously, specifically in this case,  
13 relative to these toxic materials.

14 Q. Okay. You said you  
15 understand it to be a legal standard?

16 A. That's correct.

17 Q. Are there other legal  
18 standards that you are aware of from your  
19 prior experience?

20 A. Well, yeah. Of course. The  
21 standard that I've normally worked with  
22 when I've done expert work is to a  
23 reasonable degree of medical certainty,  
24 and --

1           Q.       What -- I'm sorry. Go  
2 ahead.

3           A.       Yeah.

4                   -- and that's been the  
5 standard I've always been familiar with  
6 in rendering an expert opinion because  
7 that rises to the level of at least  
8 reasonable scientific certainty.

9           Q.       And what does a "reasonable  
10 degree of medical certainty" mean to you?

11          A.       Well, it means to me that  
12 there's a greater chance than not that  
13 something is, in fact, true medically and  
14 scientifically.

15          Q.       Have you heard the phrase  
16 "more likely than not"?

17          A.       I have.

18          Q.       What does that mean to you?

19          A.       The similar -- somewhat  
20 similar standard, but not exactly the  
21 same. And I know that sometimes is used  
22 in other jurisdictions that I'm aware of.  
23 I can't remember if I ever testified in  
24 those jurisdictions, but I'm aware that

1       that -- I've heard that standard.

2               Q.       Okay. And in formulating  
3       your opinions, which of these standards  
4       did you apply?

5               A.       Reasonable degree of medical  
6       certainty.

7               Q.       So you did not consider  
8       whether Ms. Rothchild's exposure to the  
9       water at Camp Lejeune was as likely as  
10      not a cause of her Parkinson's disease?

11              A.       That is correct.

12              Q.       And you did not consider  
13      whether Mr. Welch's exposure to the water  
14      at Camp Lejeune was as likely as not a  
15      cause of his Parkinson's disease?

16              A.       That is correct.

17              Q.       And that's because, as  
18      you've testified, the standard that you  
19      applied was to a reasonable degree of  
20      medical certainty?

21              A.       That is correct.

22              Q.       And, in fact, the word or  
23      the phrase "as likely as not" or "at  
24      least as likely as not" does not appear

1 in your reports?

2 A. That is correct.

3 Q. Because you did not apply  
4 that standard?

5 A. That is correct.

6 Q. Have you ever reviewed any  
7 scientific literature that applies in "at  
8 least as likely as not" standard?

9 A. I don't believe I've ever  
10 seen that in the scientific literature.

11 Q. Do you think the "reasonable  
12 degree of medical certainty" standard  
13 compared to the "at least as likely as  
14 not" standard -- that one of them  
15 connotes a higher or more certain level  
16 of proof?

17 A. Yes.

18 Q. Which one?

19 A. Reasonable degree of medical  
20 certainty.

21 Q. And so "at least as likely  
22 as not," by design, is a lower standard  
23 of causal proof?

24 MS. ELLISON: Objection;

1 form.

2 THE WITNESS: Yes.

3 BY MR. DOWLING:

4 Q. But you didn't apply that  
5 standard?

6 A. Correct.

7 Q. We talked a little bit about  
8 exposure to toxic chemicals causing  
9 Parkinson's disease broadly.

10 A. Yeah.

11 Q. And it appears that you will  
12 acknowledge that, at least for some toxic  
13 chemicals, there is a known mechanistic  
14 reaction and they are known to cause  
15 Parkinson's disease?

16 A. Yes.

17 Q. Okay. And in those cases,  
18 is there any scientific data as to the  
19 duration between the exposure and when  
20 the ultimate Parkinson's disease  
21 manifests itself, or the onset of the  
22 Parkinson's disease?

23 I'm not asking for your  
24 personal opinion, but I'm asking for the

1 state of the science. Has the scientific  
2 community provided any research or  
3 analysis on the issue of the duration  
4 between exposure to a toxic substance and  
5 the onset of Parkinson's disease?

6 MS. ELLISON: Objection;

7 form.

8 BY MR. DOWLING:

9 Q. Do you understand the  
10 question?

11 A. I do.

12 Q. Okay.

13 A. I do.

14 And again, the best studied  
15 example is the MPTP situation. And  
16 there, it could have been -- it was, in  
17 fact, in as little as a few days. And I  
18 can't really remember the outside limits  
19 in those studies, but it was somewhere in  
20 the range of 18 to 24 months.

21 Q. Okay. But those --

22 A. I can't recall it ever went  
23 much beyond that.

24 Q. That was a unique event in

1 the history of this science; correct?

2 A. Yes.

3 Q. And one of the reasons why  
4 is because it's unethical to expose  
5 people to these toxic substances and  
6 conduct experiments on them?

7 A. I'd say one reason why.

8 Q. And so is it -- it's not  
9 surprising, then, that the scientific  
10 community has not really been able to  
11 study this issue of latency?

12 MS. ELLISON: Objection;  
13 form, foundation.

14 THE WITNESS: It's --  
15 obviously it's fair to say it's a  
16 very difficult one to study  
17 because the multiplicity of  
18 factors that may come into play  
19 confounds that significantly.

20 BY MR. DOWLING:

21 Q. And your opinion or your  
22 knowledge about this is really based on  
23 the MPTP case study?

24 MS. ELLISON: Objection;



1 form.

2 THE WITNESS: Well, it's the  
3 prototypical example where there's  
4 clear, unequivocal demonstration  
5 even down to autopsy studies that  
6 confirm that association.

7 BY MR. DOWLING:

8 Q. Are you aware of any  
9 scientific literature that has studied on  
10 a group-wide basis the average latency  
11 period between exposure to a toxic  
12 substance and onset of Parkinson's  
13 disease?

14 A. I'm not aware of any  
15 specific literature on that.

16 Q. And so if I were to give you  
17 a number, a latency number --

18 A. Yeah, yeah.

19 Q. -- it would likely just be  
20 arbitrary and not based on any science?

21 MS. ELLISON: Objection;  
22 form.

23 THE WITNESS: Well, I'd have  
24 to look at the study. I'd have to

1 look at the statistical analysis.  
 2 To make a blanket question like  
 3 that, I'd have to come back and  
 4 say, let me see the study, let me  
 5 see the methodology, because I'm  
 6 not aware of anything that's solid  
 7 in that -- that's very solid in  
 8 that regard.

9 BY MR. DOWLING:

10 Q. Just to give you a  
 11 hypothetical, if I were to represent to  
 12 you it's impossible for someone to get  
 13 Parkinson's disease more than 10 years  
 14 after exposure, is there a study that  
 15 supports that assertion or is that just  
 16 an unknown fact?

17 MS. ELLISON: Objection;  
 18 form and foundation.

19 THE WITNESS: Well, you  
 20 asked that as a hypothetical. So  
 21 the hypothetical answer is, yeah.  
 22 I mean, we just don't know.

23 BY MR. DOWLING:

24 Q. We just don't know.

1                   And so what we were just  
2                   discussing was the interval between  
3                   exposure to a toxic substance and then  
4                   the onset of symptoms.

5                   Is there a lower end of that  
6                   point? Are there any -- is there any  
7                   verifiable studies about showing almost  
8                   instantaneous Parkinson's disease being  
9                   induced by exposure to chemicals?

10                   MS. ELLISON: Objection;  
11                   form.

12                   THE WITNESS: I am not aware  
13                   of any study to that effect except  
14                   the MPT- -- well, maybe not -- not  
15                   necessarily instantaneous.

16                   I'm trying to remember. I  
17                   remember seeing a video of this  
18                   guy years ago that Bill showed.  
19                   Hispanic guy. I mean, I'm  
20                   actually visualizing the video in  
21                   my head. And he -- he may have  
22                   gotten it pretty quickly, but not  
23                   in hours. It was a few days.

24                   As you can tell, if I'm

1 remembering videos, I have a  
2 nodding familiarity.

3 BY MR. DOWLING:

4 Q. Based on our discussion  
5 about the mechanism of action --

6 A. Uh-huh.

7 Q. -- and -- well, I think it's  
8 in your reports that age is one of the  
9 known risk factors for the development of  
10 Parkinson's disease. Is that right?

11 A. It certainly is.

12 Q. And over a long enough  
13 continuum, just speaking generally, most  
14 of us will lose those dopaminergic  
15 neurons or there will be a loss, cell  
16 death, over time that eventually induces  
17 Parkinson's disease. Is that fair to  
18 say?

19 A. Well, that's an interesting  
20 question, a hypothetical one. But people  
21 have theorized that due to the natural  
22 loss of dopaminergic cells, at some  
23 point, if people live long enough, maybe  
24 to 120 or 150 like the Bible talks about

1 or whatever, we would all have Parkinson  
2 disease. I'm not really sure that I  
3 totally believe that.

4 And I think that we make  
5 broad statements about what happens  
6 generally neuropathologically, but  
7 whether there are -- there has to be  
8 variance, biologic variance on either  
9 side. And what that real variance is,  
10 I'm not sure any of us really, really  
11 know.

12 We know that symptomatic  
13 Parkinson's disease is evident when  
14 approximately 70 percent of the endowment  
15 of dopaminergic cells in your substantia  
16 nigra are gone, but what are the  
17 compensatory mechanisms from one  
18 individual to the next? What are the  
19 variances in that equation from one  
20 individual to the next? That's really  
21 hard to know.

22 And even our positron  
23 emission tomography studies and our  
24 single photon computer tomography

1 studies -- it's really -- we really have  
2 trouble getting at that because we don't  
3 have, really, a good way to image the  
4 substantia nigra itself and to know what  
5 the dopaminergic population looks like.  
6 We only have indirect functional  
7 neuroimaging as far as what's going on.

8 Q. Just to sort of break that  
9 down into building blocks --

10 A. Yeah, yeah. I know. That's  
11 a pretty complex answer.

12 Q. There is -- is there an  
13 acknowledgement in the scientific  
14 community that there's some level of  
15 dopamagentic [sic] neuron loss over time  
16 in most individuals?

17 A. Yes. And it's dopaminergic,  
18 not dopagenetic [sic].

19 Q. Dopaminergic.

20 A. Good.

21 Q. I apologize.

22 A. That's all right. I just  
23 thought I'd finally have to get you to  
24 say that.

1 MS. ELLISON: Long word.

2 MR. DOWLING: Yeah.

3 BY MR. DOWLING:

4 Q. And so in the main -- most  
5 individuals will have some progressive  
6 dopaminergic cell loss over the course of  
7 their life?

8 A. Yes.

9 Q. And if a substance known to  
10 cause Parkinson's disease, or  
11 specifically known to attack and kill  
12 dopaminergic neurons is introduced into  
13 that person, it's logical to say that  
14 that will speed up that cell loss  
15 process; is that correct?

16 MS. ELLISON: Objection;  
17 form.

18 THE WITNESS: Well, just  
19 because one says it's logical --  
20 now, follow me through on this --  
21 doesn't mean that that's actually  
22 what happens biologically, and let  
23 me clarify that.

24 What I mean is is that, A,

1           there's enormous variability from  
2           individual to individual, which is  
3           what I just pointed to. And, B,  
4           there are so many variables as far  
5           as thinking about how you induce  
6           dopaminergic cell loss and how the  
7           substance gets there and what are  
8           the reparative mechanisms within  
9           the structure, specifically the  
10          substantia nigra.

11                 So there are a lot of -- and  
12          what the supporting cells might  
13          do, the oligodendroglia and the  
14          astrocytes. So it becomes a  
15          really -- and there's no answer.  
16          I'm not saying there is an answer,  
17          but I'm saying it's a much more  
18          nuanced answer than the question  
19          initially suggests.

20       BY MR. DOWLING:

21                 Q.       You agree that in a  
22          hypothetical case of an individual with  
23          Parkinson's disease, multiple factors may  
24          coalesce to cause the disease?



1 A. Yes.

2 Q. And some of those factors  
3 could be environmental?

4 A. I think that's a fair  
5 statement, yeah.

6 Q. And even in the very small  
7 percentage of individuals that have the  
8 actual genetic -- the known genetic cause  
9 of Parkinson's disease, exposure to  
10 environmental factors can play a  
11 substantial role in their development of  
12 Parkinson's?

13 MS. ELLISON: Objection;  
14 form and foundation.

15 THE WITNESS: Unfortunately,  
16 that may be true; it may not be  
17 true. I just -- it's not a  
18 question I can specifically tell  
19 you an answer in an individual  
20 case.

21 BY MR. DOWLING:

22 Q. What does the term  
23 "idiopathic" mean in the context of  
24 neurology and Parkinson?

1           A.       Well, should I tell you what  
2       I tell my medical students, or should  
3       I --

4           Q.       Whatever the best answer is.

5           A.       Yeah.

6                   Well, as I sort of jokingly  
7       say, "idiopathic" means we're the idiots,  
8       so...

9           Q.       Why do you say that?

10          A.       Meaning we don't know the  
11       cause, and that's why we use the term  
12       "idiopathic."

13                   And of course what it means  
14       in a more serious sense is that it speaks  
15       to the fact that we cannot point to a  
16       specific cause.

17                   But as I say, I love to say  
18       that to medical students and residents  
19       just to keep us all humble.

20                   And over the past 30 or 40  
21       years, particularly with the explosion of  
22       genetics and molecular biology, we've  
23       been able to move things from idiopathic  
24       to definitive causes.   And that's a

1       pretty spectacular thing, but there are a  
2       lot of things in which we do not know the  
3       cause for sure.

4               Q.       Are you familiar with Ms.  
5       Rothchild's treating physician, Joel  
6       Perlmutter?

7               A.       Oh, yeah.

8               Q.       Have you met him before?

9               A.       Joel and I probably met  
10       along the way. I can't say he's my bosom  
11       buddy or anything like that, but I  
12       definitely know who he is --

13              Q.       Do you think he's --

14              A.       -- and he probably knows who  
15       I am too.

16              Q.       Do you think he's a good  
17       neurologist?

18              A.       Yes.

19              Q.       Well respected?

20              A.       Yeah, he is. He's  
21       particularly known for his scientific  
22       work in neuroimaging, but yeah.

23              Q.       Interesting. Okay.

24                      During his deposition, he

1 testified that idiopathic, quote, refers  
2 to the standard development and  
3 progression of the disorder.

4 Do you generally disagree  
5 with that, or do you generally agree with  
6 his characterization?

7 A. I'm sorry. Can you --

8 Q. It refers to the standard  
9 development and progression of the  
10 disorder. And I think it's in the  
11 context of whether the cause is known or  
12 unknown.

13 But do you have any qualms  
14 with that definition?

15 MS. ELLISON: Objection;  
16 form.

17 THE WITNESS: I think  
18 there's more to it than that, but  
19 at least that's a beginning of --  
20 yeah, because I think "idiopathic"  
21 carries with it a little bit more  
22 of a load, like I just said.

23 BY MR. DOWLING:

24 Q. And idiopathic Parkinson's

1 is Parkinson's where the cause is  
2 unknown.

3 Is it true that most  
4 clinicians, their focus -- at least their  
5 primary focus is not to determine  
6 etiology?

7 A. Yeah, I think that's fair  
8 because, most of the time, we can't  
9 specifically identify a cause.

10 I have to confess -- not as  
11 a confession; it's something that  
12 interests me a lot -- I do pay a lot of  
13 attention to family history and thinking  
14 about underlying causes in an individual.  
15 And, of course, family history and  
16 genetics does play a role, and I tend to  
17 think about it a lot.

18 Q. Why do you do that?

19 A. Because I think there are --  
20 there's -- well, I already talked about  
21 this a bit. There clearly is a  
22 significant genetic predisposition that  
23 exists out there, and maybe it's higher  
24 than 10 or 15 percent; maybe it's closer

1 to 25. I don't know. I have not -- one  
2 of these days, I'm going to run my  
3 electronic database and just try and come  
4 up with an answer, because I really think  
5 it's higher than what the literature  
6 cites. I just feel like --

7 Q. But that's your intuition;  
8 that's not --

9 A. That's my intuition, yeah.  
10 I've never run the study on my own  
11 patients which, you know, makes me think  
12 I should do it because I feel -- my  
13 intuition tells me it's higher.

14 Q. And it's fair to say that  
15 you're speculating when you say it's  
16 probably higher?

17 A. Yeah, I'm totally  
18 speculating. But it's just that I feel  
19 like when I ask about it, I hear about it  
20 a lot. And I'm really -- I really probe  
21 people about their family history. I do.

22 Q. Is one of the reasons why  
23 you might do that as a clinician, that if  
24 you determine or suspect someone has

1       genetically induced Parkinson's, then  
2       maybe their family members can take sort  
3       of preemptive or proactive measures? Is  
4       there anything they can do?

5                   MS. ELLISON:  Objection;  
6       form.

7                   THE WITNESS:  Yeah.  I mean,  
8       that's a really fascinating  
9       question because we don't have  
10      anything in 2025 that I can  
11      specifically speak to as being a  
12      protective strategy against the  
13      ultimate evolution of the disease.

14                  Where this becomes really  
15      more compelling -- forget the  
16      family members, who I get lots of  
17      questions from, by the way.  I get  
18      this question a lot, and that's  
19      the reason why I take such careful  
20      family histories, because that's  
21      one of the big concerns when they  
22      walk in my door is, are my kids at  
23      risk, are my nieces and nephews at  
24      risk, are my siblings at risk,

1           that kind of thing. Very common  
2           question.

3                       But where it really becomes  
4           compelling -- and I hate to be  
5           longwinded about this, but I  
6           obviously feel very strongly about  
7           this and it's a great interest of  
8           mine, is when people have some of  
9           the premonitory risk factors for  
10          the disease and they come to see  
11          me and ask, what's my risk, what  
12          can I do, do I have it now.

13                      And if they have a certain  
14          type of sleep disorder, I know  
15          that the statistics suggest that  
16          there may be as high as an 85  
17          percent chance of developing  
18          Parkinson disease over the next  
19          decade. That's an astonishing  
20          number, and yet they have nothing  
21          else wrong with them. And if they  
22          have loss of sense of smell and  
23          they have some autonomic problem  
24          such as constipation, that



1 increases the risk. And that's in  
2 a person who is asking the  
3 question.

4 I've even had that question  
5 from my own -- one of my own first  
6 cousins who has this sleep  
7 disorder. He called me up one day  
8 and said, I know you're an expert  
9 at this, Steve; what do you think?

10 And I said, David -- my  
11 cousin David -- and I said, David,  
12 I don't know what to tell you to  
13 do. But he's a smart guy. He  
14 runs an IT company. He's really  
15 smart. He already looked it all  
16 up. And he calls me up. I said,  
17 I know you've looked it up. He  
18 said, yeah, I've looked it up.

19 And I said, so you know;  
20 you've probably already surveyed  
21 the literature. He said, yeah.  
22 He did this AI search.

23 And I said, The only thing I  
24 can -- this is a long way of

1           coming around. The only thing I  
2           can -- I really tell these people  
3           is to maintain good health  
4           otherwise, maintain an active  
5           exercise program including aerobic  
6           activity, maintain your body  
7           weight, maintain good sleep. And  
8           we don't know whether that bends  
9           the curve.

10                   I get asked this question a  
11           lot as you can tell. As I say, my  
12           own first cousin.

13       BY MR. DOWLING:

14           Q.       Yup.

15           A.       And, you know -- and as best  
16           as any of us know, that's the most we  
17           know. We don't know of any substance for  
18           sure that works.

19                   I've been involved in trials  
20           where we've tried to come up with  
21           substances. I've published in this  
22           space -- and you probably looked me up  
23           and already know. And we can't say. We  
24           just can't say.

1           Q.       What about curbing exposure  
2 to certain chemicals?

3                   MS. ELLISON:   Objection;  
4 form.

5                   THE WITNESS:   Well, I mean,  
6 that, of course, theoretically is  
7 great; but at the same time, we  
8 live in an industrialized society.  
9 And again, we know that, living in  
10 an industrialized society, there  
11 are all kinds of toxins and  
12 materials out there that do, to  
13 some degree, increase the risk.

14 BY MR. DOWLING:

15           Q.       What are some of the other  
16 ones that you can think of?

17           A.       Oh, right away,  
18 insecticides. They're high on the list,  
19 and we all know that, particularly  
20 rotenone.

21           Q.       Do you believe certain  
22 insecticides can cause Parkinson's  
23 disease?

24           A.       I wonder about that. I

1 don't think I can say specifically in a  
2 clinical case that that's necessarily the  
3 case. I've never seen a clinical case.

4 But certainly it goes back  
5 to the -- even the late 1960s. Dr.  
6 Barbeau's work from Montreal where he was  
7 speculating -- B-A-R-B-E-A-U. Andre  
8 Barbeau was speculating about this all  
9 the way back then. And that has  
10 certainly stood the test of time that  
11 people who live in agrarian places, in  
12 industrialized societies, do carry a  
13 higher risk of Parkinson disease.

14 Is it the insecticide  
15 exposure? Is it something else? I don't  
16 think we're entirely sure.

17 Q. Are you familiar with  
18 litigation surrounding paraquat?

19 A. I'm aware it exists. I  
20 don't know any of the details.

21 Q. So you're not involved in  
22 any of those cases?

23 A. No.

24 Q. Are you aware of them -- I

1 think some of them are pending in State  
2 court up here.

3 Are you aware of that?

4 A. I don't know. I don't know  
5 where those stand. I'm aware that there  
6 has been litigation.

7 Q. But, obviously, part of the  
8 allegations there is that paraquat has  
9 caused Parkinson's disease for those  
10 individuals.

11 And it's something that you  
12 are open to the possibility that that's  
13 possible?

14 MS. ELLISON: Objection;  
15 form and foundation.

16 THE WITNESS: Well, again,  
17 anything is possible. I don't  
18 know the details of those specific  
19 paraquat cases. Obviously, I am  
20 aware that there's paraquat  
21 litigation. I've heard about it.

22 BY MR. DOWLING:

23 Q. And if paraquat or some  
24 other substance were to cause

1        Parkinson's, it would be through this  
2        mechanism, likely, that we've discussed?

3                    MS. ELLISON:    Objection;  
4        form and foundation.

5                    THE WITNESS:    I don't know  
6        the answer to that.    I don't know  
7        the answer to that because I am  
8        not conversant on the specific  
9        molecular mechanism that paraquat  
10       might operate through.    I just  
11       don't recall that.

12       BY MR. DOWLING:

13                   Q.        Okay.    So can you give me a  
14       good working definition of Parkinson's  
15       disease --

16                   A.        Okay.

17                   Q.        -- now that we're two hours  
18       into this thing?

19                   A.        Okay.    Well, what we  
20       recognize as Parkinson's disease is a  
21       constellation of symptoms.    And to be  
22       exact, we want to see -- we don't have to  
23       have all four of them, but they consist  
24       of rigidity -- that's muscle stiffness;

1     bradykinesia -- slowness; tremors --  
2     shaking, a certain type of shaking,  
3     particularly a shaking at rest; and  
4     postural instability. In our clinical  
5     trials, clinical studies, we really want  
6     to see people having a minimum of two of  
7     those, and really three of those.

8             And what we also want to  
9     exclude is other signs of other -- what  
10    are -- I'll use the term "cousin"  
11    disorders. They're not really -- even  
12    have the same neuropathology. But we  
13    want to exclude very serious problems  
14    with postural control, eye movement  
15    abnormalities, motor neuron abnormalities  
16    like a Lou Gehrig's type of picture.  
17    Those things all tend to exclude  
18    traditional idiopathic Parkinson disease.

19            And when we do clinical  
20    trials, we actually go through this  
21    exclusionary process.

22            Q.     Okay. And can you identify  
23    what some of those cousin disorders are  
24    that you were talking about?

1           A.       Oh, sure.    Sure.

2       Progressive supranuclear palsy.

3           Q.       You guys don't like short  
4       terminology.

5           A.       We don't.

6                    Do you want the eponymic  
7       name too?   Steele-Richardson-Olszewski.  
8       It is.   That is.   That is the eponymic  
9       name.   I hate eponyms personally.

10                   Multiple system atrophy;  
11       pure autonomic failure; corticobasal  
12       syndrome.   And there are slightly -- the  
13       terminology is slight -- there's slight  
14       differences in terminology in the  
15       literature, but -- for example,  
16       corticobasal, some people call it  
17       corticobasal degeneration, but I think  
18       the common agreed-upon term now is  
19       corticobasal syndrome.

20                   And then drug-induced  
21       Parkinsonism, which happens a lot more  
22       than I care to admit, but I certainly see  
23       people who are treated with certain  
24       psychiatric drugs or certain drugs for



1 the gastrointestinal tract, and they have  
2 Parkinsonism from the drug, and stop the  
3 drug and they get all better, which is  
4 something to keep in mind.

5 And multiple infarcts,  
6 multiple cerebral infarcts can cause a  
7 vascular Parkinsonism, which looks a lot  
8 like Parkinson disease, but there are  
9 other features that tell you that's not  
10 what it is.

11 Q. Is essential tremor one of  
12 these cousin disorders or --

13 A. Not really, no. But, you  
14 know, it's interesting. There are  
15 differing -- there's differing  
16 discussions in the literature, and you --  
17 it depends on who you -- whose data you  
18 believe, put it that way, that may be  
19 essential tremor confers a slight  
20 increased risk of Parkinson's disease.

21 But they are clearly  
22 different disorders. An essential tremor  
23 is five times more common than  
24 Parkinson's disease. And I have a vast

1 population of essential tremor patients,  
2 and the vast majority never evolve into  
3 Parkinson disease. But at the same time,  
4 I've seen my share of people through the  
5 years who I've known over a period --  
6 have taken care of over a period of time  
7 where what looks like essential tremor  
8 turns out to be Parkinson disease, and it  
9 turns out they have both.

10 Q. Before I forget, I'm going  
11 to go back to drug-induced Parkinsonism.

12 A. Sure.

13 Q. Is the mechanism of action  
14 in those cases the same mechanism that  
15 we've described earlier?

16 A. No.

17 Q. What's the mechanism of  
18 action?

19 A. Yeah, the mechanism of  
20 action in those -- with those drugs is  
21 you're actually blockading the dopamine  
22 receptor in the postsynaptic neuron in  
23 the striatum.

24 Q. Is there damage to the

1 cells?

2 A. Generally, no.

3 Notice how I say this,  
4 though, because there is a small  
5 literature that speaks to the fact that,  
6 in certain people -- and I think this is  
7 harder to know -- in certain people, the  
8 chronic exposure to these antipsychotic  
9 drugs may actually cause dopaminergic  
10 cell loss, but I think that's pretty  
11 controversial.

12 Q. Okay.

13 For essential tremor, what  
14 are the known etiology of that disease?

15 A. Probably about -- roughly  
16 about 50 percent you can identify a  
17 heredity component, and that's frequently  
18 autosomal dominant, meaning passed from  
19 parent to child irrespective of sex, but  
20 there's a substantial portion in whom we  
21 can't speak to.

22 And the real problem is, in  
23 the case of essential tremor, we've  
24 identified genes in some families that

1 point to it; but as far as a universal  
2 unitary genetic cause of essential  
3 tremor, we've really not been able to  
4 come up with it.

5 Q. Are you familiar with  
6 literature studying stroke as a potential  
7 cause of essential tremor?

8 A. Well, it doesn't really  
9 cause essential tremor; but if you have a  
10 stroke in the right place in the brain,  
11 particularly the wrong place in the  
12 thalamus or in the cerebellum or  
13 cerebellar connections into the thalamus,  
14 you can get something that looks like --  
15 something like essential tremor.

16 Q. Okay.

17 An essential tremor is a  
18 movement tremor?

19 A. Yes. It's the -- think of  
20 Katharine Hepburn in her later years.

21 Q. Can you just describe what  
22 that --

23 A. Oh, sure.

24 Q. -- looks like?

1           A.       Yeah. It basically is a  
2 rapid shaking in the arms typically, not  
3 infrequently the head, not infrequently  
4 in the voice, and it's associated with  
5 activity; it's not typically present at  
6 rest.

7           Q.       And that's contrasted with a  
8 tremor present in Parkinson's, which is a  
9 resting tremor?

10          A.       Typically, yes. Sometimes  
11 it can be hard to tell them apart, by the  
12 way. But typically, yes.

13          Q.       Do you believe  
14 trichloroethylene can cause Parkinson's  
15 disease?

16          A.       That's a fascinating  
17 question. I honestly don't know the  
18 answer.

19          Q.       Do you believe  
20 tetrachloroethylene can cause Parkinson's  
21 disease?

22          A.       Well, tetrachloroethylene is  
23 different than trichloroethylene, but  
24 still they're in the same family. And

1 the same answer is I just don't know.

2 Q. Do you believe benzene can  
3 cause Parkinson's disease?

4 A. I think benzene -- again,  
5 it's -- I don't know -- probably less  
6 likely, but I'm not sure. I just don't  
7 know.

8 Q. Are you aware that the EPA  
9 published a final rule prohibiting nearly  
10 all uses of trichloroethylene in the  
11 United States?

12 MS. ELLISON: Objection;  
13 form and foundation.

14 THE WITNESS: I have  
15 definitely heard that.

16 BY MR. DOWLING:

17 Q. Do you have any  
18 understanding as to why they would do  
19 that?

20 A. It may be a somewhat cursory  
21 understanding, but as far as the multiple  
22 potential toxicities of TCE as well as  
23 its cousins.

24 Q. And what might those

1 toxicities result in?

2 A. Well, I'm actually not  
3 entirely sure.

4 Q. And you testified before  
5 you're not familiar with any of Dr. De  
6 Miranda's research into TCE and PCE in  
7 mice?

8 A. Yeah. I mean, obviously, I  
9 briefly saw -- I know I've seen it, but I  
10 don't remember the details.

11 Q. But it's not in your report,  
12 and it's not on your --

13 A. No.

14 Q. -- Materials Considered  
15 List?

16 A. No. I thought I saw  
17 something relative to De Miranda in my  
18 materials list.

19 Q. Why don't you take a minute  
20 and let me know if you see it on there.  
21 Because I couldn't see it, but maybe I  
22 overlooked it.

23 A. Yeah. I mean, maybe this is  
24 not the same person, but I thought on

1 Page 2, the fourth one down, that is  
2 Briana De Miranda.

3 Q. Okay.

4 A. I missed that before, but I  
5 wonder if that's the same person.

6 Q. Do you recollect what the  
7 report that Dr. De Miranda authored said?

8 A. I don't off the top of my  
9 head. I'd have to see it.

10 Q. Did you consider that in  
11 forming your opinion?

12 A. I obviously must have  
13 reviewed it and considered it, sure.

14 Q. Do you know why you didn't  
15 write about it in your report?

16 A. I think because it didn't  
17 involve human data.

18 Q. But you can't say for sure  
19 why?

20 A. I can't say for sure why,  
21 no.

22 Q. If that were the reason, why  
23 didn't you say that in your report?

24 MS. ELLISON: Objection;



1 form.

2 THE WITNESS: I don't know.

3 BY MR. DOWLING:

4 Q. Was the first time you came  
5 to understand Dr. De Miranda's studies  
6 involved mice -- did that happen either  
7 today or after this deposition started?

8 A. I didn't realize --

9 MS. ELLISON: Objection;  
10 form and foundation.

11 THE WITNESS: I didn't  
12 realize it's the same person. I  
13 thought the spelling was  
14 different.

15 BY MR. DOWLING:

16 Q. So you -- are you testifying  
17 you did know that she did animal studies  
18 regarding TCE and PCE in Parkinson's  
19 before this deposition?

20 A. I had definitely heard and  
21 had some vague recall of studies about  
22 mice, but I didn't remember it was  
23 specifically her.

24 Q. Are you familiar with any

1 scientific studies showing an increased  
2 risk of developing Parkinson's after  
3 exposure to TCE or PCE?

4 A. Not specifically, no.

5 MR. DOWLING: 8, Madam Court  
6 Reporter? Exhibit 8, is that --

7 THE COURT REPORTER: Yes.

8 MR. DOWLING: Okay.

9 (Whereupon, Exhibit 8 was  
10 marked for identification.)

11 BY MR. DOWLING:

12 Q. I'm handing you an article  
13 that be will be Exhibit 8 to your  
14 deposition.

15 A. Uh-huh.

16 Q. Can you take a minute to  
17 review that?

18 A. Uh-huh.

19 Q. Are you familiar with this  
20 article?

21 A. Uh-huh. I am.

22 Q. And I believe you cited this  
23 article in your reports; correct?

24 A. Yes. I did.

1           Q.       And this is an article from  
2       the Journal of Parkinson's Disease from  
3       2024; is that correct?

4           A.       That is correct.

5           Q.       And do you know Dr. Dorsey  
6       and Bloem -- Drs. Dorsey and Bloem?

7           A.       I know Ray.

8           Q.       Okay. Is he someone that is  
9       respected in the field?

10          A.       Yeah, I'd say it's fair that  
11       Ray is.

12          Q.       With this article in mind --  
13       on Page 5 of your reports, both your  
14       Rothchild report and your Welch report,  
15       Exhibits 5 and 2, the second paragraph  
16       midway down -- I'm going to read this out  
17       loud, and you just read along with me and  
18       tell me if I read it correctly: Some  
19       authorities believe that Parkinson's  
20       disease is predominantly an environmental  
21       disease, emphasizing the role of  
22       pesticides and air pollution.  
23       Consideration of all the environmental  
24       factors together is called the exposome.

1 A. Uh-huh. Yup.

2 Q. There's growing evidence  
3 that air pollution is particularly  
4 important (Dorsey and Bloem, 2024).

5 A. Yes. So I'm citing that  
6 paper.

7 Q. Okay. And you never  
8 mentioned TCE as a potential cause of  
9 Parkinson's disease in your report; is  
10 that correct?

11 A. That is correct.

12 Q. And you didn't mention it in  
13 those sentences I just read?

14 A. That is correct.

15 Q. Okay. Turning to Exhibit 8,  
16 on Page -- the third page, or Page 453 at  
17 the top.

18 A. Uh-huh.

19 Q. And just, again, read along  
20 with me while I read out loud.

21 A. Sure.

22 Q. Purely genetic causes of PD  
23 account for about 2% of individuals with  
24 the disease.

1                   Is that a true statement?

2           A.       Well, essentially that is  
3 true. We actually discussed that at some  
4 length.

5           Q.       Okay. So you agree with  
6 that statement?

7           A.       Yeah. I mean, whether it's  
8 1 percent, 2 percent. Somewhere in that  
9 range. Any percentage quote like that is  
10 obviously subject to some, you know,  
11 variation.

12          Q.       And then the next sentence,  
13 Even "common" genetic causes, such as  
14 LRRK2 mutations, are present in only 2-3%  
15 of individuals and have incomplete  
16 penetrance (25 to 43%).

17                   Do you agree with that  
18 statement?

19          A.       Generally, yes.

20          Q.       Other factors, including  
21 environmental ones, must be necessary for  
22 the disease to develop.

23                   Do you agree with that  
24 statement?

1           A.       I think that's more  
2       hypothetical; but at least in a general  
3       sense, I do.

4           Q.       Okay. So you think that  
5       other factors are necessary for the  
6       disease to develop in addition to  
7       genetics?

8                   MS. ELLISON: Objection;  
9       form and foundation.

10      BY MR. DOWLING:

11           Q.       Do you agree with Dr.  
12      Dorsey?

13                   MS. ELLISON: Same  
14      objection; form and foundation.  
15      You may answer.

16           THE WITNESS: Well, I do  
17      agree with the statement in that  
18      there are other factors that must  
19      play a role. And as I suggested  
20      to you already earlier on, there  
21      are a multiplicity of them. And  
22      in any one individual, that's  
23      pretty hard to quantitate.

24      BY MR. DOWLING:

1           Q.       Okay. But just so we're  
2 clear, this is all in the same  
3 paragraph --

4           A.       Yes.

5           Q.       -- and he's talking about  
6 how incredibly limited genetic causes are  
7 of Parkinson's in the first sentence;  
8 right?

9                   And then the last sentence  
10 that's highlighted says, Other factors,  
11 including environmental ones, must be  
12 necessary for the disease to develop.

13                   Do you agree with that?

14          A.       Well, like I already  
15 answered, but I would expand it to say  
16 not necessarily just environmental ones.  
17 You have to think about other health  
18 issues contributing to that cause.

19          Q.       Okay. Fair enough.

20          A.       To restrict it to just  
21 environmental factors, I think, is  
22 actually too narrow.

23          Q.       But to be fair, what he's  
24 saying is genetics alone in many cases is

1 not sufficient to cause the disease; it's  
2 necessary for other factors to be  
3 present.

4 MS. ELLISON: Objection;  
5 form and foundation.

6 THE WITNESS: Well, I think  
7 what it really boils down to is  
8 he's making -- he's hypothesizing  
9 that that is the case. But is  
10 that necessarily true in any  
11 specific individual, I think  
12 that's much harder to say.

13 BY MR. DOWLING:

14 Q. Well, he's citing to  
15 research. All of these sentences except  
16 for the very first one cite to other  
17 research; correct?

18 A. Uh-huh.

19 Q. And so he's not just coming  
20 up with this out of thin air.

21 MS. ELLISON: Objection;  
22 form.

23 THE WITNESS: No, I'm not  
24 challenging on that.



1 BY MR. DOWLING:

2 Q. And this journal, Journal of  
3 Parkinson's Disease where these sentences  
4 appear, is this a peer-reviewed journal?

5 A. Yes.

6 Q. And so your peers and his  
7 peers, presumably, reviewed this article  
8 and provided comments to it; and  
9 ultimately, it made it past that  
10 peer-review process; is that right?

11 A. That is correct.

12 MS. ELLISON: Objection;  
13 form and foundation.

14 BY MR. DOWLING:

15 Q. And so through the  
16 peer-review process, it was determined to  
17 be a true statement of the science that  
18 other factors, including environmental  
19 ones, must be necessary for the disease  
20 to develop --

21 MS. ELLISON: Objection.  
22 Form and foundation.

23 BY MR. DOWLING:

24 Q. -- is that true?

1 MS. ELLISON: Same  
2 objection.

3 THE WITNESS: Well, I've  
4 already answered. I've already  
5 answered that question. You can  
6 certainly include environmental  
7 factors, but it's got to be more  
8 nuanced and extensive than just  
9 that, in my mind.

10 BY MR. DOWLING:

11 Q. And again, it's the rare  
12 case where you could say it's solely  
13 genetic factors, though; is that correct?

14 MS. ELLISON: Objection;  
15 form.

16 BY MR. DOWLING:

17 Q. That's pretty narrow on the  
18 other end?

19 A. Yeah, that's really narrow.  
20 We don't --

21 Q. No. I'm saying it's very  
22 rare for you to find a case in which you  
23 can confidently say to a degree of  
24 medical certainty that this is

1 exclusively due to genetic factors.

2 MS. ELLISON: Objection;  
3 form.

4 BY MR. DOWLING:

5 Q. Do you agree with that?

6 MS. ELLISON: Sorry.  
7 Objection; form.

8 THE WITNESS: Yeah. I mean  
9 -- well, I've already testified to  
10 that effect, that it is -- I mean,  
11 just based on what I just told  
12 you, based on my own patient  
13 population. I've already  
14 testified to that effect.

15 BY MR. DOWLING:

16 Q. Okay.

17 Moving down to the other  
18 portion that's highlighted, this is a  
19 section entitled The Principal Causes of  
20 Parkinson's Disease.

21 And again, read along with  
22 me as I read aloud, please.

23 A. Sure.

24 Q. The main causes of PD are

1 environmental toxicants.

2 Do you agree with that?

3 A. Maybe so. Maybe so.

4 Q. Why not?

5 A. Well, that is a broad  
6 statement that in a way -- I'm not saying  
7 it is disregarding -- but in a way is  
8 sort of discounting other risks that may  
9 lead to the disease. To say causation  
10 when something is part of the whole  
11 panoply of things that come together to  
12 cause dopaminergic cell death  
13 prematurely, that is a bit of -- I have  
14 to say, to me, that's a bit of an  
15 intellectual stretch because --

16 Q. So you don't agree with Dr.  
17 Dorsey or the peer reviewers in this  
18 journal that the main causes of PD are  
19 environmental toxicants?

20 MS. ELLISON: Objection;  
21 form and foundation.

22 And I will note for the  
23 record that Dr. Gollomp was still  
24 speaking and you cut him off.

1                   So just please give him a  
2                   chance to fully answer your  
3                   question before you ask your next  
4                   one.

5                   THE WITNESS: I'm  
6                   disagreeing with the  
7                   characterization that this is the  
8                   main cause of PD. I think it's  
9                   got to be more nuanced than that;  
10                  plus, there's the multiplicity of  
11                  factors that have to be playing a  
12                  role.

13 BY MR. DOWLING:

14                  Q.       So you disagree with the  
15                  statements in this peer-reviewed journal  
16                  article?

17                  A.       That one sentence, I have  
18                  trouble with saying that that's the case  
19                  across the panoply of Parkinson patients.

20                  Q.       So you disagree with that  
21                  first sentence in this peer-reviewed  
22                  journal article?

23                  A.       I do. I do. I think it's a  
24                  bit of an overstretch.

1           Q.       Okay. And then the next  
2 sentence, Chief among these are certain  
3 pesticides and industrial solvents like  
4 trichloroethylene and air pollution.

5                   Do you agree with that  
6 sentence?

7           A.       Well, like we've already  
8 discussed, all of these things we're  
9 aware contribute to this environmental  
10 morass. And here, I've already said  
11 people who live in industrial societies,  
12 particularly those who live in agrarian  
13 portions of industrial societies, are at  
14 higher risk.

15           Q.       Including those individuals  
16 exposed to trichloroethylene?

17           A.       I can't say that's true, I  
18 can't say it's not true, because we have  
19 to characterize what contribution TCE  
20 might be actually making in an  
21 individual's circumstance.

22           Q.       So you disagree with the  
23 statement in this peer-reviewed journal  
24 article that, Chief among these are

1 certain pesticides, industrial solvents  
2 like trichloroethylene and air pollution?

3 A. Well, now you're sort of  
4 mischaracterizing what I'm saying a  
5 little bit because what Ray -- and I  
6 don't know Ben Bloem -- but what Ray and  
7 he are talking about is that, as a  
8 constellation, they believe that the --  
9 and this is what they believe -- that  
10 this -- these three types of things -- he  
11 doesn't name specific pesticides. He  
12 names industrial solvents, does cite TCE,  
13 and then air pollution, which is a very  
14 nonspecific statement. And for all we  
15 know, how much air pollution any one of a  
16 host of -- how should we say?  
17 Neurotoxins are in air pollution. That's  
18 not a specific statement.

19 MR. DOWLING: I'm going to  
20 object as nonresponsive.

21 BY MR. DOWLING:

22 Q. So you disagree with the  
23 statement, Chief among these are certain  
24 pesticides, industrial solvents like

1 trichloroethylene, TCE, and air  
2 pollution? You disagree with that  
3 statement, the truth of that statement?

4 MS. ELLISON: Objection;  
5 form.

6 THE WITNESS: It's not that  
7 I disagree with its hypothetical  
8 nature in any -- notice how I keep  
9 coming back to this -- any one  
10 individual. But it's a  
11 constellation of things, and we're  
12 casting a broad net and saying,  
13 okay, all industrial solvents, all  
14 pesticides, and air pollution are  
15 -- and -- yeah, they're possible  
16 toxicants. Sure. Of course. But  
17 that includes a multiplicity of  
18 substances.

19 BY MR. DOWLING:

20 Q. Does that multiplicity  
21 include trichloroethylene?

22 A. Well, he lists  
23 trichloroethylene. So I can't disagree  
24 with the fact that he's included it, but



1       there are obviously other industrial  
2       solvents --

3               Q.       And, obviously --

4               A.       -- many others.

5               Q.       I'm asking if you think that  
6       that's a true statement.

7                       MS. ELLISON:  Objection;  
8       form.

9       BY MR. DOWLING:

10              Q.       I don't know why you don't  
11       want to answer the question directly.

12              A.       Well, I mean, I think  
13       it's --

14                      MS. ELLISON:  Objection;  
15       form.  I didn't hear a question.

16              MR. DOWLING:  I asked him a  
17       question.

18                      Can you read back the  
19       question?

20                      (Whereupon, the court  
21       reporter read the referred-to  
22       question.)

23                      MS. ELLISON:  So, objection  
24       to form.

1                   You can answer.

2                   THE WITNESS:   Okay.

3                   It's a true statement in the  
4                   context of the two of them trying  
5                   to globally collect together  
6                   environmental risks and say these  
7                   appear to us, based on the data  
8                   out there, that these are the most  
9                   likely environmental toxins to  
10                  cause or potentially cause  
11                  Parkinson's disease.

12                  But then he goes on to say,  
13                  these are not the only toxicants  
14                  tied to PD and more may be found.

15                  And that's true.

16       BY MR. DOWLING:

17                  Q.       Okay.

18                  I notice in your report when  
19                  you cited this article -- turning back to  
20                  Page 5 of Exhibit 5 and Exhibit 2, in  
21                  that sentence we just read, Dr. Dorsey  
22                  identified solvents like  
23                  trichloroethylene, pesticides, and air  
24                  pollution.

1                   You agree with that, that  
2       those are in that sentence?

3                   A.       Yes, they are.

4                   Q.       And then when you look at  
5       your report on Page 5, you cited  
6       pesticides and air pollution, but you  
7       didn't cite trichloroethylene.

8                   A.       Correct.

9                   Q.       And then you cited to this  
10      article which cites trichloroethylene,  
11      but you didn't include that in your  
12      report.

13                          Was that an error, or did  
14      you intentionally take that out of this  
15      attribution?

16                   A.       I did not include it because  
17      the statement was a general statement of  
18      industrial solvents, and he cited TCE as  
19      just a single example.

20                          I talk about organic  
21      solvents earlier in that same paragraph,  
22      and I think that that's as best as anyone  
23      can say that, as a general group, there  
24      may be -- as I've already said, there may

1 be risks.

2 Q. Well, when you presented the  
3 research in this paragraph, you presented  
4 it as though Mr. Dorsey -- Dr. Dorsey and  
5 Bloem talked about only two factors --  
6 pesticides and air pollution -- but they  
7 actually talk about three: Pesticides,  
8 air pollution, and trichloroethylene.

9 Do you agree with that?

10 MS. ELLISON: Objection;  
11 form.

12 THE WITNESS: They do cite  
13 that, correct.

14 BY MR. DOWLING:

15 Q. And you didn't cite  
16 trichloroethylene in your report?

17 A. Correct.

18 Q. Okay.

19 Continuing on in the  
20 highlighted paragraph in Exhibit 8,  
21 please, as you mentioned before, they  
22 say, These are not the only toxicants  
23 tied to PD, and more may be found.

24 Do you agree with that? I

1 think you said you did.

2 A. Uh-huh. Yes.

3 Q. Okay. And then it says,  
4 quote, However, these are all linked to  
5 PD by epidemiological and preclinical  
6 studies, many damage mitochondria (which  
7 are known to be impaired in PD), and they  
8 all expose humans through multiple routes  
9 (including inhalation and ingestion) and  
10 various means (occupational and  
11 environmental).

12 That was a long sentence.

13 Do you agree with that  
14 sentence?

15 A. Generally speaking, yes.

16 Q. So all of those substances,  
17 including trichloroethylene, are linked  
18 to PD by epidemiological and preclinical  
19 studies?

20 MS. ELLISON: Objection;  
21 form.

22 THE WITNESS: Well, that  
23 sentence is, of course, not  
24 exclusively focusing on TCE, but

1           rather is being a much broader,  
2           broader statement than just that.

3       BY MR. DOWLING:

4           Q.       So you think he -- even  
5       though he just mentioned  
6       trichloroethylene, air pollution,  
7       pesticides, you think he may not be  
8       talking about trichloroethylene when he  
9       says, All are linked to PD by both  
10      epidemiological and preclinical studies,  
11      many damage mitochondria, and are known  
12      to be impaired in PD in all exposed  
13      humans through multiple routes and  
14      various means?

15                    You think he wasn't  
16      referring to trichloroethylene in that  
17      sentence?

18                   MS. ELLISON:   Objection;  
19      form.

20                   THE WITNESS:   By making the  
21      statement about mitochondrial  
22      failure, I'm not -- in humans, I'm  
23      not sure there's any data to say  
24      that that's the mechanism of TCE

1           in humans, potentially.

2       BY MR. DOWLING:

3           Q.       So this sentence that begins  
4       with "however," you think is not true?

5                   MS. ELLISON:   Objection;  
6       form.

7                   THE WITNESS:   Well, I think  
8       it's nuanced and he's making a  
9       global statement about -- and he  
10      says it himself. They say it  
11      themselves, all these multiple  
12      things coming together.

13                  Do they all have the same  
14      mechanism? I don't think that  
15      statement actually -- and the  
16      references that they speak to  
17      actually addresses that.

18      BY MR. DOWLING:

19           Q.       Sir, is it your testimony  
20      that Dr. Dorsey's article does not assert  
21      that TCE is linked to PD by both  
22      epidemiological and preclinical studies?  
23      You're saying it's more nuanced, I think?

24           A.       Yeah, that's what I said.

1 MS. ELLISON: Objection;  
2 form.

3 THE WITNESS: Yeah. I think  
4 it's more nuanced than that. And  
5 what he says is many damaged  
6 mitochondria. But do we know in  
7 humans that -- for instance,  
8 you're asking a question that  
9 specifically TCE does that. I  
10 don't know. I don't think we know  
11 that. I know we don't know that.

12 BY MR. DOWLING:

13 Q. And I just want to note for  
14 the record, in both Exhibit 5 and Exhibit  
15 2, which are Mr. Welch and Ms.  
16 Rothchild's report, when you attributed  
17 this statement to Dr. Dorsey, in both of  
18 them --

19 A. Right.

20 Q. -- you removed the reference  
21 to trichloroethylene in your reports even  
22 though it appears in his peer-reviewed  
23 journal article.

24 Do you agree with that?



1 MS. ELLISON: Objection;  
2 form.

3 THE WITNESS: Yes.

4 BY MR. DOWLING:

5 Q. What are the basic  
6 allegations that Ms. Rothchild has made  
7 in her case?

8 MS. ELLISON: Objection;  
9 form and foundation.

10 THE VIDEOGRAPHER: Counsel,  
11 I think your mic fell off.

12 MR. DOWLING: Oh, I'm sorry.  
13 Should I repeat the  
14 question?

15 THE VIDEOGRAPHER: Sure.

16 BY MR. DOWLING:

17 Q. What are the allegations  
18 that Ms. Rothschild has made in her case?  
19 You said on Exhibit 3 that you reviewed  
20 the short form complaint of Diane  
21 Rothschild.

22 A. Uh-huh.

23 Q. That's the basic allegations  
24 of her complaint.

1                   What are the basic  
2                   allegations of her complaint?

3                   Do you understand the  
4                   question?

5                   A.       Yes, but I would want -- I  
6                   do understand the question, but I would  
7                   want to see the document that you're  
8                   specifically referencing just because  
9                   you're asking me specific questions about  
10                  it.

11                  Q.       So as you sit here today,  
12                  you can't recite the basic fundamental  
13                  allegations of Ms. Rothschild's  
14                  complaint?

15                  A.       I would want to see the  
16                  document.

17                  Q.       Okay. And -- okay.

18                  MS. ELLISON: Also, I don't  
19                  mean to cut you off, but it looks  
20                  like we might be going into a new  
21                  topic. It's been about an hour.

22                  Do we want to take a break?

23                  MR. DOWLING: That's fine,  
24                  yeah.

1 MS. ELLISON: Is that good  
2 with you, Doctor?

3 THE WITNESS: Sure.

4 MR. DOWLING: That's good  
5 with me.

6 THE VIDEOGRAPHER: We're  
7 going off the record. The time is  
8 11:32 a.m.

9 (Whereupon, a brief recess  
10 was held.)

11 THE VIDEOGRAPHER: We are  
12 now back on the record. The time  
13 is 11:48 a.m.

14 BY MR. DOWLING:

15 Q. Dr. Gollomp, I wanted to  
16 turn briefly back to Exhibit 8, Dr.  
17 Dorsey's article.

18 A. Uh-huh.

19 Q. And if you flip to Page 457  
20 of that general article -- yeah --  
21 there's a section dealing with  
22 trichloroethylene.

23 A. Uh-huh.

24 Q. And so Dr. Dorsey has

1 expanded on the earlier comments he made  
2 in the journal article about the history  
3 and status of trichloroethylene and the  
4 science; is that correct?

5 A. Oh, yeah.

6 Q. And if you go down to the  
7 second paragraph, he gives a background  
8 on trichloroethylene in the first  
9 paragraph.

10 In the second paragraph  
11 after Footnote 66, he says, quote, TCE is  
12 a known carcinogen and its toxic effects  
13 have been known since at least 1932.

14 Do you agree with that?

15 A. Uh-huh. Yes.

16 Q. And then he says, Like many  
17 pesticides, TCE is a mitochondrial  
18 toxicant that inhibits complex I of the  
19 respiratory chain.

20 Is that a true statement?

21 A. I believe it is. I'd have  
22 to check that reference, Reference 63, to  
23 know that for certain.

24 Q. Okay. I'll just represent

1 to you that Exhibit -- or Reference 63 is  
2 to Dr. De Miranda --

3 A. Yes. I see that.

4 Q. -- who we've spoken about.

5 A. Yeah.

6 Q. But I think you testified  
7 before that maybe earlier in this  
8 document, in this journal article, when  
9 we talked about the mitochondrial damage,  
10 that you thought that that was not  
11 established for TCE --

12 MS. ELLISON: Objection;  
13 form.

14 Sorry.

15 BY MR. DOWLING:

16 Q. -- back on Page 453 when Dr.  
17 Dorsey said, Chief among these are  
18 certain pesticides, industrial solvents  
19 like trichloroethylene and air pollution.  
20 These are not the only toxicants tied to  
21 DP and more may be found. However, these  
22 are all linked to PD by both  
23 epidemiological and preclinical studies,  
24 many damage mitochondria are known to be

1       impaired in PD, and they all expose  
2       humans through multiple routes.

3                       Do you see that?

4               A.       Yes.

5               Q.       And so, then, subsequently  
6       on Page 457, he cites to studies  
7       establishing that TCE is a mitochondrial  
8       toxicant.

9               A.       I see that.

10              Q.       Do you agree with that? Do  
11       you have any reason to dispute that?

12              A.       I have no specific  
13       information to dispute that.

14              Q.       And what would it mean to be  
15       a mitochondrial toxicant?

16              A.       Well, I talked about this  
17       before relative to MPTP as being the  
18       prototypical mitochondrial toxicant  
19       affecting complex I of the mitochondrial  
20       respiratory chain. So we're talking a  
21       similar target.

22              Q.       But it's one of the steps in  
23       that complex chemical reaction that  
24       ultimately damages the dopaminergic cells

1 in the substantia nigra?

2 A. It is one of the steps, yes.

3 Q. Thank you, sir.

4 Again, turning back to Ms.  
5 Rothchild in particular, what are the  
6 basic allegations that Ms. Rothchild has  
7 made in her case in court?

8 MS. ELLISON: Objection;  
9 form.

10 THE WITNESS: I'm sorry?

11 BY MR. DOWLING:

12 Q. You can answer.

13 A. Oh, oh, oh, oh, oh. I  
14 thought you were just making a statement.  
15 I'm sorry.

16 Q. No, no.

17 What are the basic, simple,  
18 general allegations that Ms. Rothchild is  
19 making in her case?

20 MS. ELLISON: Objection;  
21 form.

22 THE WITNESS: Well, Ms.  
23 Rothchild is -- I'd love to just  
24 see the complaint, but her basic

1           allegation is that -- in reference  
2           to this litigation, that her  
3           Parkinson's disease is a result of  
4           exposure to TCE at Camp Lejeune.

5       BY MR. DOWLING:

6           Q.       And is it true that her  
7           basic allegation is actually that it's to  
8           all the toxicants at Camp Lejeune?

9           A.       Again, I'd have to look back  
10          at the -- exactly how the complaint is  
11          phrased, but I'll grant that you're  
12          giving me the correct information.

13          Q.       When was Ms. Rothchild  
14          present at Camp Lejeune?

15          A.       Let me see, because I don't  
16          remember off the top of my head. It was  
17          quite some time earlier, but let me just  
18          get there.

19          Q.       And just feel free to take  
20          whatever time you need.

21          A.       Yeah, yeah. No, I  
22          understand. I don't want to just spout.

23                    Why am I not seeing this?

24                    Yeah. So that's what I



1 thought. So she had the exposure --

2 Q. Can you just tell us which  
3 page you're referring to?

4 A. Yeah. Yeah. I'm referring  
5 to Page 11.

6 Q. On Exhibit 2?

7 A. Correct. I'm sorry. Yes.  
8 And I may be missing other  
9 points in the -- in my report where I  
10 cited earlier. I just can't spot it  
11 right away.

12 But she had exposure at Camp  
13 Lejeune in her -- she's now in her late  
14 20s. And I know I captured somewhere in  
15 here how long she was exposed, but it was  
16 sometime in her late 20s.

17 Q. Okay. So you don't recall  
18 the specific years, or even generally?

19 A. I just knew it was  
20 roughly -- I cite here five decades  
21 earlier. So in here, she was 77 at this  
22 time. So in her late 20s -- excuse me --  
23 late 20s.

24 Q. Do you recall from your

1 review of the records why or in what  
2 capacity Ms. Rothchild was present at  
3 Camp Lejeune when she was there?

4 A. Let me see if I can answer  
5 that. I keep thinking -- I reference her  
6 working as a teacher. I don't recall if  
7 she worked specifically as a teacher  
8 there, though.

9 I'm sorry. I can't find it  
10 in my report specifically which --

11 Q. You don't know in what  
12 capacity she was there?

13 A. I don't recall off the top  
14 of my head. I know I was aware of it,  
15 but I don't recall what it was.

16 Q. Do you recall, based on your  
17 review of the records which would have  
18 included her deposition testimony, what  
19 her water consumption patterns were like?

20 A. Not specifically, no.

21 Q. Did you consider that in  
22 forming your opinion?

23 A. Not specifically, no.

24 Q. Do you have an opinion as to

1       how much trichloroethylene Ms. Rothchild  
2       was exposed to when she was at Camp  
3       Lejeune?

4               A.       I'd have to defer to the  
5       toxicology experts on that one.

6               Q.       So you're deferring to who?

7               A.       I believe that would be  
8       either Dr. LaKind or Bailey.

9               Q.       Is there a reason you picked  
10      those two to give them some deference and  
11      not over any other individuals?

12               MS. ELLISON:  Objection;  
13      form.

14               THE WITNESS:  They seem to  
15      have the most comprehensive  
16      analysis of potential exposure.  
17      That's the main reason why I  
18      deferred to them.

19      BY MR. DOWLING:

20               Q.       And you don't have a  
21      recollection as to whether you considered  
22      Dr. Reynolds' opinion about Ms.  
23      Rothschild's exposure?

24               MS. ELLISON:  Objection;

1 form.

2 THE WITNESS: Well, I think  
3 we talked about Dr. Reynolds  
4 already. I don't -- didn't see  
5 Dr. Reynolds' stuff.

6 BY MR. DOWLING:

7 Q. So is it your testimony that  
8 you did not consider Dr. Reynolds'  
9 opinion in formulating your opinions  
10 here?

11 A. Yes. I guess I'm going to  
12 have to say that because I haven't seen  
13 those.

14 Q. Do you have an opinion about  
15 how much tetrachloroethylene Ms.  
16 Rothschild was exposed to at Camp  
17 Lejeune?

18 A. Not specifically, no.

19 Q. You agree, and I think you  
20 write in your report, that Ms. Rothschild  
21 does, in fact, have Parkinson's disease?

22 A. Yes.

23 Q. You don't dispute Dr.  
24 Perlmutter's diagnosis?

1 A. No.

2 Q. And you agree it's a  
3 progressive disease?

4 A. Correct.

5 Q. You agree that, as a result  
6 of her Parkinson's disease, Ms.  
7 Rothschild has harm as a result of that?

8 I'll withdraw the question.

9 Do you agree that Ms.  
10 Rothschild experiences pain or discomfort  
11 associated with her Parkinson's disease?

12 A. Well, I would agree she has  
13 disability as a result of her Parkinson  
14 disease.

15 Q. And do those disabilities  
16 cause functional limitations?

17 A. Yes.

18 Q. Do they cause pain?

19 A. They can.

20 Q. In this case, do they cause  
21 pain?

22 A. I believe --

23 MS. ELLISON: Objection;  
24 form.

1                   THE WITNESS: I don't  
2                   really -- and maybe I'm missing  
3                   it. I don't have any specific  
4                   reference in the story that she  
5                   shared with me that she's having  
6                   much in the way of pain from this.

7       BY MR. DOWLING:

8                   Q.       Okay. What about just  
9                   generalized discomfort dealing with the  
10                  symptoms of Parkinson's disease? Do you  
11                  think that's present in her case?

12                  MS. ELLISON: Objection;  
13                  form.

14                  THE WITNESS: Well, the  
15                  disability of Parkinson disease is  
16                  very real. And it certainly  
17                  limits her, and she certainly  
18                  shared that with me.

19       BY MR. DOWLING:

20                  Q.       And what were the ways in  
21                  which it limits her?

22                  A.       Well, I'll quote from what  
23                  she told me because I think that says it.

24                  Q.       Yeah. Just tell us which

1 page, if you don't mind.

2 A. Yeah. Page 7, the bottom of  
3 the page. And she reported, of course,  
4 the onset of the tremor, and the tremors  
5 continued to trouble her; and her ability  
6 to carry out fine motor activities have  
7 evolved over time, and that has  
8 definitely limited her.

9 Q. You may need to speak up,  
10 sir.

11 A. Excuse me.

12 Q. It's okay.

13 A. This throat thing.

14 Her tremors really limited  
15 her. And she does have some spasm in her  
16 legs, which I think that's what you were  
17 getting at as far as potential causes of  
18 pain, when her medication is out of her  
19 system when she first wakes up in the  
20 morning; so that's certainly limiting.  
21 She's having some trouble with  
22 swallowing. Like I said, she's had  
23 trouble with motor control of her hands.  
24 She has occasional falls, and I saw she

1 was uncertain on her feet when I saw her  
2 virtually.

3 And those -- and she has  
4 difficulty carrying out, you know, many  
5 of her activities of daily living, which  
6 her friend, Gary Smith, needed to assist  
7 her with, has needed to assist her with.  
8 So, yeah.

9 Q. And it's not your opinion  
10 that any of that is being exaggerated,  
11 any of those limitations she has;  
12 correct?

13 A. Oh, correct.

14 Q. You found her to be genuine  
15 and candid in your assessment of her?

16 A. Very much so.

17 Q. Okay. And as a general  
18 matter, if someone is experiencing a  
19 disease like Parkinson's and they have  
20 disabilities on multiple planes, I mean,  
21 there's any number of ways this can  
22 affect them; right?

23 A. Yes.

24 Q. From -- I don't know if she



1 told you this story, but it's in the  
2 records of her having trouble eating  
3 soup.

4 Did she relate that to you,  
5 because of her tremor?

6 A. Well, she -- both that and  
7 also actually she has trouble swallowing  
8 liquids to some degree. So, yeah, she  
9 was very clear about that.

10 Q. And sort of difficulty  
11 maneuvering around her house? That can  
12 be one of the ways in which this disease  
13 affects her?

14 A. Yes, and we actually already  
15 sort of tangentially referenced that.  
16 But yes.

17 Q. Okay. Were there any -- so  
18 she exhibits motor symptoms of  
19 Parkinson's disease. I think you talked  
20 about a lot of those.

21 What about nonmotor  
22 symptoms?

23 A. She doesn't have a lot of  
24 nonmotor symptoms, which is a good thing.

1       So she didn't really talk about being --  
2       having a lot of constipation, orthostatic  
3       hypotension. She didn't really talk  
4       about -- a lot about her sleep being  
5       profoundly disrupted.

6                       So from that perspective, it  
7       didn't sound like she was having a lot of  
8       the nonmotor symptoms, at least in what  
9       she shared with me. But she did say her  
10      sleep was fragmented, so...

11               Q.       Yeah.

12                      And sleep. How do you  
13      typically assess whether someone's sleep  
14      is being disturbed by Parkinson's? Do  
15      you get their self report, or do you get  
16      a report of, like, a co-sleeper?

17                      MS. ELLISON: Objection;  
18      form.

19                      THE WITNESS: Well, usually  
20      it's both. And usually the person  
21      themselves doesn't know everything  
22      there is to know about their  
23      sleep, so I am dependent upon a  
24      companion or partner.

1 BY MR. DOWLING:

2 Q. Were you able to get that in  
3 this case?

4 A. It sounded like I was  
5 getting it, but I wonder. I don't know  
6 if Gary is actually in the room. And I  
7 didn't get a sense that that was really  
8 the case, but I don't know.

9 Q. So it's possible that she  
10 may not have an accurate picture into her  
11 own sleep patterns?

12 A. Yeah, that's possible. But  
13 as she said to me, she thinks she  
14 probably does not have rapid eye movement  
15 behavior disorder. But I realize that  
16 was probably based upon what Gary Smith  
17 was sharing with her, because she  
18 couldn't possibly know that.

19 Q. Okay.

20 A. I was dependent upon her.  
21 And Gary was present during the  
22 interview, and he didn't chime in on that  
23 issue either way.

24 Q. So putting aside what caused

1 her Parkinson's disease, you agree she  
2 has Parkinson's disease?

3 A. Yes.

4 Q. And you agree she's suffered  
5 harm as a result of the Parkinson's  
6 disease?

7 MS. ELLISON: Objection;  
8 form.

9 THE WITNESS: The Parkinson  
10 disease has clearly caused  
11 disability.

12 BY MR. DOWLING:

13 Q. Which is a kind of harm?

14 MS. ELLISON: Objection;  
15 form.

16 THE WITNESS: Well, I mean,  
17 from the point of -- I don't want  
18 to quibble about that, but -- I  
19 mean, yes, it is a harm in the  
20 very broad sense of the word, but  
21 I prefer -- I guess I don't like  
22 the pejorative term "harm." And  
23 when I talk to patients all the  
24 time, I say "disability." I don't

1 think I'd ever say to a patient,  
2 this is causing you harm, you  
3 know, except excessive falling,  
4 that kind of thing where they  
5 break things and stuff like that.  
6 In a way it's a harm, but it's not  
7 -- you know, I guess because I  
8 never like to negatively frame  
9 things, even in that way.

10 BY MR. DOWLING:

11 Q. Well, this isn't a benign  
12 circumstance that she's experiencing;  
13 correct?

14 A. Correct. Absolutely.  
15 That's merely the way I, as a clinician,  
16 will frame stuff.

17 Q. That's fair.  
18 If you need to review your  
19 report, feel free, but I'd like to get a  
20 list of all the risk factors that you  
21 believe are present in Ms. Rothschild's  
22 case, and if I get you to sort of give me  
23 a taxonomy in terms of which ones you  
24 ascribe the greatest weight to.

1           A.       Okay. Give me a couple of  
2 seconds to get to the right spot.

3                   Yeah. And I think probably  
4 the best place this is summarized is on  
5 Page 11, the second paragraph under the  
6 Summary of Opinions. And I think I list  
7 these things fairly succinctly.

8                   First of all, I felt that  
9 the very early age of onset of her  
10 disease going back at least over 30  
11 years, its very slow progression -- the  
12 typical Parkinson patient does not  
13 progress this slowly and have the disease  
14 for this many years; her great  
15 responsiveness to levodopa, which is a  
16 wonderful thing -- but over time, it  
17 begins to become more problematic, and  
18 she really hadn't had the level of  
19 problematic levodopa response -- the lack  
20 of any cognitive impairment, which is  
21 very common as the disease progresses,  
22 particularly over multiple decades; the  
23 lack of -- at least as I could determine  
24 from her history of the sleep disorder of

1 rapid eye movement behavior disorder,  
2 that mitigates -- those are important  
3 clinical perils; no major autonomic  
4 dysfunction and the early onset of the  
5 leg dystonia would tend to point to more  
6 of a -- all of these put together would  
7 point to more of a genetic cause for  
8 this.

9 Now, admittedly, as I say  
10 here, we don't really know what her  
11 mother had, and her mother also died  
12 fairly young.

13 So it's hard to really know  
14 for sure, but having seen clinically  
15 people like -- just like her through the  
16 years who go on for many, many years,  
17 those factors really do point to a  
18 genetic form, and if -- playing the  
19 statistics, like I say in my report, the  
20 PARK2 gene, or the Parkin gene, seems to  
21 be the most likely one, though there are,  
22 obviously, other genes here as I point  
23 out.

24 And then she -- I make the

1 point about -- about the exposures. She  
2 certainly wasn't exposed to any other  
3 neurotoxic drugs or metals like  
4 manganese. I didn't mention manganese  
5 earlier. Heavy metals is a cause of  
6 Parkinson's disease. There's no  
7 pesticide exposure. And then I'm relying  
8 on LaKind and Bailey as far as level of  
9 her exposure to chemicals at Camp  
10 Lejeune.

11 So, again, pointing out that  
12 she had an early diagnosis under the age  
13 of 50, progressed very slowly, and there  
14 are other features, those all suggest to  
15 me that this is a genetically modulated  
16 Parkinson disease, whichever gene it is,  
17 because we don't know.

18 Q. Okay. We'll unpack that a  
19 little bit.

20 So you indicated there as  
21 part of your response that you relied on  
22 LaKind and Bailey in connection with  
23 their assessment of Ms. Rothchild's  
24 exposure; correct?



1 A. Correct.

2 Q. And you've indicated in your  
3 earlier testimony that you did not rely  
4 upon any other experts that opined on  
5 that matter; is that correct?

6 A. Yes.

7 Q. I want to give you a  
8 hypothetical.

9 A. Right.

10 Q. If it turns out that the  
11 decision-maker in this case does not  
12 credit LaKind and Bailey's opinions, that  
13 would necessary cause you to change your  
14 opinion; correct?

15 MS. ELLISON: Objection;  
16 form and foundation.

17 THE WITNESS: I don't think  
18 so because I think the genetic  
19 load in her case is so compelling.  
20 Just the story and the slow  
21 progression and early onset really  
22 do -- and like I say, I have  
23 clinical experience with people  
24 who are just like her, and, you

1 know -- and like I testified  
2 earlier, a very few of them  
3 actually have the genetic data.  
4 And that, to me, is pretty  
5 compelling, though I don't have  
6 the genetic data in her case.

7 BY MR. DOWLING:

8 Q. If the factfinder in this  
9 case, or the decision-maker, just to use  
10 the common parlance, determines that Ms.  
11 Rothchild was exposed to substantial  
12 levels of TCE and PCE at a level that  
13 could cause her disease, you would  
14 disagree with that opinion; correct?

15 MS. ELLISON: Objection;  
16 form and foundation.

17 THE WITNESS: Well, inherent  
18 in that hypothetical question are  
19 a lot of assumptions about what  
20 the factfinder might or might not  
21 say.

22 But still, I would come back  
23 to the fact that there's still a  
24 very significant genetic load in

1 her case; and the fact that she  
2 has had a very long duration of  
3 the disease with relative --  
4 relatively little accumulation of  
5 disability and with an early onset  
6 -- which, again, onset under the  
7 age of 50 really does point to --  
8 also points to a genetic etiology.

9 BY MR. DOWLING:

10 Q. But if the factfinder or  
11 decision-maker determines that they're  
12 going to credit someone other than LaKind  
13 and Bailey and they are going to find  
14 that Ms. Rothchild was exposed to toxic  
15 levels of PCE and TCE, that would  
16 fundamentally alter your opinion in this  
17 case?

18 MS. ELLISON: Objection;  
19 form and foundation.

20 THE WITNESS: Well, I think  
21 I've already answered it, but I'll  
22 state it that still I think the  
23 predominant etiology in her case  
24 is not related to that because of

1           all the factors I've discussed.

2       BY MR. DOWLING:

3           Q.       If, in that hypothetical  
4       we're discussing now --

5           A.       Right, right.

6           Q.       -- where a factfinder  
7       doesn't give great weight to LaKind and  
8       Bailey, they gave weight to some other  
9       expert --

10          A.       Right.

11          Q.       -- who finds that Ms.  
12       Rothchild was exposed to toxic levels of  
13       TCE and PCE, are you willing and open to  
14       the possibility, Dr. Gollomp, that the  
15       exposure could be as likely a cause as  
16       the genetic component in this case?

17                   MS. ELLISON:  Objection;  
18                   form and foundation.

19       BY MR. DOWLING:

20          Q.       In that hypothetical  
21       circumstance.

22          A.       No, no.  I understand where  
23       you're going with this.

24                   MS. ELLISON:  Just the same

1 objection.

2 THE WITNESS: Yeah, I  
3 understand where you're going with  
4 this. And when you're saying "as  
5 likely as not," which is not  
6 really a scientific standard --  
7 you know, obviously, anything is  
8 possible. This is -- this is a  
9 hypothetical, and we're trying to  
10 determine something in retrospect.  
11 And, hypothetically, I don't know  
12 the right answer.

13 BY MR. DOWLING:

14 Q. But again, you applied in  
15 your report a higher standard of -- what  
16 was the standard you testified to?

17 A. Reasonable degree of medical  
18 certainty.

19 Q. Okay. And so if the  
20 standard were whether --

21 A. Uh-huh.

22 Q. -- exposure is as likely as  
23 not --

24 A. Uh-huh.

1           Q.       -- and the factfinder  
2 determines she was exposed to a toxic  
3 level of chemicals, are you open to the  
4 possibility that the toxic chemicals are  
5 as likely a cause as the genetic cause  
6 here?

7                   MS. ELLISON:  Objection;  
8 form.

9                   THE WITNESS:  I have to  
10 answer in the negative because the  
11 genetic etiology seems so  
12 compelling.  So I have to answer  
13 in the negative.

14 BY MR. DOWLING:

15           Q.       What if you're given  
16 compelling evidence that she was exposed  
17 to toxic levels of TCE and PCE?  Is there  
18 any circumstance under which you would  
19 change your opinion?

20                   MS. ELLISON:  Objection;  
21 form.

22                   THE WITNESS:  Well, I would  
23 certainly, in the abstract sense  
24 in an individual who had that kind

1 of exposure and had a fairly few  
2 years -- I'm just being very  
3 hypothetical now -- a much shorter  
4 latency and a much more aggressive  
5 disease, then I would certainly  
6 rethink that.

7 BY MR. DOWLING:

8 Q. Just one moment.

9 But to be clear, you didn't  
10 apply an "as likely as not" standard in  
11 this case?

12 A. That is correct.

13 Q. Assuming it is determined,  
14 judiciously or otherwise, that Ms.  
15 Rothchild was exposed to a toxic level of  
16 TCE or PCE --

17 A. Right.

18 Q. -- would the exposure to a  
19 toxic level of TCE or PCE trigger a  
20 genetic predisposition to develop  
21 Parkinson's disease?

22 MS. ELLISON: Objection;  
23 form.

24 THE WITNESS: That's a

1           fascinating question I don't know  
2           the answer to.

3       BY MR. DOWLING:

4           Q.       Are you open to the  
5       possibility that there is an interaction  
6       between genetics and exposure to toxic  
7       chemicals that can be the contributing  
8       and substantial causes jointly of  
9       Parkinson's disease?

10               MS. ELLISON:  Objection;  
11               form.

12               THE WITNESS:  In the  
13               theoretical sense, yes.  I mean,  
14               yeah.

15       BY MR. DOWLING:

16           Q.       Go ahead.  Sorry.

17           A.       Yeah.  In the theoretical  
18       sense, yes.  I can't -- I mean, we've all  
19       talked about the fact that it's a  
20       confluence of things.

21           Q.       And again -- I mean, I'm not  
22       trying to get out over my skis here, but  
23       Dr. Dorsey says in Exhibit 8 --

24           A.       Yeah.



1           Q.       -- that genetics alone are  
2       not enough; it's necessary for there to  
3       be something else. That's what I'm  
4       driving at, Doctor.

5           A.       Yeah. No. I know what  
6       you're driving at.

7                   MS. ELLISON: Objection;  
8       form.

9       BY MR. DOWLING:

10          Q.       He says, Other factors,  
11       including environmental ones, must be  
12       necessary for the disease to develop.

13          A.       But I think in an individual  
14       who has -- presumably has the genetic  
15       mutation to induce the disease, that's a  
16       different candle of wax than what Ray is  
17       talking about where they don't have this  
18       profound genetic load that sets them up.

19          Q.       Okay. So you think he's  
20       talking about something else, but I'm  
21       talking about the genetic-environmental  
22       interaction.

23          A.       Yeah, I know. Yeah. No, I  
24       understand.

1 MS. ELLISON: Objection;  
2 form.

3 THE WITNESS: Yeah, I  
4 understand what you're getting at.  
5 But I think -- you know, in the  
6 more abstract sense, I think that  
7 hypothesis is potentially correct,  
8 of course. I mean, we're all  
9 suggesting that the cause of  
10 Parkinson's disease is  
11 multifactorial across many things.

12 But someone who has such a  
13 strong genetic load, I think  
14 you're in this quagmire of that  
15 it's not quite the same as what  
16 Ray Dorsey and Ben Bloem are  
17 postulating in their 2024 paper.

18 BY MR. DOWLING:

19 Q. So you talked about the  
20 early onset of Ms. Rothchild Parkinson's  
21 disease.

22 Do you recall Ms.  
23 Rothchild's date of birth?

24 A. I know she's 77, but I don't

1 know her exact date of birth.

2 Q. If I represent to you that  
3 it was March 30th of 1947, does that  
4 comport with your recollection of the  
5 records?

6 A. Yeah. Yeah.

7 Q. When was Ms. Rothchild first  
8 diagnosed with Parkinson's disease?

9 A. Well, she was probably --  
10 because Dr. Perlmutter --

11 Q. And I asked diagnosed too.

12 A. Oh.

13 Q. I'll refer you to Page 10 of  
14 your report to speed you up.

15 A. Yeah. That's where I was  
16 going to. Yeah.

17 He didn't officially make a  
18 diagnosis of Parkinson disease in -- it  
19 looks like probably 2014, 2015, in that  
20 time frame. He, obviously, was a little  
21 equivocal.

22 Q. So you think it was 2014 or  
23 2015?

24 A. One of the two. I mean,

1 just reading his notes, that's -- I think  
2 that's -- and, really, he wanted to give  
3 it a whirl to test out the therapeutic  
4 impact of levodopa in 2013, but I got the  
5 sense that he really wasn't as -- it took  
6 him a while to be convinced of the  
7 diagnosis is what I'm really getting at.  
8 He didn't see her that often --

9 Q. Yup.

10 A. -- to have more granular  
11 information about that.

12 Q. So if she were diagnosed in  
13 2014 or 2015, let's just say 2014 --

14 A. Yeah.

15 Q. -- and she was born in [REDACTED]  
16 of 1947, how old was she at the date of  
17 diagnosis?

18 A. Forty-seven.

19 Q. So 2014 minus 1947?

20 A. I believe that's correct.  
21 Let me think for a second -- 47, 43, 50  
22 --

23 MS. ELLISON: I don't --  
24 well, I don't want to say

1 anything, but...

2 THE WITNESS: So let's see  
3 for a second. So 2007 --

4 MS. ELLISON: Go to the --

5 THE WITNESS: So that's --  
6 let's go back the other way.

7 MS. ELLISON: Just for your  
8 reference --

9 THE WITNESS: So that's 11  
10 years ago. So she was in her 60s  
11 at that point that he finally  
12 reached the diagnosis.

13 BY MR. DOWLING:

14 Q. So I admittedly went to law  
15 school, not math school.

16 A. Right.

17 Q. But I got 67 --

18 A. Right. That's what I get.

19 Q. -- 2014 --

20 A. That's what I get too.

21 Q. I will note your counsel is  
22 pointing to the fact that, in your  
23 report, you say that she actually was  
24 diagnosed in 1999, in the first section

1 of -- first sentence of that section  
2 there.

3 Do you see that?

4 A. Yeah, I do.

5 Q. Okay. And I think what's  
6 going on here is you say it was 1999, but  
7 then subsequently, he couldn't detect  
8 Parkinson's disease in the 2014-'15 time  
9 period; is that right?

10 A. That's correct. And a part  
11 of the problem is records are missing.

12 Q. Okay. So let's go --  
13 because -- for sake of argument with 1999  
14 as the diagnosis date.

15 A. Yeah.

16 Q. And doing the math again, if  
17 her birth date is March of 1947, how old  
18 would she have been --

19 A. She would have been 52 then.

20 Q. Okay. And so she wasn't in  
21 her 40s when she was diagnosed?

22 A. Correct.

23 Q. And so based on your review  
24 of the records, when was the onset of

1 symptoms?

2 A. Well, the onset of symptoms  
3 was clearly earlier. And that's one of  
4 the confounders here, is that since it  
5 began earlier and it's -- and she,  
6 herself, even said that specific  
7 treatment for the disease was started  
8 sometime in the late 1990s. And part of  
9 the problem is we're missing -- we're  
10 missing records that help us decide  
11 what's going on, because she had symptoms  
12 as early as the early 1990s, and we  
13 just -- we just don't know.

14 And at that point in the  
15 early 1990s, she was in her mid --  
16 correct me if I'm wrong -- 47 -- she was  
17 in her mid-40s, so...

18 Q. I think from your report and  
19 my review of the records that this is  
20 showing an onset date of mid-40s.

21 Can we agree on that?

22 A. Yeah. That's what I'm going  
23 back to.

24 Q. Okay. And so that's the

1 best evidence we have, is that  
2 Parkinson's disease began, from your  
3 report, in the mid-40s.

4 A. That's correct.

5 Q. Okay. So she was not under  
6 40 when the Parkinson's disease began?

7 A. No. I did not say that.

8 Q. Okay.

9 A. I said she was under 50.

10 Q. Okay. And in addition to  
11 the Parkinson's disease, Dr. Perlmutter  
12 has diagnosed her with essential tremor;  
13 correct?

14 A. Correct.

15 Q. And she takes a medication  
16 specifically for that condition as well?

17 A. Yes, she does.

18 Q. In terms of sequencing, do  
19 you believe the tremor began before the  
20 Parkinson's or do you think the  
21 Parkinson's began before the tremor --  
22 essential tremor I should say?

23 A. It's hard to know, actually.  
24 It's really hard to know. But it sounds



1     like he thought he saw -- this is  
2     Joel Perlmutter now -- he saw more of the  
3     essential tremor features early on. But  
4     certainly a few years later, he was more  
5     convinced of the Parkinson features.

6                     And like I testified  
7     already, the two disorders can be  
8     concordant in one person.

9                     Q.     The records that you've  
10    talked about in your report, are they  
11    consistent with someone who maybe had an  
12    essential tremor in the early '90s?

13                    A.     It's possible.

14                    Q.     Okay. And that's a separate  
15    disease than Parkinson's disease?

16                    A.     Presumably so. Now, that's  
17    where this gets a little foggy because  
18    people can have both. And even on our  
19    Parkinson disease rating scale, we  
20    actually purposely acknowledge the  
21    kinetic tremor and rate it. And is that  
22    -- and I already suggested to you that  
23    some authors think that essential tremor  
24    increases your risk of Parkinson's

1 disease, so that's a little more  
2 complicated.

3 MS. ELLISON: And I  
4 apologize. I don't mean to  
5 interrupt.

6 But just when you're  
7 speaking, just put the coffee cup  
8 down so it doesn't block the  
9 video.

10 THE WITNESS: Okay. Okay.  
11 I'm sorry.

12 MR. DOWLING: And I'll just  
13 probably finish up this section,  
14 and then we can go a little bit  
15 more.

16 MS. ELLISON: I won't hold  
17 you to it.

18 MR. DOWLING: Okay.

19 BY MR. DOWLING:

20 Q. Just to summarize so we can  
21 get a clear record here, though --

22 A. Sure.

23 Q. -- she's diagnosed in 1999  
24 according to your report, and she's in

1 her mid-50s?

2 A. Yes.

3 Q. According to your report,  
4 the onset was in the earlier '90s when  
5 she would have been in her mid-40s?

6 A. Correct.

7 Q. Not below 40?

8 A. Correct.

9 Q. Okay. And some of the  
10 earlier symptoms appear to be symptoms  
11 consistent with an essential tremor?

12 A. Correct.

13 Q. Isn't it possible that she  
14 had an essential tremor in her mid-40s  
15 and then developed Parkinson's disease  
16 subsequent to that, maybe as late as the  
17 2000s?

18 A. It's not inconceivable.

19 Q. In which case, she would  
20 have developed Parkinson's disease in  
21 that hypothetical when she was over the  
22 age of 50?

23 A. Correct.

24 Q. What is the scientifically

1       accepted -- let me lay some foundation,  
2       or else I'll get an objection.

3                       MS. ELLISON:   You might get  
4                       one anyway.

5                       MR. DOWLING:   Certainly  
6                       will.

7       BY MR. DOWLING:

8                       Q.       So you believe the  
9       predominant risk factor, or the driver in  
10      this case is genetics, and you've pointed  
11      to certain flags that you believe are  
12      markers in the records that point in that  
13      direction.   One of them is the  
14      young-onset Parkinson's disease.   Is that  
15      correct?

16                      A.       Correct.

17                      Q.       What does the scientific  
18      community say about young-onset  
19      Parkinson's disease in terms of what the  
20      actual young onset is?

21                      MS. ELLISON:   Objection;  
22                      form.

23                      THE WITNESS:   Well, I mean,  
24      the typical signpost is under the

1                   age of 50.

2                               (Whereupon, Exhibit 9 was  
3                   marked for identification.)

4       BY MR. DOWLING:

5               Q.       I'm handing you a document  
6       that's been labeled Exhibit 9. Take a  
7       chance to review this, Doctor.

8                               Are you familiar with this  
9       article?

10              A.       I guess I am. I'm on it.

11              Q.       Who's Dr. Stern?

12              A.       He's one of my colleagues at  
13       UPenn.

14              Q.       Okay.

15              A.       Yeah.

16              Q.       Are these authors  
17       knowledgeable folks, including Stephen  
18       Gollomp?

19              A.       Yeah. We had some vague  
20       notion of what we were doing.

21              Q.       UPenn, that's a pretty good  
22       university; right?

23              A.       Yeah, the last time I  
24       checked.

1 Q. Do you remember, was this a  
2 peer-reviewed journal?

3 A. Yeah, this was. I think  
4 this was in -- oh, it's Archives in  
5 Neurology. I thought it was in another  
6 journal, but it was Archives.

7 Q. Okay. And I'm just going to  
8 direct you down to -- I'm sure you're  
9 familiar with this study because you  
10 wrote it. But the bottom right paragraph  
11 says -- describes the nature of this  
12 study into the epidemiology of  
13 Parkinson's disease, and the sentence  
14 says, Patients were separated into two  
15 groups based on the age at which they  
16 experienced their first symptoms. Onset  
17 before age 40 years, parentheses,  
18 young-onset patients, and onset --

19 A. Right.

20 Q. -- during or after age 60  
21 years, old-onset patients.

22 So in this particular  
23 case-controlled study, the criteria for  
24 young-onset Parkinson's disease was onset

1 below 40 years?

2 A. That's correct.

3 Q. And based on your review of  
4 the records and your testimony, Ms.  
5 Rothchild would not have qualified as a  
6 young-onset Parkinson's patient under the  
7 criteria of this study; is that correct?

8 A. That's correct. Under the  
9 criteria in this study, that's correct.

10 Q. Hold on a second. One  
11 moment.

12 (Whereupon, Exhibit 10 was  
13 marked for identification.)

14 BY MR. DOWLING:

15 Q. I'm handing you a document  
16 that's been labeled as Exhibit 10.

17 Do you happen to recognize  
18 these authors?

19 A. No, I don't. I don't know  
20 these guys.

21 Q. Okay. Do you recognize this  
22 journal?

23 A. Yeah. I don't -- I don't  
24 read this particular journal, but I've

1 certainly seen it before.

2 Q. Okay. And this is an  
3 article also dealing with young-onset  
4 Parkinson's disease; correct?

5 A. Yes.

6 Q. And again, these are -- many  
7 of these are trying to get at the  
8 genetics of Parkinson's; correct?

9 A. That's correct.

10 Q. And in the introductory  
11 paragraph, there's a light gray  
12 highlighted sentence that says, YO PD is  
13 defined as the diagnosis of PD between  
14 the ages of 21 and 40.

15 Is that correct?

16 A. That's correct.

17 Q. And so both the studies that  
18 I've provided to you, including one you  
19 wrote, have defined young-onset  
20 Parkinson's disease as onset below the  
21 age of 40?

22 A. That's correct. However,  
23 what I was referencing -- and you have  
24 not provided any references to that



1 effect -- is that people with -- there's  
2 no question the young-onset group, really  
3 young-onset group, like, let's say  
4 Michael J. Fox, a prototypical example of  
5 very early onset, age 29.

6 In contrast, a group with  
7 genetic predisposition, it's generally  
8 regarded -- and that's been -- that has  
9 been published since we did this 1991  
10 article in Archives -- that it's -- the  
11 age relationship to genetics is really  
12 anyone under the age of 50.

13 Q. Got it.

14 A. And then there's yet a  
15 separate group of the really young-onset  
16 patients, like Michael Fox, who have it  
17 between 20 and 40. So she's not one of  
18 them.

19 Q. Do you believe there are  
20 still researchers in this scientific  
21 community that view young-onset  
22 Parkinson's disease as occurring before  
23 the age of 40?

24 A. The kind of young-onset

1 patients we were dissecting out in 1991,  
2 which is, what, 34 years ago, that is a  
3 different group.

4 Q. But regardless, under these  
5 formulations, Ms. Rothchild would not be  
6 considered to have young-onset  
7 Parkinson's disease?

8 MS. ELLISON: Objection;  
9 form.

10 THE WITNESS: That's  
11 correct. But also, I didn't say  
12 that she had young-onset  
13 Parkinson's disease. I merely was  
14 pointing to the fact that she  
15 probably had onset under the age  
16 of 50 and she had other features  
17 that point to a genetic cause.

18 BY MR. DOWLING:

19 Q. And just to be clear, she  
20 may have had onset before the age of 50  
21 if her first symptoms were actually an  
22 essential tremor and she didn't develop  
23 it until later; correct?

24 A. Potentially.

1           Q.       And if that were the case,  
2       that would tend to weaken your hypothesis  
3       that this is a genetically caused case?

4           MS. ELLISON:   Objection;  
5       form.

6           THE WITNESS:   To some  
7       degree, yes.   But at the same  
8       time, given her very slow  
9       progression, her ongoing really  
10      good response to levodopa and the  
11      lack of serious cognitive  
12      dysfunction evolving over all this  
13      time tends to point in the other  
14      direction.   And since we don't  
15      have definitive genetic data, we  
16      don't know.

17          MR. DOWLING:   Sort of in  
18      this topic, I'd like to finish up,  
19      but --

20          MS. ELLISON:   That's fine.

21          MR. DOWLING:   -- maybe -- I  
22      don't want to give you a time.

23          MS. ELLISON:   Dr. Gollomp,  
24      are you fine to keep going?   Okay.

1 THE WITNESS: I'm fine.

2 MR. DOWLING: And then we'll  
3 break after this.

4 BY MR. DOWLING:

5 Q. So on the subject of  
6 genetics and Ms. Rothchild --

7 A. Yeah, yeah.

8 Q. -- you admit she has never  
9 had any genetic testing done for  
10 Parkinson's disease?

11 A. That's my understanding. I  
12 think even Joel Perlmutter sort of talked  
13 about it and didn't do it.

14 Q. And, really, the crux of  
15 your opinion that this is genetically  
16 induced is you've looked at all these  
17 factors -- and I understand it's a  
18 multifactor analysis -- but one of the  
19 factors you've given weight to is her  
20 mother's report of a tremor at some point  
21 in her life?

22 A. Right. Right.

23 Q. What do you know about Ms.  
24 Rothchild's mother's health?

1           A.       Not a lot.   It's that  
2       simple.   Not a lot.

3           Q.       Okay.   And her mother is  
4       obviously deceased; right?

5           A.       Right.

6           Q.       And do you know how her  
7       mother died?

8           A.       I don't remember.   I really  
9       don't remember.   I know she was  
10      relatively young.   I think she was in her  
11      60s, if I'm not mistaken.

12          Q.       Did she die of Parkinson's,  
13      or with Parkinson's disease?

14          A.       No, she didn't have  
15      Parkinson's disease, any way recognized.

16                 I said 62.   She died at 63,  
17      and I don't know what she specifically --  
18      what she died from.

19          Q.       Do you recollect any  
20      discussion about a car accident?

21          A.       I don't remember.

22          Q.       Okay.   That's fine.

23                 But you have no reason to  
24      believe that Parkinson's was in any way

1 related to her death?

2 A. No, not specifically.

3 Q. Okay. And her mother was  
4 never diagnosed with Parkinson's disease?

5 A. That is correct.

6 Q. Are you aware of anyone else  
7 in Ms. Rothchild's family tree that has  
8 ever been diagnosed with Parkinson's  
9 disease?

10 A. No.

11 Q. And I think we've discussed  
12 this at the outset, but if it were a  
13 genetic cause, you would expect, in some  
14 of those cases, to see some other  
15 relative present with Parkinson's  
16 disease?

17 A. Depending on the gene that  
18 might be involved, yes, I might.

19 I also know as good as  
20 family histories can be, they sometimes  
21 can be very sketchy. So it's not as  
22 reliable an indicator as I wish it was.

23 Q. But you'd obviously feel  
24 more confident in your opinion if you

1       were aware of a relative in her family  
2       tree that had Parkinson's disease?

3               A.       Yes.

4                       MS. ELLISON:   Objection;  
5       form.

6       BY MR. DOWLING:

7               Q.       And that doesn't exist, in  
8       fact, in this case?

9                       MS. ELLISON:   Objection;  
10      form.

11                      THE WITNESS:   Correct.

12      BY MR. DOWLING:

13               Q.       Ms. Rothchild has reported  
14      that her mother had a tremor later in her  
15      life; right?

16               A.       Yes.

17               Q.       And it's been described in  
18      the records as an essential tremor?

19               A.       I believe so.

20               Q.       And we've talked about what  
21      an essential tremor is. We talked about  
22      some of the causes of an essential  
23      tremor, but can you describe for me again  
24      whether you think a stroke is a potential

1 cause of an essential tremor?

2 A. Well, like we discussed  
3 earlier, that's what we traditionally  
4 really call an "essential tremor."  
5 Stroke is not really a cause, but it can  
6 be a -- a tremor can be a manifestation.

7 Q. Can a stroke contribute to  
8 the development of an essential tremor?

9 A. Generally, no. Generally,  
10 no.

11 Q. So a stroke is in no way  
12 associated with an essential tremor?

13 A. In any one individual  
14 circumstance, there may be some  
15 exacerbation, maybe an asymmetry due to  
16 stroke. But as an actual underlying  
17 cause, in the vast majority of people,  
18 no.

19 (Whereupon, Exhibit 11 was  
20 marked for identification.)

21 BY MR. DOWLING:

22 Q. I'm showing you a document  
23 that's been marked as Exhibit 11.

24 Do you recognize this



1 document?

2 A. Yeah. I believe this is  
3 from Joel Perlmutter's records.

4 Q. And I'll direct your  
5 attention to the top family history  
6 section, and it indicates Stroke:  
7 Mother, father.

8 A. I see that.

9 Q. Did you consider that in  
10 formulating your opinion?

11 A. Not specifically, no. And  
12 also, she didn't share that her mother  
13 had a stroke. So I didn't quite follow  
14 that.

15 Q. Okay. Isn't it a fact,  
16 though, that a stroke can either be  
17 associated with or cause symptoms that  
18 resemble an essential tremor?

19 MS. ELLISON: Objection;  
20 form.

21 THE WITNESS: That's a very  
22 low probability.

23 BY MR. DOWLING:

24 Q. Why?

1           A.       Because when stroke causes a  
2 tremor, it affects specific targets in  
3 the central nervous system that would  
4 result in a very asymmetric tremor and  
5 would very probably be associated with  
6 other deficits beyond just shaking.

7           Q.       But you don't know if she  
8 had other deficits one way or another.

9           A.       I do not.

10          Q.       So it's plausible. You have  
11 ascribed a very low possibility to it,  
12 but it's plausible that her stroke either  
13 caused or contributed to her essential  
14 tremor.

15                   MS. ELLISON: Objection;  
16 form, foundation.

17                   THE WITNESS: Well, that's  
18 assuming that her mother indeed  
19 had a stroke, because she,  
20 herself, did not say her mother  
21 had a stroke.

22                   I see this in Perlmutter's  
23 record, but she didn't share that  
24 with me and -- nor did I see it

1           anywhere else in the record.

2       BY MR. DOWLING:

3           Q.       Did you ask her?

4           A.       Yes, I did.

5           Q.       Do you have notes of that  
6       interaction where she asked your -- where  
7       you asked her? I'm sorry.

8           A.       They exist.

9           Q.       Have you given them to them?

10          A.       Yes.

11          Q.       So we talked earlier in  
12       connection with Exhibit 8 about Dr.  
13       Dorsey's discussion of the environmental  
14       causes --

15          A.       Uh-huh.

16          Q.       -- of Parkinson's disease.

17          A.       Yes.

18          Q.       And I think we pulled out  
19       the section where he noted that purely  
20       genetic causes of PD account for about 2  
21       percent of individuals with the disease.

22          A.       Yes.

23          Q.       Do you agree with that?

24               MS. ELLISON: Objection;

1 form.

2 THE WITNESS: Well, like I  
3 said at the time, I think it's  
4 somewhere in that neighborhood. I  
5 mean -- because he even himself  
6 says about 2 percent -- whether  
7 it's 3 percent, whether it's 4  
8 percent, and probably varies  
9 across ethnic background and a lot  
10 of other features that aren't  
11 necessarily encompassed in that  
12 statement.

13 BY MR. DOWLING:

14 Q. But that's a very low  
15 probability.

16 A. Agreed.

17 Q. And it's your testimony, in  
18 the absence of any genetic testing, in  
19 the absence of any definitive family  
20 history, that Ms. Rothchild fits within  
21 the very limited class where there's a  
22 low probability of genetic cause?

23 MS. ELLISON: Objection;  
24 form.

1 THE WITNESS: Yes.

2 BY MR. DOWLING:

3 Q. But as a general matter, you  
4 don't dispute that genetics in the main  
5 are not thought to account for most cases  
6 of Parkinson's disease?

7 MS. ELLISON: Objection;  
8 form.

9 THE WITNESS: In the main, a  
10 solely genetic cause, just as I  
11 even testified early in this  
12 deposition, even in my own  
13 clinical experience, it's not a  
14 common thing.

15 MR. DOWLING: Was that 11?

16 MS. ELLISON: Yes. We're on  
17 to 12.

18 (Whereupon, Exhibit 12 was  
19 marked for identification.)

20 BY MR. DOWLING:

21 Q. I'm handing you a document  
22 that's marked Exhibit 12.

23 Are you familiar with this  
24 study, Dr. Gollomp?

1           A.       I have seen it at some  
2 point, and I know a fair number of the  
3 authors.

4           Q.       Do you know Dr. Goldman?

5           A.       No.

6           Q.       Are you familiar with Dr.  
7 Goldman's research?

8           A.       No.

9           Q.       Let's just kind of go  
10 through in the abstract section.

11          A.       Uh-huh.

12          Q.       Well, first of all, the  
13 title is Solvent Exposures and  
14 Parkinson's Disease Risk in Twins;  
15 correct?

16          A.       Correct.

17          Q.       And this is a study from the  
18 -- is it the Annals of Neurology?

19          A.       Yes.

20          Q.       Is that a peer-reviewed  
21 journal?

22          A.       Yes.

23          Q.       Okay. And it's from 2012.  
24 And the purpose of this

1 study was to test the hypothesis that  
2 exposure to specific solvents was  
3 associated with PD risk using a  
4 discordant twin pair design.

5 Do you agree with that,  
6 under Objective? That's what this says?

7 A. Uh-huh.

8 Q. And what do you understand  
9 about twin studies and why they're used  
10 in this scientific research?

11 MS. ELLISON: Objection;  
12 form and foundation.

13 BY MR. DOWLING:

14 Q. If you understand. Maybe  
15 you don't.

16 A. No. No, I do understand it.  
17 And twin studies,  
18 particularly if they're identical  
19 twins -- that's something that one has to  
20 be careful about, because if they're not  
21 monozygotic twins, they're not really  
22 genetically identical.

23 But presuming that was the  
24 case in this study -- and I'd have to

1 read it through to answer that question  
2 whether they're monozygotic or  
3 dizygotic -- the idea is that you're  
4 controlling for genetic risk factors --  
5 I'm talking globally relative to doing  
6 twin studies -- and then trying to -- in  
7 this case, they're trying to quantitate a  
8 relationship to solvents. And the one  
9 twin who was exposed more had a higher  
10 risk of Parkinson disease.

11 Q. So let's just address the  
12 monozygotic issue.

13 If you turn to Page 3 under  
14 the heading Statistical Analysis?

15 A. Yeah.

16 Q. Can you read that first  
17 sentence for me?

18 A. Yeah.

19 Paired analyses were  
20 performed in monozygotic and dizygotic  
21 twins discordant for PD. For all risk  
22 variables, observations for both twins  
23 were truncated at the earlier of PD  
24 diagnosis age in the affected twin or the



1 last year for which information was  
2 available.

3 So that's what it says.

4 Q. Okay. And so what's your  
5 testimony about the impact of dizygotic  
6 twins, if any?

7 A. What I was getting at is is  
8 that dizygotic twins are not -- even  
9 monozygotic twins are not necessarily  
10 absolutely genetically identical, but  
11 dizygotic twins are no more identical  
12 than any other siblings.

13 And in this study, in the  
14 Results section, they actually tell you  
15 how many. They had -- 198 PD discordant  
16 pairs were identified; 85 were  
17 monozygotic and 110 were dizygotic. So  
18 the majority were like any other  
19 siblings; and then three they say they  
20 don't. I'm not sure what that means.

21 So -- whatever. So they do  
22 break it down.

23 Q. What page are you referring  
24 to?

1           A.       The bottom of Page 3,  
2       Results.

3           Q.       Okay. And this study  
4       reports in the Results section on Page 1,  
5       with respect to those who were ever  
6       exposed to trichloroethylene --

7           A.       I'm sorry. Page 1.  
8                    Okay. Yeah. Okay. Back to  
9       Page 1.

10          Q.       Yeah.  
11                    It reports an increased risk  
12       of Parkinson's disease with an odds ratio  
13       of 6.1, 95 percent confidence interval of  
14       1.2 to 33, and exposure to  
15       perchloroethylene tended towards  
16       significance.

17                    Do you agree that those  
18       results tend to show an increased risk  
19       among these twin pairs if they were ever  
20       exposed to Parkinson's disease?

21                    MS. ELLISON: Objection to  
22       form and foundation.

23                    THE WITNESS: I'm sorry. I  
24       don't understand the question.

1 BY MR. DOWLING:

2 Q. So does this study establish  
3 an increased risk based on exposure to  
4 trichloroethylene?

5 MS. ELLISON: Objection.

6 THE WITNESS: Well, it's  
7 suggestive, but, of course, it's  
8 one study. And it is curious that  
9 they didn't break out in this  
10 analysis the delta between the  
11 dizygotic and monozygotic twins.

12 So, you know, I don't know  
13 having not studied this study in  
14 detail why and how they came up  
15 with this specific approach to the  
16 analysis.

17 BY MR. DOWLING:

18 Q. But an odds ratio of 6.1 --  
19 are you familiar with odds ratios?

20 A. Yes.

21 Q. And what does that connote  
22 in epidemiology?

23 A. That connotes a pretty  
24 meaningful risk, at least in this study,

1       yes.

2               Q.       And you didn't cite this  
3       study in your report?

4               A.       I don't believe so.

5               Q.       And I think you said you  
6       hadn't even seen it before; right?

7               A.       Well, not in recent history.  
8       It was -- it's 12 years. I may have seen  
9       it along the way, but I don't  
10       specifically recall it.

11              Q.       Okay. One moment.

12                      MR. DOWLING: Do you-all  
13       want to break for lunch?

14                      MS. ELLISON: That's good  
15       with us.

16                      MR. DOWLING: Okay.

17                      THE VIDEOGRAPHER: All  
18       right. Going off the record. The  
19       time is 12:47 p.m.

20                      (Whereupon, a luncheon  
21       recess was held.)

22                      THE VIDEOGRAPHER: We are  
23       now back on the record. The time  
24       is 1:39 p.m.

1 BY MR. DOWLING:

2 Q. Dr. Gollomp, I just want to  
3 follow up briefly on the twins study that  
4 we just discussed in Exhibit 12.

5 A. Uh-huh.

6 Q. And you testified about the  
7 role of a monozygotic twin and a  
8 dizygotic twin and how that may have  
9 affected this study's results.

10 A. Sure.

11 Q. What is a dizygotic twin  
12 just for definitional purposes?

13 A. Sure. Sure. A dizygotic  
14 twin is essentially no different  
15 genetically from any other brothers or  
16 sisters. In other words, it's from two  
17 separate eggs, sperm randomly, not the  
18 same sperm. So there's really no  
19 difference between dizygotic twins and  
20 any other siblings except they're born at  
21 the same time.

22 Q. That being said, do siblings  
23 still share a substantial proportion of  
24 genetic material?

1 MS. ELLISON: Objection;  
2 form.

3 THE WITNESS: Yes.

4 BY MR. DOWLING:

5 Q. And do you have an estimate  
6 of what percentage they share?

7 A. Well, that varies so much.  
8 Probably in the range -- I mean, you can  
9 think in terms of the range of about 30  
10 to 50 percent.

11 Q. And monozygotic twins,  
12 that's one egg that separates?

13 A. Separates.

14 Q. And so that's a 100 percent  
15 copy of genetic material in each?

16 A. In theory, yes, though  
17 depending upon how the egg splits, how  
18 the nucleus splits, how the DNA in the  
19 nucleus splits, it might not be really  
20 identical, but it's certainly closer than  
21 virtually anybody else.

22 Q. And the purpose of these  
23 twin studies is to attempt to control for  
24 genetic factors, to isolate genetic

1 factors and test other factors in a  
2 particular way; is that correct?

3 MS. ELLISON: Objection;  
4 form.

5 THE WITNESS: Yeah, that's  
6 -- I'm sorry.

7 MS. ELLISON: It's okay.

8 BY MR. DOWLING:

9 Q. And so here the attempt was  
10 being made to control for genetics and to  
11 test exposure to TCE and PCE.

12 MS. ELLISON: Objection;  
13 form.

14 THE WITNESS: That's my  
15 understanding.

16 BY MR. DOWLING:

17 Q. And do you believe this  
18 study provides any evidence of an  
19 increased risk to exposure to PCE and TCE  
20 causing Parkinson's disease?

21 A. It might. But like any  
22 other study, it deserves replication.  
23 And one problem I found with it, though I  
24 haven't had a chance to read it or -- I

1 may have seen it years ago and just don't  
 2 remember it -- is that they lumped all  
 3 the twins together and they came up with  
 4 this odds ratio. And I'm just a little  
 5 surprised they didn't carve out the  
 6 monozygotic twins from the group as a  
 7 whole. That's very surprising to me.

8 Q. But that group as a whole  
 9 does show an increased risk from exposure  
 10 to TCE; is that correct?

11 MS. ELLISON: Objection;  
 12 form.

13 THE WITNESS: So it appears.  
 14 BY MR. DOWLING:

15 Q. And you did not consider  
 16 that in formulating your opinions in this  
 17 case?

18 A. Not this specific study, no.  
 19 (Whereupon, Exhibit 13 was  
 20 marked for identification.)

21 BY MR. DOWLING:

22 Q. I'm handing you Exhibit 13.  
 23 You testified earlier you  
 24 were not familiar with Dr. Goldman; is



1       that right?

2               A.       At least I don't believe so.

3               Q.       This is another study from  
4       Dr. Goldman's -- of Dr. Goldman's. It's  
5       entitled Risk of Parkinson's Disease  
6       Among Service Members at Marine Corps  
7       Base Camp Lejeune, and was published in  
8       the journal JAMA Neurology in 2023; is  
9       that correct?

10              A.       Uh-huh. That is correct.

11              Q.       Is that a reputable journal?

12              A.       Yeah, it is.

13              Q.       Okay. And I'll give you a  
14       moment to just read through the study if  
15       you'd like, if you've not done so before.

16              A.       Okay.

17              Q.       Have you studied -- or have  
18       you seen this study before today?

19              A.       I believe I have, actually.

20              Q.       Did you cite this study in  
21       your report?

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

23              Q.       When did you first see this  
24       study?

1           A.       It must have been a couple  
2 of years ago when it first came out. I  
3 vaguely remember seeing this.

4           Q.       Okay. And this is a  
5 population-based cohort study; correct?

6           A.       Correct.

7           Q.       What does that mean in  
8 layman's terms?

9           A.       Well, what it means in  
10 English is they're trying to compare  
11 different populations with different  
12 exposures, and in this case, Camp  
13 Pendleton vis-a-vis Camp Lejeune.

14          Q.       And they were looking at  
15 Marines and personnel who resided at  
16 those two particular bases?

17          A.       That's my understanding from  
18 reviewing this, yeah.

19          Q.       And under the Results  
20 section, it says, Camp Lejeune veterans  
21 had a 70% higher risk of PD (odds ratio,  
22 1.70; 95% confidence interval, 1.39 to  
23 2.07 P value less than .001.

24                   Do you see that?

1 A. Uh-huh. I do.

2 Q. What's the significance of  
3 that result?

4 MS. ELLISON: Objection;  
5 form.

6 BY MR. DOWLING:

7 Q. What does that result mean?

8 A. Well, what that result means  
9 is that, in this population in  
10 comparison, Camp Lejeune in comparison  
11 with Camp Pendleton -- and Camp Lejeune  
12 obviously had the issues with volatile  
13 hydrocarbons -- that there was a higher  
14 risk; there's a higher incidence of  
15 Parkinson's disease.

16 Q. And you did not in any way  
17 discuss this report or this journal  
18 article in your report?

19 A. That is correct.

20 Q. You didn't consider this  
21 journal article and its results in  
22 formulating your opinion?

23 A. No.

24 (Whereupon, Exhibit 14 was

1 marked for identification.)

2 BY MR. DOWLING:

3 Q. I'm handing you Exhibit 14.  
4 Exhibit 14 is a journal article in the  
5 journal Environmental Health authored by  
6 Frank J. Bove entitled Mortality Study of  
7 Civilian Employees Exposed to  
8 Contaminated Drinking Water at USMC Base  
9 Camp Lejeune: A Retrospective Cohort  
10 Study.

11 A. Uh-huh.

12 Q. Why don't you take a minute  
13 to just review that Abstract section,  
14 sir?

15 A. Sure.

16 Okay.

17 Q. And this is a mortality  
18 study; correct?

19 A. Correct.

20 Q. What is a mortality study?

21 A. Meaning measure of causes of  
22 death.

23 Q. And I believe you do have  
24 this study on your Materials Considered

1 List.

2 A. I believe so.

3 Q. Do you recall reviewing this  
4 study before you formulated your  
5 opinions?

6 A. I don't specifically  
7 remember this study, but it certainly  
8 looks familiar.

9 Q. Okay. And is this another  
10 study that's comparing Marines and others  
11 at Camp Lejeune with Camp Pendleton?

12 A. That's what it's doing,  
13 yeah.

14 Q. Okay. And under the Results  
15 section, does it say that, compared to  
16 Camp Pendleton, Camp Lejeune workers had  
17 mortality hazard ratios for Parkinson's  
18 disease of 3.13?

19 A. Yes, that's what it says.

20 Q. Okay. And what is the  
21 significance of that odds ratio?

22 MS. ELLISON: Objection to  
23 form.

24 THE WITNESS: Well, it

1           sounds significant, but I'm not  
2           sure what the 0.76 and 12.81 are,  
3           what those specific statistical  
4           measures are. I'd have to go into  
5           the paper, of course, to figure  
6           out what those particular numbers  
7           mean. I don't remember off the  
8           top of my head.

9       BY MR. DOWLING:

10           Q.       When you say "it sounds  
11           significant," what do you mean by that?

12           A.       Meaning that number sounds  
13           like that's more than chance. And what  
14           I'm looking for is the actual P value,  
15           which I don't see there, but I think that  
16           that 12.81 is a correlate of the P value.  
17           But I'm not sure what that number  
18           actually means. It's probably buried  
19           here in the paper what that exactly  
20           means. I'm not sure I can put my finger  
21           on that just yet.

22           Q.       Okay. So in layman's terms,  
23           though, does this study report an  
24           increased risk among the Camp Lejeune

1 workers as compared to the Camp Pendleton  
2 workers?

3 MS. ELLISON: Objection;  
4 form.

5 THE WITNESS: It certainly  
6 suggests that, yes.

7 BY MR. DOWLING:

8 Q. And it's a pretty  
9 substantial risk?

10 MS. ELLISON: Objection;  
11 form.

12 THE WITNESS: Well, it's  
13 definitely an increased risk,  
14 sure.

15 BY MR. DOWLING:

16 Q. Do you recall whether Ms.  
17 Rothchild was a Camp Lejeune employee?

18 A. That was my understanding,  
19 that she was an employee.

20 Q. And do you recall whether  
21 she was present at the base during the  
22 time period of the cohort studied here?

23 A. Let me see.

24 Yes, I believe she was. I

1 believe she was.

2 Q. And you did not cite this  
3 report reflected -- this study reflected  
4 in Exhibit 14 in the body of your report.

5 A. Correct.

6 Q. You did not consider it in  
7 formulating your opinion.

8 MS. ELLISON: Objection;  
9 form, foundation.

10 THE WITNESS: Correct.

11 (Whereupon, Exhibit 15 was  
12 marked for identification.)

13 BY MR. DOWLING:

14 Q. I'm handing you a document  
15 labeled Exhibit 15, sir.

16 A. Okay.

17 Q. This is a document labeled  
18 Morbidity Study of Former Marines,  
19 Employees, and Dependents Potentially  
20 Exposed to Contaminated Drinking Water at  
21 U.S. Marine Corps Base Camp Lejeune dated  
22 April 2018.

23 Do you recognize this  
24 document or this study, sir?



1           A.       I believe so.

2           Q.       And I will let you know for  
3 the record, this is not the complete  
4 study. This is --

5           A.       No.

6           Q.       -- as with other voluminous  
7 records, just an excerpt from this study.

8                   But can you take a moment to  
9 just review the Introduction and the  
10 Results sections cited in this document,  
11 sir?

12          A.       Sure.

13                   MS. ELLISON: And I know it  
14 will be marked as an exhibit. But  
15 just for the record, the excerpt  
16 is Pages 1 through 12, and then  
17 Table 11, which is on Page 84.

18                   MR. DOWLING: Correct.

19                   THE WITNESS: Okay.

20 BY MR. DOWLING:

21          Q.       And this is -- the study in  
22 Exhibit 15 is a morbidity study of former  
23 Marines, employees, and defendants;  
24 correct?

1 A. Correct.

2 Q. And a morbidity study is  
3 what?

4 A. Basically, people in -- a  
5 short way of thinking about it is people  
6 affected with the disorder.

7 Q. And again, is the design of  
8 this study a comparison between  
9 individuals at Camp Lejeune and Camp  
10 Pendleton?

11 MS. ELLISON: Objection;  
12 form.

13 THE WITNESS: That's --  
14 that's what it appears.

15 BY MR. DOWLING:

16 Q. And there were separate  
17 analyses for Marines on the one hand and  
18 then civilian employees; is that correct?

19 A. That is correct.

20 Q. And you've testified that  
21 Ms. Rothchild was a civilian employee;  
22 correct?

23 A. Yes.

24 Q. And in the table -- in Table

1 11 --

2 A. Uh-huh.

3 Q. -- in Exhibit 15, isn't it a  
4 fact that that table reports a result  
5 showing civilians at Camp Lejeune had a  
6 relative risk of 3.1?

7 A. Yes.

8 Q. And that indicates a  
9 heightened risk of Parkinson's disease;  
10 correct?

11 MS. ELLISON: Objection;  
12 form and foundation.

13 THE WITNESS: That's what it  
14 suggests.

15 BY MR. DOWLING:

16 Q. So this study reports a  
17 heightened risk for civilian workers at  
18 Camp Lejeune for Parkinson's disease as  
19 compared to Camp Pendleton?

20 A. That's what it appears to  
21 show, yes.

22 Q. And you did not discuss this  
23 report -- or this study in your report?

24 A. No.

1           Q.       And you did not consider  
2       this study in formulating your opinion in  
3       this case?

4           A.       Not specifically, no.

5           Q.       Did you consider it in any  
6       way, shape, or form?

7           A.       Not specifically, no.

8                   (Whereupon, Exhibit 16 was  
9       marked for identification.)

10       BY MR. DOWLING:

11           Q.       I'm handing you Exhibit 16,  
12       Dr. Gollomp. Exhibit 16 is another  
13       journal article by Frank Bove and others  
14       in the journal Environmental Health,  
15       which is entitled Evaluation of Mortality  
16       Among Marines, Navy Personnel and  
17       Civilian Workers Exposed to Contaminated  
18       Drinking Water at USMC Base Camp Lejeune:  
19       A Cohort Study.

20                   Are you familiar with this  
21       study, sir?

22           A.       I'm certainly familiar with  
23       Bove's name. I'm not sure I'm familiar  
24       with this specific study, but...

1 Q. And if you want to take a  
2 minute to review the abstract, please  
3 feel free so you have familiarity with  
4 that.

5 A. Yeah.

6 Q. Do you need a minute?

7 A. You can give me another  
8 minute.

9 Q. Okay.

10 A. Okay.

11 Q. And again, this is a  
12 mortality study, sir?

13 A. Yes.

14 Q. And in the Results section,  
15 did the researchers report an increased  
16 risk of developing PD among the Camp  
17 Lejeune civilian workers as compared to  
18 Camp Pendleton?

19 A. Yes.

20 Q. And what was that increased  
21 risk?

22 A. Well, that was only 21  
23 percent.

24 Q. But still an increased risk?

1           A.       So it looks. I have to look  
2 more carefully at the statistical  
3 analysis, but so it appears.

4           Q.       And you did not consider  
5 this study in the course of formulating  
6 your opinion in this case?

7           A.       No.

8           Q.       And you don't rely on this  
9 study in any way in offering your opinion  
10 in this case?

11          A.       No.

12          Q.       What are the basic  
13 allegations of Mr. Welch's case?

14          A.       That he has developed  
15 Parkinson disease, again, as a result of  
16 his exposure during his time at Camp  
17 Lejeune.

18          Q.       And do you recall when Mr.  
19 Welch was at Camp Lejeune?

20          A.       Again, I'd have to look  
21 back.

22                    Oh, yeah. Here it is. I  
23 knew it was in here somewhere. He was in  
24 Camp Lejeune in the early 1970s.

1 Q. And how long was he at  
2 Camp Lejeune?

3 A. Almost a year.

4 Q. Did you do any kind of  
5 independent consideration of Mr. Welch's  
6 exposure to the water at Camp Lejeune, or  
7 did you rely entirely on Ms. LaKind and  
8 Ms. Bailey?

9 MS. ELLISON: I'll just note  
10 for the record it's Dr. LaKind and  
11 Dr. Bailey.

12 BY MR. DOWLING:

13 Q. Dr. LaKind and Dr. Bailey.

14 A. Yeah, I relied on their  
15 information.

16 Q. So no independent analysis  
17 yourself?

18 A. No.

19 Q. Do you know what Mr. Welch's  
20 water consumption patterns were while he  
21 was at Camp Lejeune?

22 A. I don't specifically recall.

23 Q. Do you know where he was  
24 billeted or lived while he was stationed

1 at Camp Lejeune?

2 A. Again, at this time, I don't  
3 remember specifically, though I remember  
4 reading about it.

5 Q. Do you know what the nature  
6 of his work was, his job or military  
7 occupational specialty while he was at  
8 Camp Lejeune?

9 A. Well, I know he was working  
10 as an advocate, actually. I knew he was  
11 a lawyer, but...

12 Q. Do you have an independent  
13 opinion about how much trichloroethylene  
14 Mr. Welch was exposed to at Camp Lejeune?

15 A. No.

16 Q. Do you have an independent  
17 opinion about how much  
18 tetrachloroethylene Mr. Welch was exposed  
19 to at Camp Lejeune?

20 A. No.

21 Q. So your opinion is entirely  
22 dependent upon Dr. LaKind and Dr.  
23 Bailey --

24 A. Yes.



1 Q. -- on those matters?

2 A. Yes, on that issue. Yes.

3 Q. So you did not consider Mr.  
4 Welch's exposure to trichloroethylene as  
5 a potential cause of his Parkinson's  
6 disease in this case?

7 A. Well, obviously, I was asked  
8 about it as part of this litigation, but  
9 I did not think it was a substantial  
10 factor in his case.

11 Q. But that's entirely  
12 dependent upon Dr. LaKind and Dr.  
13 Bailey's assessments?

14 A. Well, not entirely, but  
15 certainly that coupled with the clinical  
16 picture of this gentleman.

17 Q. But you said you didn't  
18 think that his exposure was substantial.  
19 How did you arrive at that conclusion?

20 MS. ELLISON: Objection;  
21 form.

22 THE WITNESS: Yeah, I don't  
23 think I said -- I didn't -- I  
24 didn't make any comment about

1           whether it was substantial or not.  
2           I just didn't think it was a  
3           substantial contributor.

4       BY MR. DOWLING:

5           Q.       Okay. And what's the basis  
6           for you believing that his exposure to  
7           the water was not a substantial  
8           contributor to his Parkinson's disease?

9           A.       Again, speaking more to the  
10          onset of his disorder which, based upon  
11          when it seems like he first began to  
12          become symptomatic, that's 40 years -- 40  
13          years later. And at that time -- so that  
14          was in '21 -- he was -- at that time, he  
15          was 76 years old.

16          Q.       I don't think I understand  
17          your response.

18                    So are you saying you think  
19          it was just age and that the exposure did  
20          not in any way contribute to his  
21          development of Parkinson's disease?

22                    MS. ELLISON: Objection;  
23          form.

24                    THE WITNESS: Well, I didn't

1 exactly say age, but that's my  
2 implication, of course. I mean,  
3 he was 76 years old at that time.  
4 He was, at that point, 40 years  
5 after the exposure. We see tremor  
6 predominant in Parkinson's disease  
7 very commonly in this cohort, and  
8 never mind his head trauma, which  
9 I'm not so sure has much to do  
10 with his development of  
11 Parkinson's disease. I really  
12 think it's more an age-related  
13 thing since we see lots of people  
14 in their mid-70s who develop  
15 Parkinson disease.

16 BY MR. DOWLING:

17 Q. Okay. You've testified that  
18 the fact that his disease developed 40  
19 years after his exposure --

20 A. Uh-huh.

21 Q. -- played into your opinion.  
22 I think you testified  
23 earlier there's no empirical data  
24 suggesting an end point to when exposure

1 may stop being a contributing factor.

2 Do you remember that  
3 testimony from this morning?

4 MS. ELLISON: Objection;  
5 form.

6 THE WITNESS: Yes, but I --  
7 can you restate what you said?  
8 Because what you said is not  
9 exactly what I said.

10 BY MR. DOWLING:

11 Q. Okay. Well, is there  
12 empirically based information or data,  
13 scientific data, regarding the outer  
14 limit of latency in developing  
15 Parkinson's disease?

16 A. Okay. I think it's fair to  
17 say, as I said before, we don't -- we  
18 don't know that.

19 Q. Okay. You agree that Mr.  
20 Welch does, in fact, have Parkinson's  
21 disease?

22 A. Yes, I do.

23 Q. And you agree he's suffered  
24 disabling conditions as a result of the

1        Parkinson's disease?

2                A.        Yeah, I think he's suffering  
3        meaningful disability.    Sure.

4                Q.        And does that include motor  
5        and nonmotor disabilities?

6                A.        Yes.

7                Q.        So what is -- just so I can  
8        fully understand your opinion, we can  
9        flip to Page -- I guess it starts on 11.

10              A.        Yup.

11              Q.        In terms of the etiology of  
12        Mr. Welch's disease, again, can we just  
13        go through symptomatically, and you can  
14        explain to me how you best understand the  
15        etiology of his Parkinson's disease?

16              A.        Yeah.    And -- sure.    Glad to  
17        do that.

18                      First of all, his age of  
19        onset is fairly typical of a cohort of  
20        people who have older onset Parkinson  
21        disease.    This may be the most common  
22        cohort that any neurologist or  
23        Parkinson's disease specialist sees.  
24        Though we talk about the median age of

1 onset in the early 60s, there's clearly a  
2 big rise in the incidence as we get to  
3 the 70s and 80s, and he's -- he's right  
4 in that demographic.

5 He did not have any major  
6 issues with -- and let me know if I need  
7 to speak up.

8 He did not have any major  
9 structural brain problems. The angioma  
10 he had and the probable secondary seizure  
11 disorder are not known as risk factors  
12 for Parkinson's disease. He does not  
13 have any apparent genetic or other  
14 suggestive inherited risks -- i.e.,  
15 family history -- for the disease.

16 He has had some head trauma,  
17 but none of it -- how shall we put this?  
18 He did not have -- how shall we put this?  
19 He did not have any really severe head  
20 trauma.

21 As far as the well-defined  
22 neurotoxic drugs and metals, he was never  
23 exposed to those. He did not have any  
24 definable pesticide exposure.

1 I made a point of maybe the  
2 air pollution living in Southern  
3 California might be somewhat of an issue,  
4 but I don't really think it's that big a  
5 deal. And I felt by far and away, his  
6 greater risk factor is simply the  
7 depletion of dopaminergic neurons as he's  
8 aged and he's in a high incidence cohort.

9 And here I say it started  
10 about 74. I said earlier 76.

11 Q. So you don't believe the  
12 head injuries or traumas, or however you  
13 want to characterize them, are a  
14 significant factor in this case?

15 A. I don't think they are.

16 And you didn't cite one of  
17 my articles on that one with Eugene  
18 Dulaney and Matt Stern, but that came out  
19 around the same time of this other one  
20 you cited, and -- but this doesn't rise  
21 to the level of what we published even  
22 back then. And there have been multiple  
23 studies since that time.

24 Q. What would -- for my

1 benefit, what would be sort of the -- how  
2 would you characterize the threshold for  
3 inclusion in an increased risk?

4 MS. ELLISON: Objection;  
5 form.

6 THE WITNESS: Basically, a  
7 concussive head injury with  
8 disturbance of memory or  
9 consciousness or some alteration  
10 of cognitive function with a head  
11 trauma.

12 It doesn't sound like from  
13 what Mr. Welch described to me any  
14 of these episodes are likely --  
15 although he got pretty beaten up a  
16 few times, that's for sure.

17 BY MR. DOWLING:

18 Q. And again, a hypothetical  
19 like I asked you earlier this morning,  
20 assuming whoever the decision-maker is in  
21 this case --

22 A. Yeah.

23 Q. -- decides they don't credit  
24 Dr. Bailey and Dr. LaKind's analysis



1       here --

2               A.       Sure.

3               Q.       -- and they conclude that  
4       Mr. Welch was exposed to TCE and PCE in  
5       an amount sufficient to cause his  
6       disease, that should change your ultimate  
7       opinion in this case; right?

8               MS. ELLISON:  Objection;  
9       form and foundation.

10              THE WITNESS:  I really don't  
11       think so because he really is a  
12       very typical demographic of what I  
13       see five, 10 times a day in my  
14       office.  This is the population I  
15       take care of and -- I mean,  
16       obviously, there are -- it's a  
17       variation of ages, but this is the  
18       most common cohort I see, and they  
19       haven't had toxic exposures.

20       BY MR. DOWLING:

21              Q.       But in this hypothetical  
22       we're discussing now --

23              A.       Sure.

24              Q.       -- if he were exposed to a

1 toxic level of PCE or TCE, you would  
2 acknowledge that that exposure could, at  
3 least as likely as not, be the cause of  
4 his Parkinson's as his age?

5 MS. ELLISON: Objection;  
6 form and foundation.

7 THE WITNESS: I would  
8 certainly place age well above  
9 that threshold.

10 BY MR. DOWLING:

11 Q. How well above that  
12 threshold?

13 A. Well, I can't give you an  
14 exact number, but very, very  
15 substantially higher.

16 Q. What gives you the  
17 confidence to do that?

18 MS. ELLISON: Objection;  
19 form.

20 THE WITNESS: Well, the  
21 confidence is, again, speaking  
22 just purely demographically of who  
23 our patient population is, that he  
24 is smack in the middle of the

1 cohort I see and all my colleagues  
2 who see Parkinson's patients see  
3 all the time without any known  
4 predisposing factor like this.

5 BY MR. DOWLING:

6 Q. And so no matter what the  
7 fact-finder concludes about how toxic his  
8 exposure was, you would not change your  
9 opinion that that's not a contributing  
10 factor here?

11 MS. ELLISON: Objection;  
12 form and foundation.

13 THE WITNESS: In this  
14 particular case, I would not  
15 change my opinion, no.

16 BY MR. DOWLING:

17 Q. No matter what?

18 MS. ELLISON: Objection;  
19 form and foundation.

20 THE WITNESS: Obviously,  
21 there's always something  
22 unforeseen. But based upon as you  
23 framed the hypothetical, no.

24 MR. DOWLING: Can we take a

1           quick break?

2                   THE VIDEOGRAPHER:   Going off  
3           the record.   The time is 2:12 p.m.

4                   (Whereupon, a brief recess  
5           was held.)

6                   THE VIDEOGRAPHER:   We are  
7           now back on the record.   The time  
8           is 2:18 p.m.

9   BY MR. DOWLING:

10           Q.       Dr. Gollomp, I want to turn  
11   your attention to Page 12 of your report  
12   on Mr. Welch, Exhibit 5.   And in the  
13   third full paragraph, you write that, We  
14   cannot assign any specific etiology of  
15   his disorder save for possibly his  
16   advancing age.

17           A.       Uh-huh.

18           Q.       Is age itself a cause of  
19   Parkinson's disease?

20           A.       Well, in the scheme of  
21   things, it's not so much age, but it's  
22   dopaminergic cell depletion, and  
23   dopaminergic cell depletion correlates  
24   with symptomatic Parkinson's disease.

1                   So, yes, age doesn't cause  
2                   it, but we know that there's an  
3                   age-related decline of dopaminergic  
4                   neurons. And there's, obviously -- like  
5                   we talked about much earlier today, when  
6                   you reach that threshold of below 70  
7                   percent, losing 70 percent of the  
8                   population of dopaminergic neurons, you  
9                   run into the probability of developing  
10                  clinical Parkinson's disease. And that  
11                  is generally associated -- that figure,  
12                  of course, is associated with advancing  
13                  age.

14                Q.       So age is not a causal agent  
15                  in the development of Parkinson's  
16                  disease?

17                A.       Well, it matters how you  
18                  look upon age. Age is associated with  
19                  the depletion of dopaminergic cells. And  
20                  why there's a difference from one person  
21                  to the next, that's obviously -- we've  
22                  talked about that.

23                        But it's fair to say that  
24                  dopaminergic cell depletion is the cause

1 of Parkinson's disease, and it is  
2 strongly associated with aging.

3 Q. Okay. So dopaminergic cell  
4 loss is a potential cause -- or is the  
5 cause of Parkinson's disease?

6 A. Correct.

7 Q. And we've reviewed some  
8 studies today that suggest dopaminergic  
9 cell loss has a consequence of exposure  
10 to trichloroethylene; correct?

11 A. Correct.

12 Q. But you did not consider  
13 those studies as a factor in formulating  
14 your opinion about Mr. Welch?

15 MS. ELLISON: Objection;  
16 form and foundation.

17 THE WITNESS: I did not  
18 consider that TCE exposure was a  
19 cause to a reasonable degree of  
20 medical certainty, correct.

21 BY MR. DOWLING:

22 Q. And the same question for  
23 Ms. Rothchild. You did not consider that  
24 TCE or PCE was a cause of the

1       dopaminergic --

2               A.       That's okay.

3               Q.       -- neuron loss for Ms.  
4       Rothchild?

5               A.       Correct.

6                       MR. DOWLING:   I think we'll  
7       pass the witness.

8                       MS. ELLISON:   No questions  
9       from our side.

10                      Just flagging that Dr.  
11       Gollomp will review and sign his  
12       deposition, but nothing from us.

13                      MR. DOWLING:   Okay.   Great.

14                      THE VIDEOGRAPHER:   All  
15       right.   This marks the end of  
16       today's deposition.   The time is  
17       2:21 p.m.   We're going off the  
18       record.

19                      (Whereupon, the deposition  
20       was concluded at approximately  
21       2:21 p.m.)

22                      -   -   -

23                      THE COURT REPORTER:   Would  
24       counsel like a copy of the

1 transcript?

2 MR. DOWLING: We have a  
3 standing order.

4 MS. ELLISON: We also have a  
5 standing order. We don't need a  
6 rushed transcript. And the video  
7 we won't be ordering, but I may  
8 request it in the future.

9 - - -

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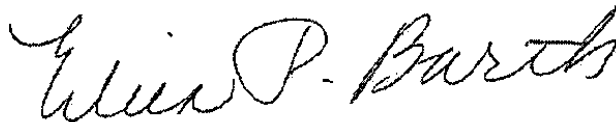
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CERTIFICATION

I, EILEEN P. BARTH, hereby certify that  
the testimony and proceedings in the  
foregoing matter are contained fully and  
accurately in the stenographic notes taken  
by me and are a true and correct transcript  
of the same.



-----  
EILEEN P. BARTH  
Certified Shorthand  
Reporter

The foregoing certification of this  
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Please read your deposition over carefully and make any necessary corrections. You should state the reason in the appropriate space on the errata sheet for any corrections that are made.

After doing so, please sign the errata sheet and date it. It will be attached to your deposition.

It is imperative that you return the original errata sheet to the deposing attorney within thirty (30) days of receipt of the deposition transcript by you. If you fail to do so, the deposition transcript may be deemed to be accurate and may be used in court.

ACKNOWLEDGEMENT OF DEPONENT

I, \_\_\_\_\_, do hereby  
 certify that I have read the foregoing  
 transcript of my deposition and find it to  
 be a true, correct and complete  
 transcription of the answers given by me to  
 the questions therein propounded, except  
 for the corrections or changes in form or  
 substance, if any, noted in the ERRATA.

NAME

DATE

Subscribed and sworn to me this  
 \_\_\_\_\_ day of \_\_\_\_\_,  
 20\_\_\_\_.

My commission expires: \_\_\_\_\_

Notary Public





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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

DISCLAIMER: THE FOREGOING FEDERAL PROCEDURE RULES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

THE ABOVE RULES ARE CURRENT AS OF APRIL 1, 2019. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

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COMPANY CERTIFICATE AND DISCLOSURE STATEMENT

Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

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