Exhibit 585

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NORTH CAROLINA

IN RE: Case No.
7:23-CV-00897

CAMP LEJEUNE WATER LITIGATION

This Document Relates to:
ALL CASES

- - -

July 2, 2025

- - -

VIDEOTAPED DEPOSITION of JOHN SFAKIANOS, M.D., held at 112 Madison Avenue, New York, New York, commencing at 9:00 a.m. EDT, on the above date, before Marie Foley, a Registered Merit Reporter, Certified Realtime Reporter and Notary Public.

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JT Malone

David Miceli

Ted Ruzicka

VIDEOGRAPHER:

Danny Ortega

- - -

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FEDERAL STIPULATIONS

IT IS HEREBY STIPULATED AND AGREED by and between the parties hereto, through their respective counsel, that the certification, sealing and filing of the within examination will be and the same are hereby waived;

IT IS FURTHER STIPULATED AND AGREED that all objections, except as to the form of the question, will be reserved to the time of the trial;

IT IS FURTHER STIPULATED AND AGREED that the within examination may be signed before any Notary Public with the same force and effect as if signed and sworn to before this Court.

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9:04 a.m. EDT

New York, New York

- - -

THE VIDEOGRAPHER: We are now on the record. My name is Danny Ortega, and I am a legal videographer for Golkow Litigation Services. Today's date is July 2nd, 2025, and the time is 9:04 a.m.

This video deposition is being held at 112 Madison Avenue, New York, New York, in the matter of Camp Lejeune Water Litigation No. 7:23-CV-987 versus the United States of America.

The deponent today is Dr. John Sfakianos.

Counsel, please identify yourselves for the record.

MR. CROMWELL: Michael Cromwell on behalf of the United States.

MS. KONSTANTOPOULOS: Melanie Konstantopoulos on behalf of the

United States.

MR. WALLACE: Patrick Wallace of Milberg Coleman Bryson Phillips Grossman appearing on behalf of the plaintiffs' leadership group.

THE VIDEOGRAPHER: The court reporter today is Marie Foley, and will now swear in the witness.

THE STENOGRAPHER: If I could ask you to raise your right hand, please.

Do you swear or affirm the testimony you give will be the truth, the whole truth, and nothing but the truth today?

THE WITNESS: I do.

THE STENOGRAPHER: Thank you.

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JOHN SFAKIANOS, M.D., the Witness herein, having been first duly sworn by a Notary Public in and of the State of New York, was examined and testified as follows:

EXAMINATION BY
MR. CROMWELL:

Q. Good morning, Doctor.

Would you please state your full name for the record?

A. It's John Sfakianos.

Q. And where do you currently reside?

A. The home address is 162 High Farms Road, Glen Head, New York 11545.

Q. Okay.

Doctor, as I just stated, my name is Michael Cromwell, and I'm an attorney with the U.S. Department of Justice representing the United States in the Camp Lejeune Related Water Litigation, which is pending in the Eastern District of North Carolina.

Doctor, you have been deposed before; is that correct?

A. Correct.

Q. And you have given deposition testimony as an expert witness; is that correct?

A. Yes.
Q. And you've also testified at trial as an expert witness; is that correct?
A. Yes.
Q. When is the last time you gave testimony under oath?
A. It was roughly May of this year.
Q. Okay.
May 2025?
A. Yes.
Q. Do you recall the name of that case?
A. That case was the plaintiff was Leonard versus Kim, if I remember correctly. I might be wrong.
Q. And you were serving as an expert witness in that case?
A. Yes.
Q. Okay.
And who were you testifying on behalf of in that case?
A. The plaintiff.
Q. Plaintiff.

And just generally speaking, what kind of case was that? Was it a medical malpractice kind of case or --

A. Yes.

Q. Yeah, okay.

And were you testifying as to the standard of care that the plaintiff had received in that case?

A. Yes.

Q. Okay.

So obviously you're familiar with the process. I'll be asking questions. You'll be answering. You're doing a great job so far, we're not interrupting each other. I would just ask that you allow me to complete my question and I will do my best to allow you to complete your answer.

Additionally, if you can provide "yes" or "no" answers and not "uh-huh" or "uh-uh" type because that gets confusing with the court reporter to transcribe.

This is your testimony, so if you need to take breaks, just let me know.

The only thing I would ask as a courtesy is if there's a question pending, that you answer the question before us taking a break.

Is that fair?

A. Yes.

Q. Okay.

There may be objections from time to time from counsel for the PLG. You are still able to answer unless you follow your attorney's instruction to not answer.

Is that understand --

A. Yes.

Q. And then is there any reason today, medical or otherwise, that you cannot hear, understand, or respond to the questions that I'll be asking today?

A. No.

Q. And you understand you are testifying under oath as if you were testifying in court?

A. Yes.

Q. Okay.

Doctor, you are testifying today as a result of a subpoena and Notice of Deposition. Is that correct?

A. Yes.

MR. CROMWELL: I'm going to go ahead and mark as Exhibit 1 that subpoena.

(Sfakianos Exhibit 1, Subpoena to Testify At a Deposition in a Civil Action To: John Sfakianos, M.D., was marked for identification, as of this date.)

BY MR. CROMWELL:

Q. I'll hand you what we've marked as Exhibit 1.

Doctor, are you familiar with this exhibit?

A. Yes.

Q. Did you review it?

A. Yes.

Q. Doctor, if you look towards the back of Exhibit 1, there is a page entitled "Attachment A" three pages from the back.

Do you see that?
A. Yes.
Q. Did you review these various document requests?
A. Yes.
Q. Okay.
And did you provide documents that were -- were responsive to these requests?
A. I don't understand that.
Q. Sure. The first question was did you -- have you seen these requests before, and I think you were answering yes.
A. Yes.
Q. And then in response to these requests, did you provide any documents in response to these?
A. Yes, I wrote a brief, or a report on this, yes.
Q. Okay.
That would include invoices; is that correct?
A. Yes.

Q. Patient forms that you use in your practice; is that correct?
A. Yes.
Q. Okay.
Are you aware of any documents that are responsive to the requests in Exhibit 1 that were not produced?
A. Not that I'm aware of.
Q. Okay.
Are you, Doctor, aware that counsel for the plaintiffs provided responses and objections to these requests?
A. Yes.
MR. CROMWELL: Okay. I'm going to hand you what we're going to mark as Exhibit 2 for the deposition.
(Sfakianos Exhibit 2, Plaintiff's Objections and Responses to Defendant's Notice of Videotaped Deposition of Dr. John Sfakianos, was marked for identification, as of this date.)

BY MR. CROMWELL:

Q. In front of you is Exhibit 2, and this is entitled "Plaintiffs' Objections and Responses to Defendants' Notice of Videotaped Deposition of Dr. John Sfakianos."

Is that correct?

A. Yes.

Q. Did you have any role in formulating the responses and objections in Exhibit 2?

MR. WALLACE: Objection.

A. No.

Q. Okay.

Doctor, before we go forward, there's obviously a number of compounds and terms that I'll be using today and that you have offered opinions on, and so I want to just get, kind of, a framework for terminology so that we, kind of, understand each other when we're talking about things.

When I refer -- or, you're familiar with the term "TCE" or

"trichloroethylene"?
A. Yes.
Q. Okay.
When I say "TCE," you'll understand I mean trichloroethylene. Is that okay?
A. Yes.
Q. Same with PCE, when I say "PCE" you understand I'll be referring to tetrachloroethylene or perchloroethylene?
A. Yes.
Q. Okay.
When I refer to bladder cancer in general, is it fair to say that also includes for purposes of today upper tract epithelial carcinoma, or UTUC? And if your answer depends on the differentiations between bladder cancer and UTUC, will you note that for me in your answer?
MR. WALLACE: Objection.
A. I sort of disagree to that 'cause upper tract epithelial carcinoma is different than bladder cancer.
Q. Okay.

A. So I don't think that they should be --

Q. Lumped together?

A. -- lumped together as bladder cancer.

Q. Okay.

A. If you like a terminology, it would be urothelial cancer.

Q. Okay. To -- urothelial cancer to encompass both those topics?

A. Yes.

Q. Okay. Fair enough.

And then when I -- if I refer to IARC, you understand I'm referring to the International Agency For Research on Cancer?

A. Yes.

Q. Okay.

And if I refer to ATSDR, you understand I'm referring to the Agency For Toxic Substances and Disease Registry?

A. Yes.

Q. Okay.

Doctor, did you bring anything

with you today to the deposition?
A. No.
Q. Okay.
No notes or any highlighted copies of documents?
A. No.
Q. Okay.
Did you take or make any notes in preparation for today's deposition?
A. No.
Q. Okay.
As part of your work as an expert in this litigation, have you ever had any communications with any of the plaintiffs in the Camp Lejeune Water Litigation?
A. No.
Q. Okay.
Have you ever spoken to Mr. Jimmy Laramore or Mr. Mark Cagiano?
A. I have not.
Q. Okay.
Doctor, when is the first time you became aware of the Camp Lejeune Water

Litigation?

A. It was roughly the fall of 2024, I think around November, but don't call me on that, please.

Q. And did you become aware of this litigation because you were being engaged as a potential expert in this litigation?

A. Yes.

Q. Okay.

And, Doctor, you understand you have been named by plaintiffs in this case as an expert witness; is that correct?

A. Yes.

Q. And specifically you were named as a retained expert to provide opinion testimony on bladder cancer -- or, urothelial cancer, pardon me, related to Mr. Jimmy Laramore and Mr. Mark Cagiano.

Is that correct?

A. Correct.

MR. CROMWELL: I'm going to go ahead and hand you what we're going to mark as Exhibit 3.

(Sfakianos Exhibit 3,

Plaintiffs' Designation and Disclosure of Phase III Expert Witness, was marked for identification, as of this date.)

BY MR. CROMWELL:

Q. Doctor, we've marked as Exhibit 3 Plaintiffs' Designation and Disclosure of Phase III Expert Witnesses.

Do you see that?

A. Yes.

Q. And, Doctor, if you would turn to page 5, this identifies experts the plaintiffs named related to bladder cancer.

Is that correct?

A. Yes.

Q. And if you turn to page 6, you are identified at number 5; is that correct?

A. Yes.

Q. Okay.

You have prepared and offered expert opinions on the two Camp Lejeune cases we just mentioned, Mr. Laramore and

Mr. Cagiano, correct?

A. Correct.

MR. CROMWELL: I'm going to go ahead and enter those reports that you prepared.

(Sfakianos Exhibit 4, Specific Causation Expert Report For Jimmy Laramore John P. Sfakianos, M.D. 02/07/2025, was marked for identification, as of this date.)

(Sfakianos Exhibit 5, Specific Causation Expert Report For Mark Cagiano John P. Sfakianos, M.D. 02/07/2025, was marked for identification, as of this date.)

BY MR. CROMWELL:

Q. Doctor, I am handing you what we have marked as Exhibit 4 and Exhibit 5.

Exhibit 4 is going to be your expert report with regards to Mr. Jimmy Laramore, and Exhibit 5 is going to be your expert report with respect to Mr. Mark Cagiano.

Is that correct?

A. Correct.

Q. And you have also prepared a single rebuttal report for these cases; is that correct?

A. Yes.

MR. CROMWELL: Go ahead and mark this as Exhibit 6.

(Sfakianos Exhibit 6, Rebuttal Expert Report May 14, 2025, was marked for identification, as of this date.)

BY MR. CROMWELL:

Q. Doctor, these are the only reports that you have created in the Camp Lejeune cases; is that correct?

A. Correct.

Q. Okay.

Do you plan to offer any other reports in these cases?

MR. WALLACE: Objection.

A. As far as I know, no.

Q. Okay.

Do these three reports, Exhibit 4, 5, and 6, set out the totality and scope of the opinions and testimony

you plan to offer in these cases?

MR. WALLACE: Objection.

A. I mean, for these specific questions that were asked, yes.

If there are other questions, I may have other opinions.

Q. Okay.

As you sit here today, do you know if there are other questions you are going to be asked to offer opinions on?

MR. WALLACE: Objection.

A. Not that I know of.

Q. Okay.

So as of today, you are not planning to form any additional opinions in these cases?

A. No.

MR. WALLACE: Objection.

BY MR. CROMWELL:

Q. Okay.

Doctor, with regards to Mr. Laramore, you were asked to provide your opinion on the causation of Mr. Laramore's diagnosis of bladder cancer; is that

correct?

A. Correct.

Q. And your opinion is that exposure to the water at Camp Lejeune is at least as likely as not a cause of Mr. Laramore's bladder cancer; is that correct?

A. Correct.

Q. You also have an opinion that Mr. Laramore's other risk factors for bladder cancer are not more likely than not to have caused his bladder cancer.

MR. WALLACE: Objection.

BY MR. CROMWELL:

Q. Is that correct?

A. I don't understand that. Can you explain that for me?

Q. Sure.

If you would, just to make it easy, if you open up Exhibit 4.

A. Okay.

Q. This is your report for Mr. Laramore, and if you could turn to page 18, please.

A. Okay.

Q. And you have at the bottom Section B Opinion 2 where you state: Other risk factors for bladder cancer are not more likely than not to have caused Mr. Laramore's bladder cancer.

Did I read that correctly?

A. Correct.

Q. So in Mr. Laramore's case, you are offering an opinion that his other risk factors for bladder cancer are not more likely than not to have caused his bladder cancer; is that correct?

A. Correct.

Q. And you ultimately conclude for Mr. Laramore that because you cannot find any risk factor that is more likely than not to have caused his bladder cancer, you conclude that each of his risk factors are at least as likely as not to be the cause, including his exposure to chemicals at Camp Lejeune.

Is that an accurate representation of your opinion?

MR. WALLACE: Objection.

A. Yes.

Q. Okay.

For Mr. Cagiano you were asked to provide your opinion on the causation of Mr. Cagiano's diagnosis of upper tract transitional cell urothelial cancer; is that correct?

A. Yes.

Q. And your opinion is that Mr. Cagiano's exposure to the water at Camp Lejeune was at least as likely as not the cause of Mr. Cagiano's UTUC; is that correct?

A. Yes.

Q. And it's your opinion that Mr. Cagiano had only one risk factor for the development of UTUC: exposure to contaminated water while stationed at Camp Lejeune. Is that correct?

A. Yes.

Q. Doctor, are you familiar with Dr. Max Kates?

A. I am.

Q. You read his reports for Mr. Laramore and Mr. Cagiano?
A. Yes.
Q. Outside of his reports, do you know Dr. Kates?
A. I do.
Q. How do you know him?
A. We are often together at many conferences and sit on many different bladder cancer committees and boards and give talks together.
Q. Okay.
Have you guys given joint talks before?
A. Not joint talks. Talks at the same session.
Q. Okay.
Have you ever sought on -- sat on any academic committees before together?
A. Yes.
Q. Can you name any of those committees?
A. The Bladder Cancer Advocacy

Network, or BCAN.

Q. And what is the purpose of that committee?

A. It's -- the committee was to organize the yearly meeting for that organization.

Q. Does that organization have a particular goal?

A. Cure bladder cancer.

Q. Cure bladder cancer, understood.

When is the last time you saw or interacted with Dr. Kates?

A. Probably earlier this year at some point. I -- I don't remember exactly when.

Q. How would you regard Dr. Kates as a professional?

MR. WALLACE: Objection.

A. He's a professional.

I don't understand exactly.

Q. Sure.

Would you consider him a competent urologic oncologist?

A. Yes.

Q. Would you consider him an expert in the field of urologic oncology?

MR. WALLACE: Objection.

A. Yes.

Q. Fair to say you have complimented his academic research before?

A. I have, yes.

Q. You're familiar with his bridge trial?

A. I am.

Q. Okay.

You considered it, at one point, a pivotal study for bladder cancer treatment?

A. It's still an ongoing study, so can't really comment on that.

Q. Sure. But is that a fair characterization of your assessment of the trial?

MR. WALLACE: Objection.

A. I -- again, I mean, it's a trial. Everybody can come up with a trial idea. I think it's a good idea, but we don't know, you know, the end result of

it.

Q. Okay.

Okay. Doctor, you have submitted in these cases materials considered in support of your expert reports.

Is that correct?

A. Yes.

MR. CROMWELL: And we're going to go ahead and mark as Exhibit 7 the materials considered for your report for Mr. Laramore.

(Sfakianos Exhibit 7, Jimmy C. Laramore v. United States of America Expert Report of John Sfakianos, M.D. Materials Considered, was marked for identification, as of this date.)

MR. CROMWELL: And then we're going to mark as Exhibit 8 your materials considered --

THE WITNESS: There's two of them here.

MR. CROMWELL: Sorry.

We're going to mark as Exhibit 8

your materials considered for Mr. Cagiano's report.

(Sfakianos Exhibit 8, Mark A. Cagiano v. United States of America Expert Report of John Sfakianos, M.D. Materials Considered, was marked for identification, as of this date.)

BY MR. CROMWELL:

Q. And then last, you provided a Supplemental Materials Considered List; is that correct for these cases?

A. Yes.

MR. CROMWELL: We're going to go ahead and mark that as Exhibit 9.

(Sfakianos Exhibit 9, Dr. John Sfakianos - Supplemental Materials Considered List February 7, 2025, was marked for identification, as of this date.)

BY MR. CROMWELL:

Q. Doctor, these three lists contain the materials you considered and relied upon for your opinions in this case; is that correct?

A. Yes.
Q. All right.
Are there other articles or records not on these lists that you reviewed and relied upon in forming your opinions in this case -- these cases?
A. Just my general medical knowledge from training.
Q. Sure. But no specific article or records?
A. No.
Q. Doctor, according to Exhibits 7 and 8, you did not review or evaluate the expert reports of a number of United States experts, including the reports of Dr. Julia Goodman, Dr. Peter Shields, Dr. Lipscomb, and Dr. Likind, correct?
A. Correct. Those are not familiar.
Q. Were you ever provided those reports?
A. No.
Q. Okay.
Did you ever seek to -- did you

ever ask for government reports?
A. No.
Q. Okay.
According to Exhibit 9, your Supplemental Materials Considered List, you received the general causation report of Dr. Michael McCabe, his bladder cancer report. Is that correct?
A. Yes.
Q. Did you review Dr. McCabe's report?
A. Yes.
Q. You understand Dr. McCabe is an immunotoxicologist?
A. Yes.
Q. You would agree you are not an immunotoxicologist?
A. 100 percent.
Q. Why did you review this report?
A. Well, I think it's important and my goal is to review the -- the bladder cancer, and it was very important for me to understand the causation, the general causation to be able to correlate it to

the patients. Similar to why I reviewed epidemiology and other toxicology reports.

Q. Sure.

I guess part of my question is why did you review Government's witness Dr. McCabe's report and not any of the other Government witness reports?

A. I think I -- I'm not sure why. I think that that was probably relevant to my bladder cancer-specific causation.

Q. Do you know one way or the other whether Dr. Goodman or Dr. Shields offered bladder cancer-specific opinions in these cases?

MR. WALLACE: Objection.

A. I do not.

Q. Would those not also be relevant for your evaluation of bladder cancer in these cases?

MR. WALLACE: Objection.

A. Possibly, but I don't know what's inside of them.

Q. You understand Dr. McCabe was offering opinion about whether

perturbations of the immune system and inflammatory process by TCE, PCE, benzene, and vinyl chloride alone or in combination with each other may be linked as a mechanism involved in the etiology of urothelial cancer. Is that correct?

A. Correct.

Q. Okay.

Do you plan to offer any opinions regarding Dr. McCabe's report?

A. I do not.

Q. Okay.

Are you aware of any animal or human studies that show the modulation of the immune system as a plausible mechanistic pathway by which TCE, PCE, benzene, and vinyl chloride cause bladder cancer?

MR. WALLACE: Objection.

A. I remember that there were some -- there were some reference in the report, but just -- I -- I did not review them personally, so I'm aware that there are, but not specifics.

Q. Okay.

But you're not -- you haven't reviewed any actual studies to that effect?

A. No.

Q. All right.

Do you understand that simply because a compound may be immunotoxic does not mean that the immunotoxicity is shown to cause urothelial cancer?

A. Can you just explain that? I'm not sure what you're asking.

Q. Sure. Just as an example, are you familiar with studies that show TCE is immunotoxic?

A. Yes.

Q. Okay.

Just because TCE may be immunotoxic doesn't necessarily correlate that it's going to cause cancer in a particular organ; is that correct?

A. I would say that's a fair statement.

Q. Do you understand that

perturbations of the immune system can actually at times be protective against cancer?

MR. WALLACE: Objection.

A. I mean, I think -- I'm not an immunologist by any means, so I don't -- I -- I would say that it can go both ways, but I would leave that for the immunologists.

Q. Okay.

Fair to say you're not generally familiar with the literature on TCE, PCE, benzene, and vinyl chloride as it relates to immunotoxicity; is that correct?

A. That's correct.

Q. Okay.

Are you planning to offer any opinion as to how Mr. Laramore's or Mr. Cagiano's immune system was impacted by their exposure to Camp Lejeune water and that it led to their urothelial cancer?

A. No.

Q. Are you aware of any peer-reviewed literature showing the

mechanism by which TCE, PCE, benzene, or vinyl chloride affects the immune system in such a way that causes the development of urothelial cancer?

MR. WALLACE: Objection.

A. Again, I think that there's been reference to it, but I'm not an immunologist or have a real understanding of that. I would leave that for those. So I know that there is, but I can't -- I can't state any comments to it.

Q. So you may be generally aware of the literature -- there's literature, but you're not intimately familiar with any of the literature that shows --

MR. CROMWELL: Well, strike that. That's a horrible question.

Move on.

Q. Did you receive any other expert reports from the Government besides Dr. McCabe's?

A. I did, yes.

From the -- I have expert reports. I just don't know which ones are

government or which ones are -- like, isn't Max Kates's considered government?

Q. Yes.

A. Okay.

So yes, I did.

Q. You're right, I should have rephrased that question.

Besides Dr. Kates' and Dr. McCabe's reports, have you reviewed any other reports offered by the Government?

A. I don't think so.

Q. Okay.

A. Again, I --

Q. Did you review all the medical records available for Mr. Cagiano and Mr. Laramore?

A. All the records that were given to me were the ones that I reviewed.

Q. Okay.

Were you ever given a medical chronology that you relied upon?

A. I did not.

Q. Okay.

A. I don't think so.

Q. Okay.

Doctor, you are being compensated at rate of $550 an hour for your work on this case; is that correct?

A. Correct.

MR. CROMWELL: I'll go ahead and enter what we're marking as Exhibit 10.

(Sfakianos Exhibit 10, invoices of John Sfakianos, Bates CL_PLG-EXPERT_SFAKIANOS_0000000001-002 was marked for identification, as of this date.)

BY MR. CROMWELL:

Q. And, Doctor, this is a copy of the invoices we received in response to our subpoena and Notice of Deposition, and it's two pages of invoices.

Do you see that for Exhibit 10?

A. Yes, sir.

Q. Are these the only invoices you have submitted to date for your work in Mr. Cagiano and Mr. Laramore's cases?

A. Yes, sir.

Q. Okay.

Is $550 an hour the normal rate you charge as expert -- for expert work?

A. Correct.

Q. Okay.

And based off the invoices in Exhibit 10, you have been paid roughly $13,565; is that correct?

A. Yes, sir.

Q. And this would be for approximately just under 25 hours of work; is that right?

A. Math sounds right, yes.

Q. Okay.

And this was to review all the materials for Mr. Laramore and Mr. Cagiano and prepare your expert reports; is that correct?

A. And meetings that I had with, yes.

Q. Understood.

A. The attorneys.

Q. This also included you writing your reports and your rebuttal report as

well; is that right?
A. Correct.
Q. Okay.
Have you billed any time since your last invoice of May 22nd, 2025?
A. I have not.
Q. Okay.
Have you spent any time working on these cases since May 22nd, 2025?
A. Yes, sir.
Q. Okay.
Can you approximate how -- how much time you spent on these cases?
A. Probably another 10 to 15 hours.
Q. Okay.
And can you tell me what you were doing for those 10 to 15 hours?
A. Preparation for this deposition and meetings with the attorneys.
Q. Okay.
How many times did you meet with attorneys in preparation for this deposition?
A. I would have to guess here, but

I think it was four times, maybe five.

Q. Okay.

And approximately how long were those meetings each time?

A. About an hour and a half each.

Q. Okay.

Exhibit 9 shows your supplemental materials considered in these cases.

Does the 10 to 15 hours that you mentioned include your review of all these materials as well?

A. Yes, as Exhibit 9, yeah.

Q. So the 10 to 15 hours that you mentioned that you worked on this case since May 22nd includes four to five meetings with attorneys as well as reviewing all the materials you've listed in Exhibit 9. Is that correct?

A. Correct.

MR. WALLACE: Objection.

BY MR. CROMWELL:

Q. What percentage of your annual income comes from working as an expert

witness?

A. Five percent.

Q. Okay.

And we talked briefly at the beginning, you've testified as an expert witness before outside of these cases?

A. Yes, sir.

Q. If you would look at what we marked as Exhibit 4, your Laramore report, and specifically the very last page. Do you see the page entitled "List of Expert Testimony in Last Four Years"?

A. Yes, sir.

Q. You mentioned at the beginning that you gave trial testimony in May of 2025; is that correct?

A. Correct.

Q. And that's for this Leonard versus Kim --

A. Sorry, I think -- I mixed up the cases. There was another case here.

Q. Okay.

A. Yeah. I just forget the -- the name of the case.

Q. Got it.

So the testimony you gave in May 2025 --

A. I'm sorry. I got it now.

That was a deposition, correct. The trial was May of 2025 for Leonard versus Kim.

Q. Got you.

A. That's what it was.

Q. So that's what I was going to ask.

A. Yeah.

Q. Is the only testimony for you in the last four years that's missing from this page the May 2025 test -- trial testimony that you gave in the Leonard versus Kim Junior case?

A. Correct.

Q. Okay.

Have you ever given any testimony outside --

MR. CROMWELL: Strike that, I'm sorry.

Q. Outside of the opinions you're

offering in this case, have you ever given any testimony about TCE, PCE, benzene, or vinyl chloride before?

A. I have not.

Q. Okay.

Have you ever test -- outside of this case, have you ever testified about smoking as a risk factor for urothelial cancer before?

A. I have not.

Q. Outside of this case, have you ever testified about occupational exposures as a risk factor for urothelial cancer before?

A. No.

Q. Outside of this case, have you ever testified about the idiopic nature -- idiopathic nature of urothelial cancer before?

A. I'm sorry, can you define what you mean by "idiopathic"?

Q. Sure.

Well, let's -- I'll ask you how do you define "idiopathic cancer" -- or --

MR. CROMWELL: Strike that.

Q. When -- actually, I'll just go to your report.

Fair to say that some cancers have no known cause, correct?

A. Is it fair to say that some cancers have an unknown cause? Yes.

Q. Okay.

And this includes certain urothelial cancers; is that correct?

A. So, certain patients with urothelial cancer may have an unknown cause, but urothelial cancers have known causes.

Q. Sure. I understand the distinction you're making.

But it's fair to say that some of the patients you have with urothelial cancers do not have an identified cause; is that correct?

A. Correct.

Q. And according to you, idiopathic means that a disease has no known cause, correct?

A. The disease has an unknown cause, not that it has no known cause.

Q. Okay.

If you would take a look at your report we marked as Exhibit 4 in Laramore at page 13.

MR. WALLACE: I'm sorry, you said page 13?

MR. CROMWELL: Page 13. I'm sorry.

MR. WALLACE: Okay.

BY MR. CROMWELL:

Q. In the first paragraph there starts with "Before discussing the risk factors."

Do you see that paragraph at the top?

A. Yes.

Q. And the second sentence says: Idiopathic means that a disease has no known cause and is essentially a diagnosis of exclusion that occurs after other known risk factors are ruled out.

First of all, did I read that

correctly?

A. Yes.

Q. Here you're saying that idiopathic means that a disease has no known cause, correct?

A. Correct.

Q. And just a moment ago you said that idiopathic means that a disease has an unknown cause; is that correct?

A. Correct.

Q. Is there a distinction between the two?

A. No, but when you put that whole sentences together, no known cause and a diagnosis of exclusion, basically comes together in my -- that's -- that's how I referenced that, that it has an unknown cause.

Q. Understood. I just wanted to make sure if you were saying something different than what you had written.

A. No. Putting it together, unknown and diagnosis of exclusion, basically it's the unknown cause.

Q. Understood.

Have you ever given any testimony about urothelial cancer being idiopathic as an expert witness?

A. No.

Q. Doctor, we'll stick with Exhibit 4, which is your Laramore report.

And if we can look at Appendix 1 which is your CV that you submitted in these cases; is that correct?

A. It -- let's see if this is.

Yes.

Q. Has this CV been updated since February 7th, 2025?

A. It has.

Q. Okay.

How has it been updated since then?

A. There's been an address change.

Q. An address change?

A. Yes.

Q. Okay.

And is that the mailing address at the top or --

A. Yes, the mailing address.
Q. Aside from the change in the address, has there been any kind of update to this CV since February 7th, 2025?
A. There have been numerous more publications.
Q. You said "numerous more publications"?
A. Correct.
Q. Okay.
So if we go through your CV, it looks like you have approximately 152 publications; is that correct? At least in this version of your CV?
A. Yes, sir.
Q. How many more publications have you had since February 7th, 2025?
A. It's about 15 or so.
Q. Fifteen?
A. Yes, sir.
It's been a good year.
Q. Would you -- if you have an updated CV, I would just ask that that be submitted so that we can have a version of

that, or a copy of it, please.
A. Yes, sir.
Q. Do any of the new 15 publications that you've had have anything to do with TCE, PCE, benzene, or vinyl chloride?
A. No, sir.
Q. Do any of the new publications since February 2025 have anything to do with risk factors for urothelial carcinoma?
A. No, sir.
Q. Can you tell me what they have to do with?
A. They have to do with -- the bulk of them have to do with ctDNA and bladder cancer as a risk stratifier for disease outcomes.
Q. Okay.
You all understood that, right?
Understood.
Doctor, this CV includes your education; is that correct?
A. Yes, sir.

Q. And it includes your academic appointments?
A. Yes, sir.
Q. And currently your academic appointment is as a professor of urology at the Icahn School of Medicine at Mount Sinai, New York; is that correct?
A. Yes.
Q. And you've held that position since October of 2024; is that right?
A. Yes, sir.
Q. All right.
On the second page of your CV it describes your research profile; is that right?
A. Yes, sir.
Q. And it starts with: My translational research focuses on multiple natural killers, NK cells, and CDA T-cells and their foundation and role in bladder cancer.
Is that right?
A. Yes, sir.
Q. What do you mean by

"translational research"?

A. So, the second sentence is my collaborator, Dr. Amir Horowitz, so Dr. Amir Horowitz is a immunologist and we share a laboratory together. So he does the wet bench research, and I am the clinical liaison to that laboratory.

Q. Okay.

That's what you mean by "translational research"?

A. Correct.

Q. If you go further down in your research profile it says: The main focus of my research is focused on BCG unresponsive nonmuscle-invasive bladder cancer.

Is that correct?

A. Yes, sir.

Q. Do you perform any clinical research on how TCE, PCE, benzene, or vinyl chloride interacts with the body?

A. No.

Q. Okay.

Can you tell me what kind of

novel -- well, if you move on to the next sentence under "Research Profile" you say: The focus is to understand the underlying immune resistance mechanism and to identify novel therapeutic options.

First, did I read that correctly?

A. Yes, sir.

Q. What kind of novel therapeutic options are you researching?

A. So, as we speak, we have an investigator-initiated phase II clinical trial that is targeting specific antibody called NKG2A which is an NK-specific immune checkpoint in combination with PD1 which is the T-cell checkpoint. So the NKG2A antibody is the novel therapeutic that we've identified in the lab and are testing now in clinical trials.

Q. When you say "identified in the lab," are you using mice to test these particular treatments, or how are you testing these particular treatments in the lab?

A. It was -- it was identified on human tissue specimens, both blood, urine, and actual tumors, and we are currently starting to do some mouse work, but not up and running yet.

Q. Okay.

You said you're starting to do mouse work and you're also doing clinical trials, you say?

A. We have a clinical trial open, yes.

Q. How many patients do you have in the clinical trial?

A. We -- we have one currently enrolled. It was opened about two months ago.

Q. Okay.

To have a clinical trial, do you have to have a certain number of participants?

A. It -- it's the study design, correct.

Q. Okay.

And part of that study design,

is there a number you're seeking to get for --

A. Yes.

Q. -- this trial?

How many?

A. 67.

(Stenographer admonition on crosstalk.)

BY MR. CROMWELL:

Q. And why are you looking for 67 patients in this clinical trial?

A. That was the power that was necessary to answer our hypothesis.

Q. Okay.

Are you familiar with the term "statistically significants"?

A. I am.

Q. Do you use it in your research?

A. I use the terminology, but I defer to my statisticians who I collaborate with for, you know, actual definitions and calculations.

Q. As you sit here, what does the term "statistical significance" mean to

you?

MR. WALLACE: Objection.

A. It's a very generic p-value, less than 0.05.

Q. Okay.

Have you ever performed any clinical research on how environmental compounds or constituents may lead or contribute to urothelial cancer?

A. I have not.

Q. Okay.

You've listed a number of grants for conducting research in your CV; is that correct?

A. Yes, sir.

Q. Have you ever received any grants to research whether environmental compounds or constituents may lead to or contribute to urothelial cancer?

A. I have not.

Q. Okay.

Any grants related to TCE, PCE, benzene, or vinyl chloride?

A. No.

Q. Okay.

We talked a little bit about your publications. According to Exhibit 4, you have 152 publications, and you identified 15 more for a total, I guess, of 167 publications thus far.

Is that correct?

A. Give or take. I haven't, you know, looked at it.

Q. Sure.

A. But yes.

Q. And this includes publications where you were primary author as well as non-lead author; is that correct?

A. Correct.

Q. Okay.

Do any of these peer-reviewed publications have anything to do with risk factors for urothelial cancer?

MR. WALLACE: Objection.

A. No.

Well, I should -- sorry, to clarify that that we obviously list it in the publications, but the main focus of

the research is not looking at the risk factors.

Q. Okay.

Do any of your publications have anything to do with TCE -- or TCE causing urothelial cancer?

A. No.

Q. Do any of your peer review publications have anything to do with PCE or PCE causing urothelial cancer?

A. No.

Q. Do any of your peer review publications have anything to do with benzene or vinyl chloride or those compounds causing urothelial cancer?

A. No.

Q. This -- in Exhibit 4 in your CV indicates you have contributed to four books or book chapters; is that correct?

A. Yes.

Q. Do any of the contributions that you made to these books or book chapters have anything to do with TCE, PCE, benzene, or vinyl chloride?

A. They do not.
Q. Okay.
Are you familiar with the Campbell-Walsh-Wein urology textbook?
A. I am.
Q. Do you use it in medical school and residency?
MR. WALLACE: Objection.
A. I used it in residency.
Q. You agree this is a reliable authority text in the field of urologic oncology?
MR. WALLACE: Objection.
A. I wouldn't necessarily call it an authority. I would call it a reference in -- in urology.
Q. Okay.
Is it something you've relied upon in your practice?
A. In combination with other resources together, depending on, you know, what I'm looking for, yes.
Q. Sure.
Do you have a copy of it in your

office?

A. I do not.

Q. Okay.

Prior to being named expert in these cases, have you worked on anything related to Camp Lejeune prior to --

MR. CROMWELL: End question.

Q. Prior to being named an expert in these cases, have you ever worked on anything related to Camp Lejeune or Camp Lejeune water?

A. I have not.

MR. WALLACE: Objection.

(Stenographer admonition on crosstalk.)

BY MR. CROMWELL:

Q. Sorry, what was the answer?

A. I have not.

Q. Doctor, you are not an attorney, correct?

A. Correct.

Q. You are not an epidemiologist; is that correct?

A. Correct.

Q. You do not hold yourself out as an epidemiologist; is that right?
A. Correct.
Q. You understand that the Icahn School of Medicine has a division devoted to epidemiology called The Institute of Translational Epidemiology; is that correct?
A. Yes.
Q. And you are not part of that division; is that right?
A. Correct.
Q. You do not have any formal training as an epidemiologist; is that correct?
A. I do not.
Q. Have you ever published peer review literature on epidemiology?
A. No.
Q. Do you have any professional certifications in epidemiology?
A. I do not.
Q. Do you teach any courses in epidemiology?

A. No.
Q. And have you ever been asked to provide expert testimony on epidemiology?
A. No.
Q. Doctor, we talked about immunotoxicology before, but you agree you are not a toxicologist; is that correct?
A. Yes.
Q. And you do not hold yourself out as a toxicologist; is that correct?
A. I do not.
Q. You understand the Icahn School of Medicine has a division devoted to toxicology in the Department of Medicine; is that correct?
A. Yes.
Q. And you are not part of that division; is that right?
A. Yes.
Q. You agree you've never published peer-reviewed literature on toxicology; is that correct?
A. Correct.
Q. You agree you do not have any

professional certifications in toxicology; is that correct?

A. Yes.

Q. You do not teach -- you do not teach courses on toxicology; is that correct?

A. Correct.

Q. And you've never been asked to provide expert testimony on toxicology; is that correct?

A. Correct.

Q. You agree you are not an expert on toxicological properties of TCE, PCE, benzene, or vinyl chloride; is that correct?

A. Yes.

Q. You agree you are not an expert on chemical exposures; is that right?

A. Yes.

MR. WALLACE: Objection.

BY MR. CROMWELL:

Q. In other words -- well, you are not an expert using models to estimate someone's exposure to a particular

compound or contaminant; is that correct?
MR. WALLACE: Objection.
A. Yes.
Q. Are you an expert on the physical properties of TCE, PCE, benzene, or vinyl chloride?
A. No.
Q. Would you agree you are not an expert on the fate and transport of TCE, PCE, benzene, and vinyl chloride?
A. I'm sorry, I didn't get the first part of that question.
Q. Sure.
You agree you're not an expert on the fate and transport, how a compound moves through the environment, on TCE, PCE, benzene, or vinyl chloride?
MR. WALLACE: Objection.
BY MR. CROMWELL:
Q. Correct?
A. Correct.
Q. Doctor, have you ever conducted any human health risk assessments?
A. I don't -- can you just be more

specific with that?

Q. Sure.

Have you -- do -- are you familiar with what a human health risk assessment is?

A. I am not.

Q. Okay.

So fair to say you are not an expert in human health risk assessments?

MR. WALLACE: Objection.

A. Yes.

Q. For instance, you are not an expert in evaluating the level of increased risk an individual may have from exposure to a chemical, correct?

A. Correct.

Q. Okay.

Doctor, you are in academic medicine, right?

A. Correct.

Q. And you are a practicing urologic oncologist; is that correct?

A. Yes.

Q. And does this involve having a

clinic as well as performing surgeries throughout the week?

A. Yes.

Q. What does a typical week look like for you?

A. It is two days in the operating room, two days in the clinic, and one day in the laboratory.

Q. When you're in clinic, about how many patients do you see a day?

A. Between 40 and 60.

Q. Each day?

A. Yes, sir.

Q. That's a busy practice.

A. Yes, sir.

Q. Is the day you spend in the lab you consider, like, an academic day? Is that what it is?

A. Yes, sir.

Q. Okay.

In your clinical and surgical practice, what types of urologic cancers do you typically treat?

A. The majority of my practice is

urothelial cancer, followed by testicular cancer, and then high-risk kidney cancer, and -- and prostate cancer, and a very small amount of penile cancer.

Q. You said that urothelial cancer makes up the majority of what you treat; is that right?

A. Yes, sir.

Q. Within that, we've talked about UTUC being a type of urothelial cancer, correct?

A. Yes, sir.

Q. You consider UTUC to be a form -- or a not common form of cancer, correct?

MR. WALLACE: Objection.

MR. CROMWELL: Strike that.

BY MR. CROMWELL:

Q. You agree that UTUC is a rare form of cancer?

A. It is characterized as a rare cancer, yes.

Q. Okay.

It occurs in only about five

percent of bladder cancers or --

A. Five to 10 percent of urothelial cancers, yes.

Q. What percentage of your clinical and surgical practice is related to testicular -- or, treating patients with testicular, high-risk, kidney, prostate, and penile cancers?

A. About 30 percent.

Q. When you're seeing patients in clinic, do you talk to your patients about the risk factors for urothelial carcinoma?

A. I ask questions about risk factors so we can understand a possible etiology of their disease.

Q. Okay.

What kind of questions do you ask?

A. I usually ask exposure questions.

Q. What would those look like?

A. Have you ever been a smoker, have you ever dyed your hair, have you been around any industrial chemicals, what

type of work did you do, did you work in factories or in sort of like that, secondhand smoke, where did you live, areas of any contamination.

Those are just some of them.

Q. Do you ever ask your patients anything about their diet?

A. Not routinely.

Q. Okay.

Do you ever tell patients to modify their diet in order to lower their exposure to certain foods with elevated contaminate levels?

A. I do not.

Q. Do you ever tell patients to avoid taking certain vitamin supplements to lower their exposure to certain contaminate levels?

A. Not necessarily vitamin supplements, but I do ask about herbal remedies that are very common in Asian -- Asian population.

Q. Okay.

Outside of herbal remedies, do

you ever talk to your patient about avoiding vitamin supplements to lower their exposure to certain contaminate levels?

A. No.

Q. Okay.

Are you aware of any evidence that certain fruits, vegetables, or supplements may lead to bladder cancer development, or urothelial cancer development?

A. I am not.

Q. When you ask your patients if they smoke, do you ask them how long they were smoking?

A. Yes.

Q. Do you ask them how much they were smoking?

A. Yes.

Q. Do you ask them if they are still smoking?

A. Yes.

Q. Do you ever offer any kind of medical advice on if they're still smoking

on options on how to quit smoking?

A. Yes.

Q. And why is that?

A. Overall, smoking is very detrimental to the healths -- I think, that, you know, smokers should really quit for overall health.

Q. In your clinical practice, what percentage of your patients would you say have urothelial carcinoma caused by their smoking?

A. Roughly 50 percent, 50 to 60 percent.

Q. What -- if you can give me a range, when you say that 50 to 60 percent of urothelial cancer patients have -- their cancer is caused by their smoking, what is the range of those patients' smoking history?

A. In --

MR. WALLACE: Objection.

A. I'd like to clarify that as well. I mean, it's a potential cause of their bladder cancer, not necessarily

their only cause of their bladder cancer. But 50 to 60 percent of my patients smoke that come with bladder cancer, they may have other exposures as well.

And it ranges from, you know, five pack year history to 150 pack year history.

Q. Okay.

A. And of course I have nonsmokers who have bladder cancer as well.

Q. Sure. Sure.

Do you consider somebody with a five pack year -- do you -- have you ever had a patient with a five pack year history that you considered their smoking to be the cause of their urothelial carcinoma?

A. Meaning that there's no other exposures, it's just tobacco use?

Q. Sure.

A. If that's the only -- you know, in my thorough, sort of, questioning if that's the only thing they have, then I would consider that as a potential, yes,

risk for their -- or development of their bladder cancer.

Q. Okay.

Do you see patients who you know have been exposed to TCE, PCE, benzene, or vinyl chloride?

A. Yes.

Q. Okay.

What percentage of your patients would you -- of your urothelial carcinoma patients would you say have exposures to TCE, PCE, benzene, or vinyl chloride?

A. It's only one. One in my whole practice.

Q. One in your whole practice?

A. That I know of.

Q. That you know of?

A. Yeah.

Q. Okay.

For this one patient, do you know what specific compound they were exposed to?

A. I do not.

Q. Okay.

Can you tell me, generally speaking, how the person was exposed to TCE, PCE, benzene, or vinyl chloride?

A. He was at Camp Lejeune.

Q. Okay.

How many patients do you have in your practice total?

A. Honestly wouldn't be able to answer that question. It's tens of -- maybe 10,000, more.

Q. Okay.

And this patient of yours who was at Camp Lejeune, do you know when he was there?

A. I don't know the details.

Q. Okay.

So just to break that apart, when you say you don't know the details, do you know where he lived at Camp Lejeune?

A. No. All I know that he was at the camp.

Q. Okay.

But you don't know when he was

there?

A. No.

Q. Okay.

Or where he lived?

A. I do not.

Q. Okay.

Have you told this patient that his urothelial cancer is caused by his time at Camp Lejeune?

A. I -- I can't recall every conversation I've had with this patient.

Q. Okay.

A. I -- specifically that question, I do not think so, no.

Q. Is it your opinion that this patient's urothelial cancer is caused by his time at Camp Lejeune?

A. I think that it is one of the contributing factors, yes.

Q. Does he have any other contributing factors?

A. Tobacco use.

Q. Do you know what his tobacco use history is?

A. Not off the top of my head.
Q. Okay.
Fair to say your practice -- your primary focus is treating patients; is that correct?
A. Yes, sir.
Q. And the cause of the disease is less important than the therapy plan of the disease; is that correct?
MR. WALLACE: Objection.
A. I think that's a difficult question to answer. I think that both are important, especially if you have modifiable factors that you know you can -- you know, it's very important to have those stopped.
Q. Okay. If you would look at your Laramore report, which is Exhibit 4, at page 3 for me.
A. Three?
Q. Yeah. Yes, sir.
And there is a paragraph that says "During an encounter."
A. Yes.

Q. About halfway down.

And you say: During an encounter for bladder cancer, a physician will often try to establish a differential etiology for the development of the patient's disease.

Then you have a parenthetical, and then it moves on: This is a thorough but not exhaustive line of questioning because the cause of the disease is of less importance than the therapy plan of the disease for the treating physician.

First of all, did I read that correctly?

A. Yes.

Q. Okay.

So, while you may try to establish an etiology, generally speaking as a treating physician you would agree that the treatment plan is the primary focus for your patients; is that correct?

A. I -- not necessarily. Like I said before, 'cause there's more to that paragraph, and that's where I go into that

if it is a -- an exposure that is modifiable, we should be able to stop it or recommend stopping.

Q. Okay.

A. So, I mean, I think it's important. It's patient-to-patient and it does -- both are important. If there is no modifiable factor, then, yes, treatment's important.

Q. When you are performing a differential etiology, how often do you do -- do you do that with each patient of yours?

A. Every new patient.

Q. Okay.

Would you agree that performing a reliable differential etiology requires first ruling in all reasonable potential causes?

MR. WALLACE: Objection.

A. Can you define what you mean by "rule in"?

Q. Yeah, considering as a potential cause for their urothelial cancer based

off their exposure history.

A. I think it's -- yes, it's important to know all their exposure histories and what they are, yes.

Q. Okay.

You'd agree that a differential etiology requires ruling out those potential causes until reaching a cause or causes that cannot be ruled out; is that correct?

A. So, can you just explain that a little bit more?

Q. Sure.

So, if you have somebody with a tobacco or smoking history who worked in a particular factory, but also has an elevated BMI, would you consider each of those a risk factor when consider -- when -- would you first consider those all a potential risk factor that you need to consider and then try to rule them out one by one?

Does that make sense?

A. I mean, I could explain to you

the way I do it.

Q. Please.

A. Which is when I see a patient, we have all the known exposures and I'll go through that list and just say were you a smoker or did you have exposure to hair dyes, et cetera, et cetera, and if they say "yes" to the ones that they say "yes" to, then I would say that those are all potential causes, but I cannot tell you which one is more likely, you know, the -- the cause or not.

Q. Okay.

A. So I'm not sure if that's ruling in or ruling out, but that's the way.

Q. Well, that -- that's helpful to know 'cause that's kind of where I'm trying to -- to get.

What I'm trying to understand when you have a patient who has, in your opinion, multiple cause -- potential causes for their urothelial cancer, how do you make a determination as to which of those potential causes is the likely cause

of their urothelial cancer versus the others that are not?

A. I -- I don't think you can.

Q. Okay.

A. I think in my practice, you know, it's -- there -- there are multiple factors. It can be a single one or it can be combinations of all of them. It can be combinations of two out of X-number.

So there's -- there's no way of saying the single cause of your bladder cancer if you have multiple exposures.

Q. Okay.

What percentage of your patients would you say have multiple exposures or potential causes for their urothelial cancer?

A. That's a -- I would be taking a complete guess here 'cause, you know, I don't remember all my patients that I've seen and their exposures, but I'd say about a third.

Q. Okay.

And in those situations, just so

I understand, in those situations where you have patients that have more than one potential risk factor for their urothelial carcinoma, you don't attempt to figure out which one is the actual cause of their -- of their carcinoma versus the other risk factors. Is that correct?

A. It's impossible to do.

Q. Okay.

With regards to the one patient that you mentioned before that was at Camp Lejeune, have you made any attempt to determine whether his urothelial carcinoma was potentially caused by TCE, PCE, benzene, or vinyl chloride?

A. No.

Q. In your clinical practice, are you always able to determine the cause of a person's urothelial cancer?

A. Do you mean if there is a -- an etiology or exposure etiology or...

Q. I -- my -- probably a simpler question, when you're evaluating a patient, are you always able to determine

if --

MR. CROMWELL: Strike that.

Q. Are there situations in which your -- do you have --

MR. CROMWELL: Strike that.

Q. Do you have patients where you are unable to determine a known cause for their urothelial carcinoma?

A. I do have patients that -- that -- that come to me with no known exposures of, you know, things that I would say that I -- I'm not sure where your bladder cancer came from, correct.

Q. Okay.

What percentage of your patients would fall under that category?

A. Less than five percent.

Q. For the patients that you are unable to identify a known cause for their urothelial carcinoma, do you consider their urothelial carcinoma to be idiopathic?

A. Yes.

Q. And you may have answered this

already, so forgive me.

Of the patients -- of all the patients you've seen in your career, you've treated, to your knowledge, one patient who spent time at Camp Lejeune; is that correct?

A. Yes.

Q. And just to clarify, that doesn't include Mr. Laramore or Mr. Cagiano, correct?

A. They're not my patients.

Q. As a practicing urologic oncologist, you would agree that it's important for patients to be staged properly; is that correct?

MR. WALLACE: Objection.

A. Yes.

Q. Okay.

And you'd agree there are different stages to urothelial carcinoma, correct?

A. Yes.

Q. You understand that stage 1 is where the tumor has spread into -- only

into loose tissue beneath the lining, what is called the lamina propria, correct me if I'm mispronouncing that, but not into the bladder's muscular wall or beyond.

Is that correct?

A. It's the lamina propria (different pronunciation), and that is stage 1, correct.

Q. Stage 2, on the other hand, is where the tumor has invaded into the muscle wall, or the muscularis propria, but has not spread into lymph nodes or other sites in the body.

Is that correct?

A. Stage 2 is only muscle-invasive, only in the muscle, muscularis propria, correct.

Q. All right.

Are you familiar with how the NIH defines the different stages of bladder cancer?

A. The NIH, no.

Q. Okay.

You are familiar with

transurethral resection of bladder tumor of bladder cancer, or TURBTs; is that correct?

A. Yes.

Q. But just generally speaking, what is a TURBT?

A. You go through the patient's urethra with an instrument, identify the area of the tumor, and use electricity to carve out the tumor.

Q. In your practice, why would -- what's a common reason for you performing a TURP on a patient?

A. T-U-R-B-T.

Q. T-U-R-B-T?

A. A TURP is a transurethral resection process.

Q. Yeah.

A. So T-U-R-B-T we perform because there's a tumor in the patient's bladder.

Q. Okay.

And you are familiar with restaging T-U-R-B-T, correct?

A. Yes.

Q. And what is a restaging T-U-R-B-T?

A. When after the tumor has been removed, you go back to do another resection.

Q. Okay.

You'd agree with me that restaging T-U-R-B-Ts improve a patient's response rate to treatment, correct?

A. Based on the patient's stage, correct.

Q. In fact, you've given interviews and published on this topic; is that correct?

A. Correct.

Q. Would you agree that restaging T-U-R-B-Ts with adjuvant therapy leads to better response rates than if a patient only has a single T-U-R-B-T with adjuvant therapy?

A. That is my publications, correct.

Q. And that's true because with restaging T-U-R-B-Ts with adjuvant

therapy, the patient is getting a better effect from the retreatment and minimizing the disease; is that correct?

A. It is one of the factors, yes.

Q. Yeah, okay.

Another reason for restaging T-U-R-B-Ts is because you want to make sure the patient is properly staged, correct?

A. Correct.

Q. All right.

For instance, as we were just talking about, it's important to differentiate between nonmuscle-invasive tumors versus muscle-invasive tumors, correct?

MR. WALLACE: Objection.

A. Correct.

Q. And the reason for that is because the treatments are different; is that correct?

A. The treatment recommendations are different, yes.

Q. Okay.

For instance, with nonmuscle-invasive tumors, is the typical treatment into the patient's bladder for, like, use of BCG common?

A. That is one of the treatment options.

Q. Okay.

What is the common treatment for muscle-invasive tumors for stage 2?

A. The two most common are removal of the bladder with or without chemotherapy or chemotherapy and radiation.

Q. Okay.

Would you agree that urothelial cancer presents as noninvasive approximately 70 percent of the time?

A. If you look at, yes, the incidence is mostly nonmuscle, it's about 70 percent, yes.

Q. Okay.

You agree that urothelial cancer presents as muscle-invasive approximately 25 percent of the time?

A. Yes.
Q. And you'd agree that urothelial cancer presents as de novo metastatic cancer in approximately five percent of the time; is that correct?
A. Correct.
Q. Doctor, you'd agree that urothelial cancer is treatable when detected early; is that right?
A. What do you mean by "early"?
Q. I guess I'm going to ask you, it's in your report, what do you mean by "early"?
A. Nonmetastatic.
Q. Okay.
So you'd agree that urothelial cancer is treatable when detected in a nonmetastatic form; is that correct?
A. It's all treatable. More curable when it's nonmetastatic, yes.
Q. Okay.
When you work on litigation cases, do you often review patient testimony, doctor testimony?

MR. WALLACE: Objection.

A. I'm not sure what you mean by that.

Q. Sure.

In your experience as a expert witness in other cases, are you given deposition testimony from the plaintiff to review?

A. Sometimes.

Q. Are you given deposition testimony of treating physicians to review?

A. Maybe once or twice.

Q. Okay.

When you are an expert in those same cases, are you given the medical records to review?

A. Yes.

Q. All right.

Have you ever had a situation where, in your other expert work, where the medical records are inconsistent with the deposition testimony you're reviewing?

A. I can't recall.

Q. Okay.

Correct me if I'm wrong, but it appears that your expert testimony in prior cases mainly relies upon review of medical records.

Is that generally true?

MR. WALLACE: Objection.

A. Correct.

Q. Whenever you do encounter inconsistencies between deposition testimony and medical records, how do you reconcile the two?

MR. WALLACE: Objection.

A. I'm not quite sure I really understand that question.

Q. Okay.

If you have a patient -- let's -- let's change the narrative.

If you have a patient that comes in and gives you a narrative of their history that is inconsistent with their past medical records, how do you reconcile those two?

MR. WALLACE: Objection.

A. I mean, the way I -- I review all the data, whatever the data may be, medical records, my questioning, and then I make an independent assessment of what I think, you know, the -- what -- what the question they're there to answer is. So if the patient is there for bladder cancer and there's inconsistencies, I'll review past medical records and interview the patient and just make an independent medical decision about what to do next.

Q. Okay.

Do you consider contemporaneous medical records more or less reliable than testimony or patient's narrative?

MR. WALLACE: Objection.

A. I think you need to look at the big -- everything put together. I mean, there's not one piece that's more important than the other when you're looking at the whole picture.

Q. Okay.

Do you have patients who you consider poor historians?

MR. WALLACE: Objection.

A. I mean, I think you need to define what a poor historian is.

Q. Have you ever noted in someone's medical records that they're a poor historian?

A. I don't necessarily think poor historian. Some patients are medically illiterate and it's more challenging to get the information from them and you have to maybe pry a little bit more, but I don't like -- I don't use the word "poor historian."

Q. Okay.

When you have a new patient in your office, you review their previous medical records, assuming you have them?

A. Yes.

Q. Okay.

Why is that important?

A. To understand all the previous medical history that may be relevant for me to make a decision on how to treat them forward.

MR. WALLACE: Michael, when you get a good stopping point, can we take a break?

MR. CROMWELL: I think I am there.

MR. WALLACE: Okay.

MR. CROMWELL: Give me one second just to --

MR. WALLACE: Sure. I don't want to interrupt your flow, but I'm just looking at the time.

MR. CROMWELL: Yeah, let's go ahead and take a break. I think that's good.

MR. WALLACE: Okay.

THE VIDEOGRAPHER: The time right now is 10:22 a.m.

We are off the record.

(Recess taken.)

THE VIDEOGRAPHER: The time right now is 10:38 a.m.

We are back on the record.

BY MR. CROMWELL:

Q. Doctor, before we broke, we were

discussing, kind of, the situations where you may have a patient who tells you one thing where their medical records say another thing.

Have you ever had a patient, to your knowledge, downplay, for instance, their smoking history?

MR. WALLACE: Objection.

A. I wouldn't know if they are or not downplaying it. I mean, I just rely on the answers that they give me and make a decision.

Q. Have you ever had a patient that tells you they have smoked a particular amount, but their medical records show that they were actually smoking more in the past?

A. Off the top of my head, I can't recall that situation.

Q. Okay.

Just hypothetically, what would you do if you had a patient that says they never smoked, but their medical records showed that they have a significant

smoking history? How would you reconcile those two?

MR. WALLACE: Objection.

A. I mean, I think there's -- if it's a signature -- there's a variety of different situations where what do you mean by the medical records. So I would need to, like, verify that.

I guess, if it's one instance in the whole set medical records, then I would probably ignore it. If it's every single one from different physicians --

Q. Sure.

A. -- then I have to ask the patient and make a clinical decision.

I mean, there's just too many scenarios, I wouldn't know how to -- it vary -- it varies, you know.

Q. Sure.

So, if a patient of yours had ten years of medical records that showed they smoked a pack a day and then they walked into your clinic and they told you that they only smoked half a pack a day,

how would you reconcile those two situations?

MR. WALLACE: Objection.

A. I -- I would put a half to one pack per day.

Q. Okay.

Does the -- does the amount that the person's smoke not impact your differential etiology?

A. I -- I think it's smoking/nonsmoking, not how much smoking.

Q. Okay.

So, if a person has a smoking history, regardless of the amount, that's an important factor in determining if someone's urothelial carcinoma is caused by their smoking or not?

A. Yes, I think it's current smokers from former smokers and never smokers. That's the way I look at it.

Q. Okay.

A. And like I said before, it's important for me if you're a current smoker, I would try or I would discuss

stopping or cessation.

Q. Understood.

We were also discussing a patient of yours that you indicated had been at Camp Lejeune before.

Is that -- do you recall that testimony?

A. Yes.

Q. Do you recall what kind of urothelial carcinoma that patient was diagnosed with?

A. It's urothelial.

Q. Urothelial?

A. Yes.

Q. Okay.

Do you know when he was diagnosed?

A. I would have to look at his medical records. I know he's been my patient for years, but I don't remember when he was exactly diagnosed.

Q. Do you know if your patient has an administrative claim or a legal claim pending for Camp Lejeune-related cases?

A. I -- I don't re -- I don't think so. I don't know.

Q. Okay.

A. I have never asked.

Q. Okay.

When we were talking about your publications, you indicated that in some of your publications that while you may list risk factors for urothelial carcinoma, none of your publications were focused on the risk factors.

Is that correct?

A. Yes.

Q. When you list risk factors in your publications, have you ever listed TCE, PCE, benzene, or vinyl chloride as any of those risk factors?

A. Specifically, no, but we do list chemical exposures, industrial exposures, and I would probably put those under there.

Q. Okay.

But you've never specifically highlighted TCE, PCE, benzene, or vinyl

chloride exposure as risk factors --

A. No.

Q. -- in your publications?

Same question when you list risk factors in your applications, have you ever listed Camp Lejeune water as a risk factor for urothelial carcinoma?

A. No. None of this is a focus of my research, so it's not important to me to be specific. We -- you know, when we list things, we generalize because it's just, you know, introduction or conclusion.

Q. Understood. But to the extent you are listing risk factors in your publications, you're not aware of ever listing Camp Lejeune water as one of those risk factors; is that correct?

A. No.

Q. No, that's not correct --

A. No, it's correct. No, I've never listed it.

Q. Got it. Understood.

Doctor, you are familiar with

the Camp Lejeune Justice Act; is that fair?

A. Yes.

Q. You've included it in both your Laramore and Cagiano reports, or at least portions of it; is that correct?

A. Yes.

Q. Okay.

Have you ever read the act in its entirety?

A. No.

Q. Okay.

Were you instructed to opine on the Camp Lejeune Act legal causation standard?

MR. WALLACE: Objection.

A. Not sure I understand that question.

Q. Is it common for you in your expert reports to include legal standards in your reports as an expert witness?

A. I need to understand them, but I don't, you know, have opinions or include them necessarily unless it's important for

what I am going to be there -- what I was asked to do.

Q. Okay.

Prior to your expert reports in these cases, have you ever included legal burdens or statutory proof in your expert reports?

MR. WALLACE: Objection.

A. I mean, definitions, yes. So the -- that -- my whole report understands what the legal, sort of, wording is that I am using my expert opinion on.

Q. Okay.

Can you give me an example of a case where you've done that?

A. So, things like more likely than not for some medical malpractice.

Q. Okay.

A. You know, if this was more likely than not for that, I need to understand what that means in order for me to give an opinion, and so we will put that in the definition.

And from what I understand, it

varies state to state, place to place, so.

Q. Just because you mentioned it, what does "more likely than not" mean to you?

A. For me, that definition is that there is a specific cause that is, let's call it, the majority of the reason why that somebody is having whatever medical illness or had a complication from their treatment or whatever the question is.

Q. Okay.

Relatedly, you understand that there's language in the Camp Lejeune Act that references "as likely as not"?

A. At least likely as not.

Q. At least as likely as not.

A. Yes.

Q. Sorry, I stand corrected.

What does "at least as likely as not" mean to you?

A. To me it means that there is or could possibly be more than one reason to whatever the cause of the disease is, and all of them may play a role or none may

play a role or combinations of them may play a role in leading to that disease.

Q. In the situations where you're opining where something is more likely than not, you indicated that you're looking for a specific cause in that situation.

Am I -- is that generally true?

A. I am -- in those situations, it's more of a unfortunately a complication has occurred with a patient and is the -- is there a reason that that likely would have happened.

Q. Okay.

How do you -- just so I -- I'm just trying to understand how do you differentiate evaluating -- or, forming an opinion under a standard like "more likely than not" compared to a standard "at least as likely as not"?

MR. WALLACE: Objection.

BY MR. CROMWELL:

Q. What's -- how do you differentiate between those two things?

MR. WALLACE: Objection.

A. I think it's in the context.

Q. Okay.

A. I mean, I think, again, something like leading to a disease versus a complication from a surgery because something was performed or there was a misdiagnosis or somebody read a report wrong for me is the more like -- that's where I've used the "more likely as not" in the past.

Q. Okay. Let's stick with causation of disease.

In the situation, how would you differentiate between those two standards?

MR. WALLACE: Objection.

A. I'm not sure you can. I mean, I don't think -- that's what I meant the context of what you're using those definitions.

So I think for my expertise, which is bladder cancer, I can't -- I don't think I can use "more likely than not" because I think they're all risk

factors and we just don't know which one may play a role or not play a role.

Q. Okay.

So, in a case that has more than one potential risk factor, you would not be able to opine that one risk factor is more likely than not the cause of someone's urothelial carcinoma; is that correct?

MR. WALLACE: Objection.

A. I mean, again in context, right. I would need to see everything put together, patients, you know, what the risk factors are, but I do think that it's very challenging to say that it's more -- the reason -- one, sort of, causes the reason than others, but there are instances where we probably could.

Q. Can you give me an example of a situation where you could identify one of the risk factors as more likely than not the cause of someone's urothelial carcinoma compared to their other risk factors?

A. I think that it would have to be with instances like no other risk factors known to the patient, had high doses radiation to the bladder maybe.

Q. Okay. In that situation you just identified one known risk factor.

Can you give me an example where someone may have multiple risk factors and how you would differentiate between those?

A. Sorry, I -- I don't think I can, no.

Q. Okay. All right.

Do you apply any kind of percentage of likelihood to the "at least as likely as not" standard you're using?

A. I do not.

Q. You stated in your reports that the CLJ, the Camp Lejeune Act standard was considered in your approach to determine whether Mr. Laramore's exposure to water at Camp Lejeune was at least as likely as not the cause of his bladder cancer; is that correct?

A. Yes.

Q. You did the same with Mr. Cagiano's UTUC?
A. Yes.
Q. Okay.
Have you previously reviewed and relied upon statutory language in rendering an expert opinion?
A. I don't understand -- I don't know what the definition of "statutory language" is.
Q. Sure.
Have you ever been given or identified federal or state statutes in which you have relied upon legal burden language to render your opinion?
A. No. I'm not a lawyer.
Q. Okay.
You have stated in your report that reasonable medical professionals in your field apply the same or similar standards, the standards that we've been talking about.
Is that correct?
MR. WALLACE: Objection.

A. Which standards specifically?
Q. The "at least as likely as not."
A. Yes.
Q. Okay.
Can you give me an example of how medical professionals use that in your field outside of the context of this litigation?
A. Similar to what I said. When you have a patient that has multiple possible etiologies for their disease, you -- you know, they consider all of them with some weight, equal weight.
Q. In those situations, are you -- you're considering whether a person's multiple risk factors caused their urothelial carcinoma, do you consider those risk factors equivalent to each other?
A. You consider them as risk factors.
Q. Okay.
A. You just don't put any weight, so.

Q. So if you don't put any weight to them, would you, by definition I guess, be treating them the same?

MR. WALLACE: Objection.

A. I mean, you're not treating them, I mean. So, you're considering them all as potential -- as potential risk factors.

So, I mean, if there's three, I don't necessarily think you say 33 percent, 33 percent, 33 percent. You say there's three possible risk factors.

Q. Got it.

Have you ever used the "at least as likely as not" standard in your medical research?

A. No.

Q. Outside of this litigation, have you ever used a standard -- used the standard "at least as likely as not" in your other work as a testifying expert?

A. I have not.

Q. Aside from the "more likely than not" standard you mentioned, are there

other standards you have used to reach your expert opinions in other cases?

A. Not that I recall.

Q. Are you aware of any published guidance on how to apply the "at least as likely as not" standard?

A. I'm not.

Q. Are you aware of any epidemiological studies that use the as likely -- "at least as likely as not" standard to describe a positive association?

MR. WALLACE: Objection.

A. I'm not an epidemiologist, so I don't really follow that literature closely.

So I would say no.

Q. Okay.

Have you ever heard the term "equipoise"?

A. I have.

Q. Do you use that term in your clinical practice?

A. I do not.

Q. Do you use that term in your research?
A. I do not.
Q. Do you know what it means?
A. Loosely.
Q. What does it mean to you? What does the term "equipoise" mean to you?
A. I mean, the -- the -- actually, I really don't.
Q. Okay.
A. Now I'm thinking about it, I don't.
Q. No, it's fair.
A. Sorry.
Q. Did you use the term "equipoise" in formulating your opinions in these cases at all?
A. I don't recall. I don't think so, no.
Q. How did you use the "at least as likely as not" standard -- well, how did the use of the "at least as likely as not" standard affect the opinions you are offering in these cases?

A. I mean, I'm not sure what you mean by "affect."

That was the definition I used to come -- I used that as a definition to come to my opinion during the review, or after the review of all the medical records.

Q. Well, fair to say you relied on this standard when you could not determine whether a particular risk factor was more likely than not the cause, for instance, of Mr. Laramore's bladder cancer, correct?

A. Well, I did not use "more likely than not" at all. I used the "least likely" in this to come up with my opinion of the risk factor -- you know, of the bladder cancer possible risk factors for both patients.

Q. Right. I -- well, correct me if I'm wrong, but the first part of your, kind of, conclusion was that you could not identify any of the risk factors that were more likely than not the cause of Mr. Laramore's bladder cancer, correct?

A. No.
Q. Okay.
If we can look at Exhibit 4, which is your Laramore report. And if you would -- Doctor, if you look at the last paragraph, at the very end of page --
MR. WALLACE: I'm sorry, what page?
MR. CROMWELL: 21, sorry. Page 21.
MR. WALLACE: Thank you.
BY MR. CROMWELL:
Q. And the last sentence of the last paragraph says: Thus, because I cannot find any risk factor that is more likely than not to have caused his bladder cancer, I conclude that each of his risk factors are at least as likely as not to be the cause, including his exposure to the chemicals at Camp Lejeune.
First, did I read that correctly?
A. Yes.
Q. So, fair to say as part of your

evaluation in this case, you could not identify any risk factor that is more likely than not to have caused his bladder cancer, correct?

A. I think what I mean by that is that all the risk factors have to play, you know, a role in the actual cause of the -- Mr. Laramore's bladder cancer, so.

I don't think one is more important than the other. So if you want to say by definition "more likely than not," I think they're all risk factors for his disease.

Q. I'm just trying to understand your ultimate opinion because this is what it seems like it is. I get that second part that each of his risk factors are at least as likely as not to be the cause, which is what you've been alluding to, but the preface to that is that you cannot find any risk factor that is more likely than not the cause of his -- his bladder cancer, correct?

A. From the risk factors that I

have defined for Mr. Laramore.

Q. Sure.

A. Yes.

Q. Okay.

A. Yes.

Sorry, I'm just --

Q. No, you're good.

Doctor, we went over that you're not an epidemiologist or a toxicologist, correct?

A. Correct.

Q. You have prepared in your reports a "General Causation" section for both Mr. Laramore and Mr. Cagiano, correct?

A. It's part of my report, yes.

Q. And as part of -- you would agree with me, just so we don't have to flip to both, they're -- aside from referring to Mr. Laramore and Mr. Cagiano, you would agree they're identical sections in both, correct?

A. Yes.

Q. Okay.

As part of your "General Causation" section, you are relying on plaintiffs' experts, Dr. Hatten, Plunkett, Gilbert, Culp, and Bird, for your opinions in that section; is that correct?

A. Yes.

Q. And while you do rely on them, it -- correct me if I'm wrong, did you reach your own conclusions, independent conclusions, as to whether TCE, PCE, benzene, and vinyl chloride can cause urothelial carcinoma?

A. Yes.

Q. Okay.

Did you do your own literature search and review to reach those conclusions?

A. Part of it was, yes, as well as relying on the experts and their opinions.

Q. Okay.

As part of this literature review, was this a systematic review of the epidemiological and toxicological literature looking at TCE, PCE, benzene,

and vinyl chloride?

MR. WALLACE: Objection.

A. What do you mean by "systematic"?

Q. Did you run searches, for instance -- well, let me back up.

Have you used PubMed before?

A. Yes.

Q. Did you run searches for articles related to TCE, PCE, benzene, vinyl chloride and urothelial or bladder cancer?

A. I did.

Q. Okay.

What search terms did you use, if you recall?

A. I -- I mean, I think -- I don't recall exactly which search terms I used, but they would have included TCE, PCE, benzene, bladder cancer, urothelial cancer, maybe a few others.

I -- I'm sorry, I just don't remember exactly from that moment in time.

Q. Okay.

Did you search at all for any articles related to vinyl chloride?

A. Possibly. I don't remember.

Q. How did you -- when going through this literature search, how did you decide which studies to include or exclude in your report?

A. I think a -- it varies. A lot of it has to do with the quality of the -- the, sort of, the data or what's available, but from what I recall, there wasn't a lot of literature, so I just tried to look through all of it unbiased.

Q. Okay.

So as you're sitting here, you don't recall there being a lot of literature related to epidemiological studies or toxicological studies looking at benzene, TCE, PCE, or vinyl chloride as it relates to urothelial carcinoma?

MR. WALLACE: Objection.

A. Yeah, and what I mean by that, there weren't thousands of papers. There were manuscripts that came up that I -- I

could review in a timely fashion.

Q. Are all of those studies that you looked at, whether you included it or excluded it in your report, included in your materials considered list?

A. It should be, yeah.

Q. A number of the studies you have cited in your GENERAL CAUSATION section are occupational studies; is that correct?

A. Yes.

Q. You agree that occupational exposure levels are magnitudes higher than chemical levels that would have been present at Camp Lejeune; is that correct?

MR. WALLACE: Objection.

A. I really can't speak to that. I'm not an epidemiologist. I'm not quite sure what, you know, that all means, and so I don't want to say something on it.

Q. So is it fair to say you made no attempts in the studies you were looking at to compare the low -- the levels in the occupational studies you were looking at to the levels of TCE, PCE, benzene, or

vinyl chloride at Camp Lejeune?

A. I did.

Q. You did compare them or you did not?

A. I did look at the differences between the two absolute numbers, but I'm not sure exactly what that -- you know, how to correlate or how to interpret that.

Q. Okay.

So, as you sit here, do you know whether the levels of exposure to TCE, PCE, benzene, and vinyl chloride in the occupational studies you evaluated are higher or lower than the levels at Camp Lejeune?

A. I wouldn't be able to tell you off the top of my head. I would have to review those again.

Q. Okay.

I should have asked this before, but, Doctor, did you write your reports for Mr. Laramore and Mr. Cagiano?

A. I did.

Q. Did you write, for instance,

your "General Causation" section?

A. I drafted it, yes.

Q. These are your own words and your own conclusions?

A. I worked with my lawyers along with it, but these are all my, yes, my beliefs and my conclusions.

Q. Okay.

Did anyone tell you to add this section to your report?

A. No.

Q. Doctor, are you familiar with Dr. Thomas Longo?

A. Yes.

Q. How do you know who he is?

A. I reviewed his deposition.

Q. Did you ever look at his report?

A. I did not. As far as I could -- yeah, I don't think -- no, I don't think I did.

Q. Okay.

It's not listed. I was just curious.

A. Yeah, I don't --

Q. Have you --
A. Then I definitely didn't.
Q. Have you ever spoken with Dr. Longo or corresponded with him?
A. No.
Q. Do you know where he practices?
A. No.
Q. But you are aware that Dr. Longo is one of plaintiffs' urology experts in this litigation?
A. Yes.
MR. CROMWELL: Doctor, I'm going to hand you what we're marking as Exhibit 11 to your deposition.
(Sfakianos Exhibit 11, Specific Causation Expert Report for Jefferson Criswell Thomas Longo, M.D. February 7, 2025, was marked for identification, as of this date.)
BY MR. CROMWELL:
Q. And, Doctor, just for the record, this is the specific causation expert report for Jefferson Criswell by Dr. Thomas Longo dated February 7th, 2025.

Is that correct?

A. That's what it says, yes.

Q. All right.

Doctor, if you would turn to page 11 of what we marked as Exhibit 11. And at the same time, would you mind opening your Exhibit 4, which is your Laramore report, page 9?

A. Exhibit 4, page 9?

Q. Exhibit 4, page 9, yep.

You have a section entitled "General Causation."

A. Yes.

Q. And looking at Exhibit 11, Dr. Longo's report also has a section entitled "General Causation" at the bottom of page 11; is that correct?

A. Yes.

Q. And would you just compare for me the language of your "General Causation" section with the "General Causation" section of Dr. Longo, and would you agree with me in that evaluation that they are word-for-word identical?

A. So you want me to read both and tell you if they're identical?

Q. Well, I'm assuming you're familiar with yours, but if you look at Dr. Longo's --

A. Okay.

Q. -- report.

A. I mean, I'm familiar with it, but if you want word-for-word, I would want to read both of them.

Q. That's fair.

A. (Witness reads document.)

I mean, do you want me to read the whole thing, because it's definitely -- it's definitely not the same thing word-for-word. There are words that are different here between the two.

Q. Okay.

Can you identify which version you're referring to?

A. I mean, I use the word "vinyl chloride." Here it's "VC." Here "PCE is likely to be carcinogenic in humans in all routes of exposure." I have by "EPA 51";

it's not here.

Similarly -- there was one other one that I just saw. So it's similar, but not word-for-word.

Q. So I'll modify it understanding the distinctions that you're making.

Would you agree with me that they're virtually identical and have the same citations in each section?

A. I just told you that there's two different citations right here. So they're similar, yes, but, I mean, I have citation 51. He has citation 34.

Q. Well, the numbers, not talking about the numbers.

What the documents -- what the citations are referring to in the footnotes.

A. I --

Q. Sorry, the footnotes are --

A. In the back.

Q. -- yeah, in the bottom.

A. Oh, sorry.

Yeah, they're referring to the

same, but definitely different numbered footnotes.

Q. Understood.

Do you know why these two sections between you and Dr. Longo's "General Causation" sections would be virtually similar?

A. I do not.

Q. Okay.

It's your testimony that the language in your "General Causation" is your language and your opinions?

A. These are definitely my opinions and my language.

Q. Okay.

Were you ever asked to specifically rely on certain citations as part of your opinions in this section?

A. Not specifically, no.

Q. Okay.

Were you asked to use specific language in your "General Causation" section?

A. What do you mean by that?

Q. Were you -- were there portions of this general section report, Laramore report, that you were specifically asked to include in your -- in this section?

MR. WALLACE: I'm going to object to this question and instruct the witness not to answer to the extent that it would disclose communications between the expert and plaintiffs' counsel.

BY MR. CROMWELL:

Q. Are you going to follow the instruction?

A. Of my attorney, yes.

Q. Okay.

Just to be clear, you wrote this section, the "General Causation" section in your reports?

A. Yes.

Q. Okay.

And you're relying on the information and the citations to offer your opinions in these cases?

A. From my other experts, yes.

Q. Well, not just the other experts.

The opinions that you arrived at in the general causation reports and the citations you include are all being used by you to offer your opinions in these cases, correct?

A. Correct, the citations are from the other experts, and these are my opinions, yes.

Q. Okay.

Okay. Doctor, are you familiar -- when you're evaluating the epidemiological studies for your opinions, did -- would you agree that statistical significance is a factor you would look at in evaluating the study?

MR. WALLACE: Objection.

A. Again, I'm not an epidemiologist or a statistician, so I depend on -- it's all in context. You know, statistically significance is in con -- so I depended upon the epidemiology and toxicology of the other experts.

Q. Okay.

I guess if you were relying on the other experts' opinions in these cases, I guess the question I have is what was the necessity for you doing your own literature review and arriving at your own conclusions in this case?

A. I think that it helps me to validate and affirm my opinion to making sure that, you know, nobody's giving me any false instructions or false data.

Q. Are you familiar with what risk ratios, odd ratios, or hazard ratios are?

A. I'm familiar with the terminology.

Q. You understand that they are important to analyze standard incidence rates in a study's result, are they not?

MR. WALLACE: Objection.

A. I -- I'm not a statistician, so I really can't comment on that 'cause that really is in terms of context, so.

Q. Okay.

A. Yeah.

Q. For instance, do you know what a hazard ratio of one means in a study?
A. I do.
Q. What does it mean?
A. That there is no difference.
Q. It's a null hypothesis?
A. A --
Q. Got it.
A. See, I'm not a statistician.
Q. You would agree that a hazard ratio of one or less indicates a negative association --
MR. WALLACE: Objection.
Q. -- is that correct?
A. A hazard ratio of less than one?
Q. One or less, but yes.
A. So like --
MR. WALLACE: Objection.
A. So like a 0.5 hazard ratio?
Q. Yes.
A. I don't think that necessarily is a negative correlation. I think it's in the context of how you're looking at the study and what the hypothesis is.

Q. Okay.

A. But again, I'm not a statistician, but that's just my, you know...

Q. Have you ever -- do you have any expertise in determining what level of increased risk in hazard ratios or risk ratios or odds ratios above one reflects an association with a health outcome, or health endpoint?

MR. WALLACE: Objection.

A. I need you to help me with that question. What are you -- just be a little more specific on what you're trying to ask. I'm sorry.

Q. Sure.

Have you ever evaluated studies that show hazard ratios, risk ratios, or odds ratios above one?

A. So, I've read studies that have hazard ratios above and below one, yes.

Q. What, in your expertise, does a hazard, risk, or odds ratio above one mean?

A. So, again I'm not an expert, so this is not near anywhere in my expert realm.

Q. Okay.

A. But are -- again, the way -- I'll put it in context. The way I would look at it would be like a randomized phase III clinical trial, placebo versus drug, hazard ratio of 1.01 means that there's no difference between the two.

Q. Understood.

A. That's the context of how I would look at hazard or -- or read about hazard ratios or odds ratios.

Q. Understood.

A. And that's why before a hazard ratio of 0.5 means that there's a 50 percent improvement with the drug, so it's not a negative correlation; it's a positive correlation.

Q. I understand the context and how you're answering it.

A. Yeah.

Q. Thank you.

Okay.

Are you familiar with confidence intervals?

A. Same. I read about them in a lot of papers I read about.

Q. Okay.

Do you use them in your own research?

A. My statisticians may.

Q. But it's not something you're generally familiar with how they operate?

A. No, sir.

Q. Okay. All right.

Are you familiar with -- well, let me back up.

Have you ever done any consulting for pharmaceutical companies?

A. I have.

Q. What kind of consulting have you done on their behalf?

A. I mean, there's a lot.

Q. Let me be more specific.

Have you ever evaluated the efficacy of -- of particular drugs for a

pharmaceutical company?

A. So, the majority of the pharmaceutical companies is mostly my opinion about their drugs and if it's worth, you know, doing certain things with them. I mean, like should they go into clinical trial or should they not.

Q. Okay.

A. But that's roughly what I would do consulting for.

Q. Okay.

Have you ever heard of a dose-response?

A. A dose-response, yes, I -- I know those words and I've seen them in the literature.

Q. Have you ever heard the phrase, like, "the dose makes the poison"?

A. Say it again.

Q. Have you ever heard the phrase, like, "the dose makes the poison"?

A. No.

Q. For instance, like, somebody in theory could consume too much water and

die, so the amount you take depends on how toxic a particular compound is?

MR. WALLACE: Objection.

A. I -- I've never heard that specific --

Q. Yeah.

A. -- terminology, but, I mean, there's been talking -- there's -- yes, there's side effect profiles that we read about in clinical trials that, you know, and there's -- I do know of phase I trials where there's dose escalation where you give the dose until you see side effects with the dose that you want to treat patients with.

Q. Okay.

Fair to say it's not a concept you generally use in your clinical or research practice?

A. Absolutely not.

Q. Okay.

What percent, if you know, what percent of individuals exposed to TCE develop urothelial carcinoma?

A. I --

MR. WALLACE: Objection.

A. I don't know. I can't answer that question.

Q. What percent of individuals who develop urothelial carcinoma is due to their exposure to TCE?

A. I don't know.

Q. Okay.

What percent of individuals exposed to PCE develop urothelial carcinoma?

A. I don't know.

Q. What percentage of individuals who develop urothelial carcinoma is due to their exposure to PCE?

A. I do not know.

Q. What percentage of individuals exposed to benzene develop urothelial carcinoma?

A. Don't know.

Q. What percentage of individuals who develop urothelial carcinoma is due to their exposure to benzene?

A. I don't know.
Q. What percentage of individuals exposed to vinyl chloride develop urothelial carcinoma?
A. I'm not sure.
Q. And what percentage of individuals who develop urothelial carcinoma is due to their exposure to vinyl chloride?
A. I don't know.
Q. I'm assuming the answers would be true if I were being more specific to UTUC?
A. Correct.
Q. Okay.
Would you agree that the number of participants in a study is relevant to the power of that study?
MR. WALLACE: Objection.
A. I would argue that it's all about the study design. So you could have very strong associations with low number of patients.
Q. You were mentioning before a

clinical trial and you currently have one, but you were looking for 67.

Is the reason you're looking for 67 and not just one is that it adds more significance to the actual trial?

A. Well, it is the hypothesis of the trial that we develop with our statistician to give us the accurate power calculation where we would need X-number of patients to null or -- you know, to overcome the null hypothesis. So -- so every study should take into account a statistician and come up with numbers.

Q. Yeah, but all things being equal, you'd agree that a study that has, say, a hundred individuals versus two individuals, again all things being equal, would have greater power to that study?

MR. WALLACE: Objection.

A. I would say generally yes, but not necessarily.

Q. Okay.

As part of your general causation opinions, you evaluated TCE,

PCE, benzene, and vinyl chloride individually; is that correct?

A. Yes.

Q. Did anyone suggest you frame your opinions based on occupational -- about exposures to a mixture of those chemicals rather than evaluate them individually?

MR. WALLACE: Objection.

I'm going to instruct the witness not to answer to the extent that it would reveal communications between the expert and plaintiffs' counsel.

A. I will follow his suggestion.

Q. Okay.

Any conversations outside of conversations you've had with plaintiffs' counsel as to why or anyone suggesting you formulate your opinion based off a mixture of chemicals rather than individual chemicals?

A. No.

Q. You have opined that there is a

causal relationship between Camp Lejeune water and bladder cancer, correct?

A. Yes.

Q. When you say "Camp Lejeune water," how are you defining that?

A. I'm defining the water that was present at Camp Lejeune during certain periods of time due to the contamination.

Q. Okay.

And the water you're referring to, what years at Camp Lejeune are you referring to?

A. I don't remember off the top of my head. I would have to look back to give you the specific years.

Q. Okay.

What combination of contaminants are you referring to with regards to Camp Lejeune water?

A. TCE, PCE, benzene, vinyl chloride.

Q. Okay.

Those four?

A. Yes.

Q. Okay.

When you say "Camp Lejeune water," where is the water coming from when you refer to that?

MR. WALLACE: Objection.

A. I don't know where the water was coming from, but it was the water that was used at Camp Lejeune.

Q. Are you familiar with the different water treatment systems at Camp Lejeune?

A. Not specifically. I think I -- one of the -- yeah, not really, no.

Q. Okay.

A. Yeah.

Q. Do you know whether all water treatment systems at Camp Lejeune were contaminated with TCE, PCE, benzene, and vinyl chloride?

A. I don't know the answer to that.

Q. Okay.

Did you, in formulating your opinions, account for differences in mixture levels over the years?

A. Again, I'm not an epidemiologist. This is not something that I can really speak to, so.

Q. Okay.

A. No.

Q. You are familiar with the concept of certain chemicals having an additive effect?

A. In general?

Q. Yes.

A. Yes.

Q. What does it mean to you?

A. It means that there -- it -- it means many things. I mean, if you look at therapeutics, it means that you need two drugs to activate a drug. If you look at chemicals, it may need two drugs to come together and their metabolites come together.

I mean, I think it's just a two -- two compounds, two chemicals, two treatments come together that may either need each other to work or that one may be additive to the other and cause whatever

effects you're looking at.

Q. Okay.

Are you familiar with the concept of chemicals having a synergistic effect?

A. I think synergistic and additive is the same word.

Q. You treat them the same?

A. Yeah.

Q. Okay.

Are you aware of any alert -- are you aware of and/or relying upon any literature that shows an additive or synergistic effect between TCE, PCE, benzene, and vinyl chloride?

A. Again, that's not -- that's nowhere near my realm of expertise. I don't know -- I -- I -- I can't think of any literature, and I wouldn't even be able to truly come up with a conclusion 'cause I don't have the expertise in that sort of setting.

Q. So this is not something you focused on or know about?

A. No.

Q. Okay.

Do any of the studies that you cite in your reports conclude that TCE, PCE, benzene, and vinyl chloride are additive to cause cancer?

A. I can't recall the specifics of every one of my studies, so I can't answer that.

Q. If you would look at Exhibit 4, which is your Laramore report, and go to page 11. You have a -- at the very bottom there's a paragraph entitled "Bladder cancer can arise."

A. Yes.

Q. And in the middle of that paragraph you state: For instance, smoking is the most prominent risk factor for bladder cancer with smokers being three to four times more likely to develop bladder cancer compared to nonsmokers. However, when combined with environmental carcinogenic exposure, such as that from industrial chemicals like benzene, TCE,

PCE, commonly found in workplaces or contaminated water supplies, the risk can be significantly higher. Studies show that individuals exposed to both smoking and toxic chemicals, such as those at Camp Lejeune, experience a greater risk of bladder cancer than the sum of the risks posed by each factor alone. The interaction between these factors may increase the concentration of carcinogens in the bladder, elevate the frequency of genetic mutations, or impair the body's ability to repair cellular damage, thus accelerating the cancer's process.

First of all, did I read that correctly?

A. Yes.

Q. I'm curious, at the bottom of page 11 I'm trying to understand you say "Studies show that individuals exposed to both smoking and toxic chemicals such as those at Camp Lejeune experience a greater risk of bladder cancer than the sum of the risks posed by each factor alone."

What do you mean by that sentence?

A. So, I mean that they're -- they're both can cause bladder cancer.

And so you were asking about synergistic and additive before. And so, in my opinion, I think that there is a -- or, and the keyword in that paragraph is "can" because they can. That doesn't necessarily mean they do, but they can have additive effects meaning that smoking causes the damage as well as the Camp Lejeune chemicals that you listed cause the damage, and together they're -- they're -- you know, they can have a potentially higher damage leading to bladder cancer.

Q. What studies are you referring to and relying upon for that sentence?

A. It's the "Smoking and Bladder Cancer Systemic Review and Risks of Outcomes."

Q. This is the Rink article?

A. Yeah.

MR. CROMWELL: Doctor, I'm going to hand you what I'm going to mark as Exhibit 12.

(Sfakianos Exhibit 12, Rink study, was marked for identification, as of this date.)

BY MR. CROMWELL:

Q. Doctor, I'm handing you what we marked as Exhibit 12, and the Rink article entitled "Smoking and bladder cancer, a systematic review of risks and outcomes, that you've cited in your report."

Is that correct?

A. Yes.

Q. Okay.

Are you familiar with this article?

A. Yes.

Q. And you're relying on this article to say that the interaction between smoking and toxic chemicals may increase the concentration of carcinogens in the --

MR. CROMWELL: Well, strike

that.

Q. You're -- you just said that you're relying upon this article for your opinion that individuals exposed to both smoking and toxic chemicals, such as those at Camp Lejeune, experience a greater risk of bladder cancer than the sum of the risks posed by each factor alone, correct?

A. Yes.

Q. If you know, can you tell me where in this article supports that particular statement?

A. It's not this article alone, but it's my expertise and my medical knowledge that also adds to that.

So, bladder cancer is a disease of exposure, and the bladder is a storage organ. So when you have metabolites that come into the bladder, whether it's from smoking or other chemicals, they sit there. And so this goes into the risk factors in how they lead to cancer. And so in my opinion, that you have these metabolites that sit inside the bladder

for long periods of time that cause the damage.

So when you have them together, we don't necessarily know which one is the initial factor, but together they are more than the sum of the parts.

Q. I understand. And I understand, you know, part of this is reliance on smoking -- or, not smoking. Part of this is reliance on your history and training.

But the beginning of the sentence is that "studies show". And you're relying upon what we marked as Exhibit 12 as a study, and I'm simply asking where in this study supports that smoking and other toxic chemicals have an additive or even synergistic effect.

A. Could I read the article? I would have to read the whole article and just try to figure out -- I don't recall off the top of my head which specific part of this article.

Q. Okay. It's quite a long article.

I've just -- as you sit here -- or as you sit here right now, are you able to point to me where in this article supports that particular position?

A. Not off the top of my head.

Q. Okay.

Doctor, you reviewed and relied upon the ATSDR's 2017 Assessment of the Evidence in reaching your general causation opinions, correct?

A. That was part of it, yes.

Q. Okay.

Do you know how the assessment was put together?

A. I do not.

Q. Do you know who the author was?

A. Not off the top of my head.

Q. Are you familiar with Frank -- Dr. Frank Bove?

A. I think the name has come up in conversation and, yes, so that's familiar. The name is familiar.

Q. Okay.

A. So I would have to look at the

article to make sure that's the actual person who wrote it.

Q. Do you know if Dr. Frank Bove was the sole author of the 2017 assessment?

A. I don't recall.

Q. Okay.

Do you know what the purpose for putting the assessment together was?

A. I don't. I don't remember. This was not something I spent, you know, a tremendous amount of time on.

MR. CROMWELL: Okay.

Can I have the 2017?

Doctor, I'm going to go ahead and hand you what we've marked Exhibit 13.

(Sfakianos Exhibit 13, ATSDR Assessment of the Evidence January 13, 2017, Bates CLJS_HEALTHEFFECTS-0000044276-371, was marked for identification, as of this date.)

BY MR. CROMWELL:

Q. And just for the clarification of the record, this is not the full 2017 assessment. I have a copy of it if you would like it, but this is a truncated version because it is massive and I was trying not to produce the entire thing, but...

Doctor, this is a 2017 Assessment of Evidence that you are referring to in your Laramore and Cagiano reports; is that correct?

A. Yes.

Q. Okay.

A. Do they not have the author on here?

Q. And, Doctor, first things I want to ask you is on page 8 of what we marked as Exhibit 13, the last paragraph states: In our assessment, we did not use confidence intervals to determine whether a finding was "statistically significant" nor did we use significance testing to assess the evidence for causality.

First, did I read that correctly?

A. You did.

Q. Is it your understanding that the 2017 did not use significance testing to assess the evidence of causality? Is that correct?

MR. WALLACE: Objection.

A. I -- I mean, I would have to just -- those are the words that you just said. So I'm -- that's correct, that's what you just said.

Q. Okay.

But is it -- you agree that that's the approach that the 2017 assessment took when evaluating evidence?

A. I --

MR. WALLACE: Objection.

A. I would have no idea. I would -- I mean, those are the words on the page, but I dont know -- I would want to -- and first, I'm not a statistician or an epidemiologist, so I'm not quite sure what those means.

Second, I would want to look at everything to make sure that there's nothing else that, you know, says anything different.

Q. Okay.

If you look at that paragraph above, it reads: In the disease specific tables, 95 percent confidence intervals were provided in order solely to indicate the level of precision of uncertainty and the effect estimates. An effect estimate, risk ratio, odds ratios, or standardized mortality ratio was considered to have good precision or less uncertainty if the ratio of the upper limit to lower limit of its 95 confidence interval was less than or equal to two.

First of all, did I read that correctly?

A. You did.

Q. You understand that the 2017 Assessment of Evidence looked at the ratio of the upper end of the confidence interval to the lower end when evaluating

the evidence; is that correct?

MR. WALLACE: Objection.

A. Again, that's -- your -- your question is not the words that are on the page. So I'm not sure if that's actually what was performed in this study.

I mean, this is -- I would need to look at everything put together. I can't -- I can't say anything based on a single paragraph on a single page of a very large --

Q. Okay.

A. -- file.

Q. Well, aside from this paragraph, what is your understanding of how ATSDR assessed the status of the evidence?

A. I did not -- I don't have an opinion on that. I used my epidemiology and toxicology experts.

Q. Okay.

A. And their -- and their reports to -- you know, I -- I can't make an opinion on that.

Q. Okay.

Are you familiar with what a confidence interval ratio is?

A. I'm familiar with a confidence interval, not a -- I don't know what a confidence interval ratio is, no.

Q. Okay.

If you would look at what is page 13 ending in Bates number 4290. It's entitled "Overall summary of the evidence."

Do you see that?

A. Yes.

Q. And if you would flip to the next page and it identifies bladder cancer disease.

A. Yes.

Q. All right. And it lists the chemicals TCE, PCE, vinyl chloride, and benzene.

Is that right?

A. Yes.

Q. Okay.

So, you understand that according to the ATSDR, the evidence for

causation was below equipoise for TCE related to bladder cancer; is that correct?

A. That's what's listed on this table.

Q. Okay.

Is that your understanding, having reviewed and relied upon this study?

MR. WALLACE: Objection.

A. Again, I don't have an opinion on this. This is I relied on other experts to -- to --

Q. Okay.

A. You know.

Q. So maybe I can short-circuit this a little.

To the extent that you cite to the ATSDR in your reports, are you doing any kind of independent analysis of the ATSDR's assessment, or are you simply relying upon plaintiffs' other expert's use of the assessment?

MR. WALLACE: Objection.

A. I'm relying on other plaintiffs' experts and validating some of their data to just make sure that there was nothing falsified.

Q. Okay.

Did you do anything to validate their use of the 2017 assessment?

MR. WALLACE: Objection.

A. No. I mean, I looked at it, but relied on their interpretation.

Q. Okay. But this is one of the things you did look at in forming your general causation opinions?

A. Yes.

Q. Okay.

You would agree with me that according to the ATSDR, the evidence for causation was below equipoise for vinyl chloride as it relates to bladder cancer; is that correct?

A. That's -- that's what it says, yes.

Q. Okay.

And you'd agree that the

evidence for causation was below equipoise for benzene as it relates to bladder cancer; is that correct?

A. That's what it says, yes.

Q. Okay.

Did you evaluate whether the ATSDR said anything about the status of animal data as it relates to PCD and bladder cancer?

A. I remember reviewing it, but I don't remember the specifics.

Q. Okay.

If you would turn to what is page 92 of Exhibit 13. There's a section entitled "ATSDR Assessment" and then below that is the category "PCE."

Do you see that?

A. Yes.

Q. And so, in this section, ATSDR is assessing connection to PCE to bladder cancer; is that right?

A. That's what -- yes.

Q. Okay.

If you would turn to page 94

still within that same section.

A. Okay.

Q. In that first full paragraph it says "The study of PCE."

Do you see where I'm reading?

A. "Drinking water in Cape Cod, Massachusetts"?

Q. No. Page 94, the first full paragraph is: The study of PCE contaminated drinking water.

If I just kept reading.

A. Yes.

Q. My apologies.

A. No problem.

Q. If you go to the last sentence in that paragraph it states: Although there are animal data indicating that the -- that PCE causes neoplasms of the hemapoietic system, testes, kidney and brain, there are no animal data saying that PCE causes bladder neoplasms.

First of all, did I read that correctly?

A. Yes.

Q. You understand that according to the ATSDR, at least at this time, there was no animal data indicating that PCE causes bladder neoplasms, correct?

A. That's what -- that's what it says, yes.

Q. Do you have any reason to disagree?

A. Not that I can think of, no.

Q. Okay.

Did you evaluate the validity of that statement in your assessment of this document?

A. I did not.

Q. Okay.

The next paragraph is entitled "Mechanistic Information" and it states: Although there are no mechanistic data that provide strong evidence in support of a causal association between PCE and bladder cancer, there are studies suggesting that workers exposed to chlorinated solvents who have certain genetic polymorphisms affecting a key

metabolic pathway for PCE are at increased risk of bladder cancer than those exposed to these solvents who do not have these genotypes.

First of all, did I read that correctly?

A. Yes.

Q. You understand that according to the ATSDR's 2017, at the time, there is no mechanistic data that provides strong evidence in support of a causal association between PCE and bladder cancer?

MR. WALLACE: Objection.

A. That's what it says here, yes.

Q. Okay.

Do you have any reason to disagree?

A. Again, I'm not a epidemiologist or a toxicologist, so I wouldn't have an opinion on that. I -- I don't --

Q. Did you do anything to validate this statement one way or the other?

A. No. This is a -- above what I

was asked to do.

Q. Okay.

Doctor, in your materials considered list you cite to three studies by Dr. Frank Bove; is that correct?

A. Yes.

Q. Okay.

You're familiar with those studies, two from 2024, one from 2024?

A. Vaguely, yes.

Q. Okay.

Did you use them and rely upon them in formulating any of your opinions in this case?

A. Again, this was a validation from the other experts in the causal. You know, it was more I looked at them to make sure that they're the correct citations and that they had the correct information, but not for my opinion for bladder cancer.

Q. Did the studies have any role in the general causation opinions that you were forming in this case?

A. Yes, because they were the

papers that our other experts used.

Q. Okay.

And what did you do to validate that the other experts were using these studies properly and interpreting the results properly?

A. Again, I'm not an epidemiologist or statistician. So there's not something that I would be able to do. I used it -- these were the ones that were cited, so I reviewed --

Q. Right.

A. I reviewed them to make sure that they were the correct citations and that they had the correct, you know, sort of study and what they were looking at.

Q. Okay.

You've -- you've testified previously that in part what you were doing was validating that their interpretation of the studies. So I guess my question is what did you do with these Bove-related studies to validate that those were being used properly?

A. I --

MR. WALLACE: Objection.

A. I -- I don't understand the question, I'm sorry.

Q. Sure.

Did you do anything to validate whether plaintiffs' other experts were citing the data properly for -- the data from these Bove studies in forming your own general causation opinions?

A. So, if you mean if I -- did I look at exactly all the numbers they used and the numbers and validate, like, what the studies were?

Q. Sure. We'll start there.

A. No, I -- I mean, I used the citations that they gave, and I wanted to make sure that those were the accurate citations. So I pulled those papers. I quickly looked through them to make sure that the conclusion of those papers was the same as what -- what was said and also to form my own opinion make sure that they're -- that everything is accurate.

Q. Okay.

So, did you look at the results of the Bove studies as it relates to bladder cancer?

A. Yes.

MR. CROMWELL: Okay. Will you hand me number 19, please?

Doctor, I'm going to hand you what we're marking as Exhibit 14 to your deposition.

(Sfakianos Exhibit 14, Bove 2014 study, was marked for identification, as of this date.)

BY MR. CROMWELL:

Q. And. Doctor, this is an article by Dr. Frank Bove et al. entitled "Evaluation of mortality among Marines and Navy personnel exposed to contaminated drinking water at USMC Base Camp Lejeune: a respective [sic] cohort."

Is that correct?

A. Retrospective cohort.

Q. Retrospective cohort?

A. Study.

Q. Thank you.

With that correction, that's the document we're looking at.

A. Yes.

Q. And this is one of the articles you listed in your materials considered list for both Mr. Laramore and Mr. Cagiano?

A. Yes.

Q. And I'm just, for time's sake, I'll refer to it as the 2014 Bove Marine study, if that's all right.

You understand that the 2014 Bove Marine study was a retrospective cohort mortality study of Navy and Marine Corps personnel who began military service during 1975 through 1985 and were stationed at Camp Lejeune or Camp Pendleton, California during this period.

Is that correct?

A. That is correct.

Q. If you would turn to page 7 and look at table 4.

A. Page 7, table 4.

Q. Table 4 is entitled "Standardized Mortality Ratios" - or SMRs - underlying cause of death."

A. Correct.

Q. And do you see the row for bladder cancer?

A. Yes.

Q. And it identifies for bladder cancer the standardized mortality ratio at Camp Lejeune was 0.84.

Is that correct?

A. Yes.

Q. You would agree that the 2014 Bove Marine study concluded that Camp Lejeune cohort did not have an excessive risk for bladder cancer mortality; is that correct?

MR. WALLACE: Objection.

A. I would have to take a minute to really look at this. Like, I'm not -- I can't use just one number. I would have to refresh my memory.

Q. Okay.

As you sit here right now, you

don't know what the conclusions were for this particular cohort study?

A. No the -- not that detailed, no. I would have to just review it. It's been a while since I've looked at this.

Q. Did you review this study in forming your reports related to bladder cancer?

A. I did.

Q. Okay.

Would you look at page 8, Table 5. It's entitled "Camp Lejeune versus Camp Pendleton Hazard Ratios and 95 percent confidence intervals adjusted by sex, rank, and education 10 year lag."

A. Yes.

Q. And can you identify the bladder -- the row for bladder cancer?

A. I have.

Q. There it has a hazard ratio of 0.76 and a p-value of 0.5.

You mentioned p-value before as one of the items you were familiar with.

What does the -- what do those

results mean to you?

MR. WALLACE: Objection.

BY MR. CROMWELL:

Q. Related to bladder cancer?

A. Again, this is just one -- two -- two numbers in one table.

This specifically means that the -- you know, the p-value is not significant.

Q. Okay.

Do you know one way or the other whether this study showed an increase or excess risk for bladder mortality?

A. Again, this is -- it's been a while since I've reviewed this specific article. I can't recall off the top of my head, but I'm -- I can -- if you want me to look at it, I can answer that question.

Q. Okay. Let me ask you this.

You reviewed Dr. Culp's report in this case, did you not ?

A. Yes.

Q. Are you familiar with Dr. Culp's conclusions related to this study?

A. Again, not specifics off the top of my head.

Q. Did you rely upon his report in formulating your opinions in this case?

A. I did.

Q. Would you defer to Dr. Culp's opinions on this study --

A. I --

Q. -- as -- as a basis for your own general causation opinions?

MR. WALLACE: Objection.

A. I defer to the whole entire group of toxicology, general causation, epidemiology, and so forth.

But like I said, when we started, you know, my role is to look at bladder cancer. I just needed a background to understand what -- what I was doing. So that's -- that's why I don't remember the specifics of all of these off the top of my head.

Q. No, I understand. I just -- there's a difference, right, between relying upon plaintiffs' experts and then

coming up with your own opinions with regards to general causation.

At the beginning of this questioning, you indicated that you formed your own independent conclusions about general causation related to TCE, PCE, benzene, and vinyl chloride, correct?

A. Yes.

Q. So I'm trying to, aside from plaintiffs' experts, trying to understand, kind of, the basis for you formulating those opinions.

A. Well, I relied on --

MR. WALLACE: Objection.

Is there a question?

MR. CROMWELL: Nope, not yet.

MR. WALLACE: Okay.

BY MR. CROMWELL:

Q. But -- so what I'm asking is with regards to the Bove studies as something you've listed in your materials considered list, what did you -- what did you rely upon in those studies to formulate, if anything, your general

causation opinions?

MR. WALLACE: Objection.

A. So, I think that there's more than one study, right.

Q. Sure.

A. And there's more than one data. Like I mentioned a few seconds ago, it's about the entire picture.

Q. Yep.

A. Not because of a specific study.

So within the Bove, I -- again, I would have to read all the Boves and make sure that I -- I don't remember exactly specifically what this -- from -- from this, but before when I looked at all the experts' opinions, the -- the -- the various papers that I looked at, it -- that's how I came up with my opinion. So it's not from one specific piece of information, but from the entire cohort put together.

Q. Understood.

With regards to the Bove studies, do you understand that those are

some of the few that actually evaluate exposures to the contaminants at Camp Lejeune, correct?

A. Yes.

Q. Are you aware of other studies that evaluated exposures to water at Camp Lejeune outside of the Bove studies?

A. Again, I'm not an epidemiologist. I mean, I don't off the top of my head remember every single paper I looked at because it was, again, a more superficial assessment on my part, the general causation. I depended on the other experts.

If I remember correctly, I think there was more than Bove. There was a couple of others. Maybe they weren't specific to Camp Lejeune, but were specific to the actual compounds. So I -- again, off the top of my head, I would say I don't think so. I think the others were not Camp Lejeune, but they were actually the specific compounds themselves.

Q. Okay.

Did you place any weight on the Bove studies in reaching your general causation opinions given that they are specific to exposures at Camp Lejeune?

A. I think that there's -- there's -- like I said before, it's the whole picture and everything gets a certain percentage of weight. You also want to look at the quality of the data and you want to look at the quality of the outcomes, the study designs. You want to look at everything put together before you make your decision. That's what I did.

So, yes, there was some weight, but when you look at the entirety put together, there's -- I -- I think that, you know, that there is a correlation between PCE, TCE, vinyl chloride, benzene, and bladder cancer.

Q. Do any of the Bove studies show an increased risk of bladder cancer mortality or increased cancer incidence of bladder cancer from exposures at Camp Lejeune?

MR. WALLACE: Objection.

A. I -- I don't remember the details -- every detail of the Bove studies.

So, I'm happy to look at them again, and I can answer that question, if you like, but I don't -- I don't remember the details from all of them.

Q. Okay.

As you sit here, you're not aware one way or the other?

A. Correct. I would need to review the -- the manuscripts.

Q. Okay.

Doctor, would you agree you're not an expert in modeling chemical exposures to individuals?

A. Yes.

Q. And you are not an expert in assessing the individual risk that a person may have from exposures to PCE, TCE, benzene, or vinyl chloride, correct?

A. Correct.

Q. You are, in part, relying upon

plaintiffs' experts, Drs. Reynolds -- Drs. Reynolds, Bird, and Hatten, for that part of your opinion; is that correct?

A. Yes.

Q. Okay.

And again, you did not review any of the United States' expert reports related to exposures or increased risks from exposures, correct?

A. Correct.

Q. You understand that Dr. Reynolds uses the ATSDR's water models to estimate daily exposure levels for Mr. Laramore and Mr. Cagiano?

MR. WALLACE: Objection.

A. Yes.

Q. Okay.

Did you actually review the ATSDR's water modeling reports yourself, or are you relying upon Dr. Reynolds's interpretation of those reports?

MR. WALLACE: Objection.

A. Dr. Reynolds's interpretations.

Q. Okay.

So you are not familiar with any statements that may or may not be made in ATSDR's water modeling reports?

MR. WALLACE: Objection.

A. No.

Q. Okay.

Would you agree that to determine whether Mr. Laramore or Mr. Cagiano was exposed to a toxic level of TCE, PCE, benzene, or vinyl chloride, you would need to know how long they were there, how much they were exposed to; is that correct?

MR. WALLACE: Objection.

A. I -- I wouldn't -- again, I'm not a model epidemiologist or any toxicologist, so I wouldn't -- I don't know if that's true or not.

Q. Okay.

Do you know when Mr. Laramore was at Camp Lejeune?

A. I don't remember off the top of my head.

Q. Okay.

A. It's in my report, for sure.
Q. Understood.
In your report, you note he's there from December 1983 to December 1984.
Is that accurate?
A. Sounds right.
Q. Okay.
So he was there for approximately 12 to 13 months, correct?
A. Correct.
If I remember correctly, he had a second?
Q. I think that's Mr. Cagiano.
A. Or is that Mr. Cagiano. Sorry, I'm mixing them up.
Q. No, it's all right. I understand.
Do you know where Mr. Laramore lived and worked while stationed at Camp Lejeune?
A. I know it's in my report. I think I remember, but I don't remember the exact.
Q. You're right, it is in your

report.

A. Yeah.

Q. If we can just agree he -- are you familiar with Hadnot Point?

A. Yes.

Q. Are you familiar with Terror Terrace?

A. Sounds familiar, yes.

Q. Okay.

Would you have any reason to disagree that Mr. Laramore lived and worked in the Hadnot Point area while he was stationed at Camp Lejeune?

A. You look trustworthy, so no.

Q. Don't say that too loud.

Are you familiar with the primary contaminant of concern in the drinking water at Hadnot Point between 1983 and 1984?

A. Again, I know that it's in the reports, but I don't know -- I don't know how to interpret that or what that means.

Q. Okay.

If you don't mind, if you look

at your Exhibit 14, and if you look at page 2 there's the third paragraph that says "The primary contaminant in the HP."

Do you see that paragraph?

A. Yes.

Q. And it reads: The primary contaminant in the HP (Hadnot Point) distribution system was TCE with the maximum detected level of 1400 micrograms per liter. The maximum level of PCE was 100 micrograms per liter, and benzene was also detected.

First of all, did I read that correctly?

A. Yes, sir.

Q. So, do you understand at least for the periods of time we're talking about that the primary chemical of concern in the drinking water at Hadnot Point was TCE?

MR. WALLACE: Objection.

A. This is '75-'85, yes, that's what this says, yes.

Q. Okay.

And as you state in your report, the ATSDR 2017 did not find sufficient evidence of TCE in bladder cancer; is that correct?

MR. WALLACE: Objection.

A. Yes.

Q. Okay.

You conclude that Mr. Laramore has, quote, substantial exposure to TCE, PCE, benzene, and vinyl chloride.

What does -- well, first of all, you would agree with me your report does not define what "substantial exposure" is; is that correct?

A. Correct.

Q. And you do not quantify what "substantial exposure" is; is that correct?

A. Correct.

Q. What does "substantial exposure" mean to you?

A. To me it means that it was above a certain level that, again, I relied on my experts who wrote their reports, and so

they thought it was substantial, so I relied on their reports to make that conclusion.

Q. Okay. But you don't have a independent determination as to what "substantial exposure" means?

A. No, sir.

Q. You're relying upon, I assume, Drs. Bird and Hatten for their opinions on what "substantial exposure" means?

MR. WALLACE: Objection.

A. Correct.

Q. Okay.

You'd agree that you did not identify a threshold amount of exposure for any of the chemicals at issue where an individual is at least as likely as not to develop urothelial carcinoma, correct?

A. That -- that's not -- yeah, that's not why I was asked for this case. That's -- so I do not have any opinion on that.

Q. Okay.

I just want to make clear you're

relying on Dr. Kelly Reynolds's calculations to quantify the exposure for both Mr. Laramore and Mr. Cagiano; is that correct?

A. I think that was the only one, yes.

Q. Yeah.

A. But I relied on all the information that I was given, yes.

Q. I just want to make sure you're not relying on anybody else's calculations other than those of Dr. Reynolds; is that correct?

A. Correct.

Q. Okay.

Are you aware of whether Dr. Reynolds' use of total mass of ingested chemicals is a standard exposure metric?

A. I'm not even sure what that means, so no.

Q. Fair enough.

But regardless, you relied upon Dr. Reynolds' total ingestion metric to determine that Mr. Laramore's and Mr.

Cagiano's exposures were significant and substantial, correct?

A. I relied on her report and her conclusions to, yes, to -- to come up with that, yes.

Q. Okay.

In your clinical practice, have you ever used this methodology to ascertain a patient's health outcomes or their risk of developing a particular health outcome?

A. Used what?

Q. Exposure metrics like this.

A. No.

Q. Okay.

You stated that as reported by Dr. Hatten and plunge contemplate, epidemiologic studies have identified elevated bladder cancer diagnoses associated with benzene and vinyl chloride.

Is that right?

A. Yes.

Q. In your opinion, how much did

Mr. Laramore's exposure to water at Camp Lejeune increase his risk for developing bladder cancer?

MR. WALLACE: Objection.

A. I don't have an opinion on that.

Q. Okay.

A. I can't -- I'm not a -- anywhere near knowledgeable enough to make a conclusion.

Q. Okay.

In your opinion, how much did Mr. Cagiano's exposure to water at Camp Lejeune increase his risk for developing UTUC?

A. So, to -- to clarify, those -- they -- I think those are risk factors for bladder cancer.

Q. Understood.

A. For both patients.

I don't -- I can't qualify what the risk, you know, is for those two, but -- but their exposure was -- it played a role in their bladder cancer, or urothelial cancer development.

Q. Okay.

So, as you sit here, you're not able to identify how much Mr. Cagiano's exposure to water at Camp Lejeune increased his risk for developing UTUC?

A. Correct. No, I can't -- I'm not a statistician or an epidemiologist to put risk stratifications on these.

Q. So is the answer to that question "no"?

A. Correct.

Q. Okay.

In your -- part of your materials considered list you list an expert report of Dr. Benjamin Hatten; is that correct?

A. Yes.

Q. And you've relied upon Dr. Hatten's report in formulating your general causation opinions; is that right?

A. Yes.

MR. CROMWELL: Okay.

I'm going to hand you what we've marked Exhibit 15.

(Sfakianos Exhibit 15, Dr. Hatten expert report February 7, 2025, was marked for identification, as of this date.)

BY MR. CROMWELL:

Q. And is this a copy of Dr. Hatten's report on behalf of Jimmy Laramore?

A. Yes.

Q. And is this the report that you reviewed and relied upon?

A. Yes.

Q. Okay.

If you would turn to page -- it's page 2.

A. Two?

Q. The category entitled "Exposures" and then "Time on Base."

Do you see that?

A. Yes.

Q. And in the middle of that paragraph it states: Mr. Laramore spent 4.33 quarters on base between December of 1983 and December of 1984 corresponding to

an elevated measure of association with development of bladder cancer.

First of all, did I read that correctly?

A. Yes.

Q. So, according to Dr. Hatten and his conclusions, he concluded that Mr. Laramore spent 4.33 quarters on base; is that correct?

A. That's what this says, yes.

Q. Okay.

He goes on to write that: The population is limited to civilian personnel who may have less intense exposures than military personnel. In contrast, military personnel have always demonstrated elevated measures of association with bladder cancer diagnosis when stationed for at least seven quarters at Camp Lejeune from 1975 to 1985. Exposures of one to six quarters did not reveal an elevated measure of association with bladder cancer diagnosis.

First of all, did I read that

correctly?

A. Yes.

Q. So, is it fair to say you would agree that at least with regards to Dr. Hatten and the studies he's relying upon, someone like Mr. Laramore with one to -- with exposures of one to six quarters did not reveal an elevated measure of association with bladder cancer diagnosis?

MR. WALLACE: Objection.

A. That's what these words say.

Q. Okay.

Do you have any reason to disagree with that?

A. No.

Q. Would you agree, Doctor, that you're exposed to some carcinogens daily as part of everyday life?

A. I mean, we could look at doomsday and say yes.

Q. Fair to say it's impossible to live life completely free of carcinogenic exposures?

MR. WALLACE: Objection.

A. I mean, again I'm not an epidemiologist or toxicologist or carcinogen expert by any means. So generally speaking, I -- I guess you're correct.

Q. Okay.

A. But I don't -- I mean, I wouldn't know the answer to that.

Q. Well, for instance, do you know one way or the other whether people are exposed to background levels of TCE and PCE in everyday life?

A. No.

Q. Okay.

So, is it fair to say you would not have considered any kind of background levels of exposure in your report; is that right?

A. Again, that's not what I was asked to do here. So I did not look into any of that.

Q. Okay.

Are you aware of TCE being in ambient air at any measurable levels?

A. I'm not.
Q. Okay.
Do you consider -- are you aware of TCE being in any kind of foods, like potato chips or anything like that?
A. Not that I'm aware of.
Q. Okay.
Would you agree, like, benzene is -- do you know one way or the other whether benzene is ubiquitously found in the environment?
MR. WALLACE: Objection.
A. I would not, no. I don't know.
Q. Okay.
So any of these background levels of benzene, PCE, TCE, or vinyl chloride would not have factored into your opinions in this case; is that correct?
A. Correct. I don't know about them, so.
Q. Okay.
You are aware that cigarette smoking results in exposure, in part, to benzene, correct?

A. Correct.
Q. Have you ever calculated someone's exposure to benzene from cigarette smoking?
A. No.
Q. Okay.
You are aware that, for instance, Mr. Laramore had a significant smoking history; is that correct?
MR. WALLACE: Objection.
A. I am aware.
Q. Okay.
First of all, Doctor, do you know how much benzene a typical smoker inhales --
MR. WALLACE: Object.
Q. -- on a daily basis?
MR. WALLACE: Objection.
A. No idea.
MR. CROMWELL: I'm going to hand you what we've marked Exhibit 16.
(Sfakianos Exhibit 16, Wallace study, was marked for identification, as of this date.)

BY MR. CROMWELL:

Q. Doctor, I'm handing you Exhibit 16. This is a article authored by Lance Wallace of the USEPA, entitled "Exposures to Benzene and Other Volatile Compounds From Active and Passive Smoking."

First of all, did I read that correctly?

A. Yes.

Q. Are you familiar with this article? Have you ever reviewed it?

A. Not that I'm aware of, no.

Q. Okay.

If you look at the abstract in the middle it says: Based on direct measurements of benzene in mainstream cigarette smoke, it is calculated that a typical smoker inhales 2 milligrams of benzene daily compared to 0.2 milligrams per day for the nonsmoker.

First of all, did I read that correctly?

A. Yes, sir.

Q. Any reason to disagree with that?

MR. WALLACE: Objection.

A. Those are the words on this paper, so, I mean, that's what you read. Can't disagree with it.

Q. Sure, but do you have any independent basis to agree or disagree with those numbers?

MR. WALLACE: Objection.

A. I can't tell you if that's accurate. I don't -- I don't have any opinion on this. It's just the words that are here. I would have to really look into this topic, and I'm not an expert, so I wouldn't -- you know, those are the words you read, so.

Q. Okay.

Have you ever -- I'll cut to the chase. Have you ever evaluated the amount of benzene that Mr. Laramore would have been exposed to based off his smoking history compared to the benzene that Dr. Reynolds concluded he was exposed to at

Camp Lejeune?

A. No.

Q. Okay.

MR. WALLACE: Michael.

MR. CROMWELL: Yeah.

MR. WALLACE: I don't want to interrupt your flow, but if we could have a break.

THE WITNESS: I was just going to ask for a pee break. I'm sorry.

MR. CROMWELL: No, no, no, you've got a huge bottle water. That's fine.

THE WITNESS: Yeah, that's -- and I've been telling him I should stop drinking it.

MR. CROMWELL: That's -- yeah, we can go off the record.

You said lunch you wanted to do at 12:30.

MR. WALLACE: Yeah, it's kind of around lunchtime.

MR. CROMWELL: Yeah, that's fine.

Yeah, that's fine. We can break now. That's not a big deal.

THE WITNESS: I mean, I'm willing to go for five more minutes if you -- I mean, it's up to you guys if you want to.

MR. CROMWELL: Well, how about this. If you don't -- well, I want you to use the restroom. I don't you sitting here like.

We're off the record, right?

THE STENOGRAPHER: No.

MR. CROMWELL: Go off the record.

THE VIDEOGRAPHER: The time right now is 12:11 p.m.

We are off the record.

(Luncheon recess taken.)

- - -

A F T E R N O O N S E S S I O N

- - -

THE VIDEOGRAPHER: The time right now is 1:23 p.m.

We're back on the record.

BY MR. CROMWELL:

Q. Good afternoon, Doctor.

When we last broke, we were talking about your general causation opinions in the case, and I kind of want to see if I can short-circuit a little bit of this to see if we're on the same page.

Would you agree for your general causation opinions that are in your report that you are relying on plaintiffs' general causation experts for your opinions?

A. Yes.

Q. Would you agree that you did not independently verify those experts that you're relying upon's reports in preparing your opinions?

MR. WALLACE: Objection.

A. I would say I independently val -- verified certain data and citations and, you know, certain things from their reports, but not exactly everything in their reports.

Q. Okay.

Do you know what data and citations you did independently verify?

A. I mean, I don't remember off the top of my head. I did read both the Bove papers, I remember that. The -- there were one or two other manuscripts that I think I had mentioned that were discussing the -- the -- the TCE, PCE, benzene, and VC in non-Camp Lejeune, but I just don't remember the exact details of those or who wrote them off the top of my head.

Q. Okay.

Would you -- independent of the experts that you're relying upon, would you consider yourself an expert on whether TCE, PCE, benzene, or vinyl chloride generally are capable of causing urothelial carcinoma, or U -- and UTUC?

A. I am not an expert.
Q. Okay.
Is there any portion of your general causation opinions that is independent of your reliance upon plaintiffs' general causations experts' reports?
MR. WALLACE: Objection.
BY MR. CROMWELL:
Q. Independent and or in addition to.
MR. WALLACE: Objection.
BY MR. CROMWELL:
Q. Does that question make sense?
A. No.
Q. Is there anything in your general causation opinions that you plan on offering that is independent of any opinions that plaintiffs' general causation experts are already offering?
MR. WALLACE: Objection.
A. For this specific case, my opinion is regarding bladder cancer in these two patients.

Q. Right.
A. So that's what I'm offering.
Aside from that, I still don't quite understand your question.
Q. Okay.
So, if -- you'd agree with me that based off your review of plaintiffs' general causation expert's reports that they -- many of them offer opinions and to TCE, PCE, benzene, or vinyl chloride can -- are capable of causing bladder cancer, correct?
A. Correct.
Q. And you are relying upon those opinions to form your own opinions on general causation in these cases, Mr. Laramore and Mr. Cagiano, correct?
A. Correct.
Q. Is there anything in your general causation sections, though, that is separate and apart from those opinions that come from plaintiffs' general causation experts?
MR. WALLACE: Objection.

A. So you're saying did I do more research outside of what they --

Q. More specifically, are you offering any opinions that are in addition or outside the opinions that you're relying upon?

A. I -- I am not offering any opinions on general causation, you know, other than what's inside my report.

Q. Okay. All right.

You -- when evaluating UTUC, you in your reports for Mr. Cagiano were evaluating and relying upon bladder cancer epidemiological studies to support your opinions; is that correct?

A. No.

Q. Okay.

A. It was Mr. Cagiano was upper tract. So it was relying on upper tract studies.

Q. What upper tract epidemiological studies are you referring to?

A. I -- I'm -- what I'm referring to, you said bladder cancer. I just

wanted to clarify that Mr. Cagiano is an upper tract. So I was just relying on upper tract information to -- to make my -- my opinion.

Q. I understand. Let me try to break this apart.

Understanding that Mr. Cagiano has upper tract urothelial carcinoma, did you evaluate -- you evaluated epidemiological studies in formulating your opinions; is that correct?

A. So, I -- I reviewed upper tract urothelial carcinoma studies. Again, I -- I can't differentiate, necessarily, between what's epidemiological or not.

Q. Okay.

A. Again, I'm not an epidemiologist. So from upper tract urothelial carcinoma, I relied on my medical expertise and review of the literature to make my -- my opinion.

Q. Okay.

In formulating your opinions about Mr. Cagiano's UTUC, are you relying

on any bladder cancer epidemiological studies?

MR. WALLACE: Objection.

A. He has upper tract, so no.

Q. Okay. All right.

Would the same also be true that you are not relying upon any kidney cancer epidemiological studies to support your opinions regarding Mr. Cagiano's UTUC?

MR. WALLACE: Objection.

A. So, you mean like kidney adenocarcinoma, like renal cell cancers?

Q. Yes.

A. No. Meaning that I did not rely on any renal cell.

Q. Okay. All right.

I think you said this at the very beginning of the deposition, but you would agree that UTUC is neither kidney cancer or bladder cancer?

MR. WALLACE: Objection.

A. I -- I didn't necessarily -- I didn't say that. I said urothelial cancer encompasses both of them.

I do think that upper tract urothelial carcinoma should be treated different than bladder cancer. You can't say bladder cancer and refer to upper tract.

Q. Okay.

A. But I do think that there's some similarities between the two because they're both urothelial cancers.

Q. Okay.

Is the same -- would you agree that UTUC is not a form of kidney cancer?

MR. WALLACE: Objection.

A. Meaning again like a renal cell adenocarcinoma?

Q. Yes.

A. Yes, that is completely different. Upper tract is different from renal cell or kidney cancer, if you want to call it that.

Q. Okay.

And is it fair to say you would, as you've done here, you would not rely upon renal cell/kidney cancer

epidemiological studies to formulate your opinions with regards to Mr. Cagiano's UTUC; is that correct?

A. Again, that's a very general question.

I mean, I think it's important to understand, you're saying epidemiological as a big picture. I'm an epidemiologist, so I don't answer that -- I can't answer that question, and it all depends in the context of studies you're referring to.

Q. Okay.

Well, to the extent you do an independent literature review in these cases, did you rely upon any kidney cancer epidemiological studies in formulating your opinions with regard to Mr. Cagiano's UTUC?

A. My job here was to look at his upper tract urothelial carcinoma, so that's what I focused on.

Q. Is the -- I understand that's what you focused on, but just to get back

to my question.

In formulating your opinions with regard -- in --

MR. CROMWELL: Strike that.

Q. In the literature review that you've indicated you performed in these cases, did you evaluate any kidney cancer epidemiological studies in forming your opinions regarding Mr. Cagiano's UTUC?

A. My focus was only upper tract, so no.

Q. Okay.

Do you know whether the general causation experts you're relying upon, whether they relied on kidney cancer or bladder cancer epidemiological studies when evaluating UTUC?

MR. WALLACE: Objection.

A. I -- I don't recall. I can't -- I don't know how to answer that.

Q. Okay. All right.

Doctor, we had briefly touched base with regards to what is Exhibit 16 to your deposition, which is an EPA article

entitled "Exposures to Benzene and Other Volatile Compounds From Active and Passive Smoking."

Do you recall that?

A. Yes.

Q. If you would, would you look at page 278 of Exhibit 16?

A. Yes.

Q. And if you look on the left side of the page at the bottom there is a paragraph at the very bottom entitled "Smokers may."

Do you see where I'm looking at?

A. Yes.

Q. It says: Smokers may be at increased risk from dying from leukemia since they inhale approximately 2 milligrams a day of benzene (33 cigarettes per day times 57 micrograms of benzene per cigarette) compared to a nonsmoker's average exposure of less than 0.2 milligrams per day.

First of all, did I read that correctly?

A. Yes.
Q. Okay.
In your opinion, you state in your report for Mr. Laramore that he had at least a 30 pack year smoking history; is that correct?
A. Yes.
Q. And is that based off -- well, how many packs a day, in your opinion, did -- was Mr. Laramore smoking?
MR. WALLACE: Objection.
A. I can't calculate that.
Q. Okay.
A. He's not my patient, and I've never asked him that question.
Q. Okay.
Where did you -- or how did you arrive at the opinion that Mr. Laramore had at least a 30 pack year history of smoking?
A. That was in his medical records.
Q. Okay.
Do you know how long Mr. Laramore was smoking?

A. I do not recall off the top of my head.

Q. Okay.

For purposes of these next two questions -- or next few questions, I want you to assume that Mr. Laramore was smoking a pack a day and that the exposure to each cigarette is 57 micrograms of benzene per cigarette, okay? Can you do that?

A. Yes.

Q. Okay.

In your report for Mr. Laramore, you have restated Dr. Reynolds' conclusions that Mr. Laramore was exposed to, over his time at Camp Lejeune, 20,507 micrograms of benzene; is that correct?

A. Sounds correct.

Q. Okay.

So, if Mr. Laramore was smoking a pack a day, you'd agree that a typical pack includes about 20 cigarettes; is that correct?

A. I would have to take your word

for it.

Q. Okay. Fair enough.

A. Never smoked in my life, so.

Q. All right.

Assuming a pack a day -- a pack includes 20 cigarettes, if you were to smoke a pack a day, you can agree that 20 cigarettes times 57 micrograms of benzene per cigarette would be 1,140 microgram of benzene per day?

MR. WALLACE: Objection.

A. Again I'll take your word for that.

Q. Okay.

Do you have any reason to disagree with that math?

MR. WALLACE: Objection.

A. Other than I haven't done it myself, no.

Q. Okay.

If Mr. Laramore was exposed to 1,140 micrograms of benzene per day, would you agree that in roughly 18 days of smoking he would have exceeded the amount

of benzene he was exposed to at Camp Lejeune in total?

MR. WALLACE: Objection.

A. Again, not -- I mean, if you want to talk just purely numbers, I think that's accurate. But I'm not an epidemiologist and I am not, you know, here to do math and -- and opine about that.

So pure numbers, yes.

Q. Well, I -- I get that, but if we're talking about someone's exposure to carcinogens, would you agree that the amount of carcinogens someone is exposed to is important in determining what actually causes someone's disease?

MR. WALLACE: Objection.

Sorry, is there a question? Is that a question.

MR. CROMWELL: Mm-hm.

MR. WALLACE: Could you read the question?

MR. CROMWELL: Would you read the question aloud, please?

(The requested portion of the record was read back by the court reporter.)

A. I -- I -- I would, again, say that I don't have an answer for that because I'm not an epidemiologist. I don't study exposure. I don't study, you know, how much of something can cause something else.

Q. Okay.

A. So I -- I don't know the answer to that.

Q. I guess to put it in a different way, in your -- as a practicing urological oncologist, does the dose or exposure to a carcinogen play any role in determining what risk factors would have contributed or caused someone's urothelial carcinoma?

MR. WALLACE: Objection.

A. No.

Q. Okay.

Doctor, would you agree you did not independently verify the dates that Dr. Reynolds used for showing Mr. Cagiano

was on -- or was at Camp Lejeune?

A. What do you mean by "independently verify"?

Q. Did you look at Mr. Cagiano's military records and deposition testimony to show when he was or was not living at Camp Lejeune?

A. No, I did not look at his military records.

Q. Okay.

Do you have -- did you do anything when evaluating Dr. Reynolds' dates of exposure for Mr. Cagiano to determine whether they were accurate or not?

A. No.

Q. Okay.

Would you agree that Mr. Cagiano, while he did confirm he drank water at Camp Lejeune throughout his time there, he could not quantify the amount of water he was exposed to daily?

A. Again, that's not something that I focused on. So I -- I can't answer that

question. I -- it's not something that I -- I mean, I'm happy to go back through records, if you like, but it's not something that I paid attention to.

MR. CROMWELL: Okay.

Just so we're clear, is that my version?

MS. KONSTANTOPOULOS: Yes.

BY MR. CROMWELL:

Q. If you would look at your Exhibit 5, which is your report for Mr. Cagiano.

A. Okay.

Q. If you would go to page 6, in that last paragraph there, the very first sentence you write: Mr. Cagiano did confirm that he drank the water at Camp Lejeune throughout his time stationed there, but could not quantify a daily amount.

First of all, did I read that correctly?

A. You did.

Q. Would you agree that Mr. Cagiano

could not quantify the daily amount of water he assumed at Camp Lejeune?

A. That's what that says, and I have to believe it, yes.

Q. And you made no attempt to determine the total amount of water that Mr. Cagiano consumed while at Camp Lejeune, correct?

A. No. No, correct.

Q. All right.

Okay. Doctor, would you agree that every patient is different with regards to -- has their own idiosyncratic risk factors for developing cancer?

MR. WALLACE: Objection.

A. Can you define "idiosyncratic" for me?

Q. Unique. Do they have their own unique risk factors depending on the patient?

MR. WALLACE: Objection.

A. I mean, every patient is different. Every patient comes with different exposures, different risks, yes.

Q. Okay.
A. So if that's what you're asking.
Q. Okay.
Would you agree that the cause of urothelial carcinoma is or can be multifactorial?
MR. WALLACE: Objection.
A. Yes.
Q. And you'd agree that it's not uncommon for urothelial carcinoma to develop in a patient with more than one risk factor for the development of that cancer; is that correct?
A. Yes.
Q. Would you agree that cancer is caused by genetic mutations?
MR. WALLACE: Objection.
BY MR. CROMWELL:
Q. At a fundamental level?
MR. WALLACE: Objection.
A. Again this is just -- I -- I mean, I'm not a cellular molecular biologist, but you do need mutations for the cells to grow out of control, yes.

Q. Okay.

And you understand that those mutations can occur randomly?

MR. WALLACE: Objection.

A. Again there's a lot more biology to that statement. That's a very loaded question.

I don't necessarily agree with "random" as the word that you're using, but mutations can occur.

Q. Okay.

A. Yes.

Q. Would you agree that our bodies frequently repair genetic mutations that prevent them from leading to cancer?

MR. WALLACE: Objection.

A. Again I'm not a cancer biologist. Going back to many years ago from medical school and before, that's what we were taught, yes, but again, that's -- that's way outside of my expertise.

Q. Okay.

Would you agree that the precise

cause of urothelial carcinoma is generally unknown?

A. What -- what do you mean by "precise"?

Q. How the body's -- how genes are mutated by certain exposures to cause the development of urothelial carcinoma, the mechanistic --

MR. WALLACE: Objection.

A. I mean, I think I would disagree with that statement because we do know it is carcinogens that are in the urine that stay inside the bladder and touch the lining of the bladder leading to mutations. So I do think that that is a plausible cause for how bladder cancer or urothelial cancer forms. It's also the same with the upper tract.

Maybe if you're talking about, you know, other carcinogens or specifics with others, we still have a lot of research to do and understand, but it's pretty certain that there is a exposure, damage to the cancer -- to the cell, leads

to that cell to grow out of control leading to cancer.

Q. Okay.

Would you agree that urothelial carcinoma is one of the more common cancers in the United States?

MR. WALLACE: Objection.

A. Depending if you're looking at males or females. In males it is; in females it's not.

Q. Okay.

You agree, Doctor, that smoking is the most prominent risk factor for urothelial carcinoma?

A. I would --

MR. WALLACE: Objection.

Sorry.

THE WITNESS: I'm sorry.

A. I would say that it is the one that's most studied, but I -- I don't necessarily agree with "prominent." I mean, I think it's the one that we understand the most.

Q. Okay.

If you would take a look at your Exhibit 4, which is your report for Mr. Laramore, and just look at page 11, please. At the bottom there's a paragraph starting with "Bladder cancer can arise."

A. Yes.

Q. And a few lines down there's sentence that starts with "For instance."

You write: For instance, smoking is the most prominent risk factor for bladder cancer.

First of all, did I read that correctly?

A. Yes.

Q. And do you stand by that statement?

A. Yes.

Q. Okay.

Would you agree that based on peer-reviewed literature, smokers are three to four times more likely to develop bladder cancer compared to nonsmokers?

A. Yes.

Q. And would you agree that

approximately 50 per -- well, 50 to 60 percent of the patients who develop bladder --

MR. CROMWELL: Well, strike that.

Q. Would you agree that approximately 50 to 60 percent of the patients who develop urothelial carcinoma is due to their exposure to cigarettes?

MR. WALLACE: Objection.

A. Yes.

Q. Would you agree that smoking contributes to --

MR. CROMWELL: Strike that.

Q. I guess to put this a different way, of the people who are diagnosed with urothelial carcinoma, approximately 50 to 60 percent are current or prior long-time -- long-term smokers, correct?

MR. WALLACE: Objection.

A. I'm sorry, say that again.

Q. Sure.

Of the people that are diagnosed with urothelial carcinoma, approximately

50 to 60 percent are current or prior long-term smokers?

MR. WALLACE: Objection.

A. Define "long-term."

Q. I'm going to have to ask you how you used it in your report.

A. So, I think that there are -- I guess the -- the word -- for me 50 to 60 percent have had smoking exposure or smoking history.

Q. Okay.

A. So whether it's long-term, I guess, is whether they had it a while ago and they stopped or they've been smoking for a long period of time.

Q. How do you use that term in your report?

A. I just -- I -- the way I just described it.

Q. Okay.

A. So either have had an exposure long-term, a long time ago, or -- and then stopped or had been smoking for a long period of time.

Q. Okay.

So, based off the definition you just gave me, would you agree that of the people that are diagnosed with urothelial carcinoma, approximately 50 to 60 percent are current or prior long-term smokers?

A. Yes.

Q. Okay.

Would you agree that long-term exposure to carcinogens through smoking significantly increases the risk of urothelial carcinoma and the more a person smokes, the higher their risk becomes?

MR. WALLACE: Objection.

A. So again, that's nowhere near my expertise of answering that question.

For me I think exposure to tobacco use and the way you use it in my clinical practice is really as former, current, or never.

Q. Okay.

A. So.

Q. I want to ask, because this kind of gets into what we were talking about

before, would you look at your Cagiano report which is Exhibit 5, please?

A. Yes.

Q. And go to -- and then at page 15. And there's section entitled "Potential Relevant Risk Factors Smoking."

Correct?

A. Yes.

Q. And then I'll say three-quarters of the way down that first paragraph there's a sentence that starts "The risk of UTUC" -- sorry, no. There's sentence that says "Long-term."

A. Yes.

Q. There's a sentence that you write it says: Long-term exposure to these carcinogens through smoking significantly increases the risk of UTUC and the more a person smokes, the higher their risk becomes.

First of all, did I read that correctly?

A. Yes.

Q. Here you seem to indicate that

the dose -- or, the amount a person smokes affects the level of risk a person has in developing urothelial cancer; is that correct?

MR. WALLACE: Objection.

A. So, like I explained to the previous question, I use it in terms of current, so no absolute numbers, but current smoker versus previous smoker versus never smoker. So that's the general idea that goes with that sentence. If you're a current smoker, you've been smoking longer than a never smoker that you've been smoking longer than a former smoker.

So yes.

Q. So, when you say the more a person smokes, you're referring to when they smoked rather than the amount they smoked?

A. If you're still smoking, if you quit, or if you've never smoked.

Q. Okay.

Identifying that as kind of when

someone smokes, if ever, when you write the more a person smokes, you're referring to when they were actually smoking versus never versus former versus current. Is that what you mean?

A. So, clinically the way I look at smoking for patients is if you're currently still smoking, if you're a former smoker, or if you've never smoked.

Q. Okay.

A. So if you're currently smoking, then you smoke more than somebody who stopped smoking who is more than somebody who has never smoked. So that's clinically -- yes, I agree that current smokers have higher risk than former smokers at the time of diagnosis.

Q. Okay.

A. So.

Q. Just to, kind of, understand that a little bit.

Hypothetically speaking, if a person walked in and was a current smoker but had only been smoking for two months,

are you saying that that person was at a higher risk of developing urothelial carcinoma than a former smoker that quit six months ago but smoked a pack a day for 30 years?

A. I mean, I think that's a rare instance. So, I mean, I'm -- again, I'm speaking generally of the way I look at it. I don't look at it in absolute numbers.

Q. Yeah.

A. But, yes, in that case, I would agree, but that rarely ever happens, so.

Q. I just want to make sure --

A. Yeah.

Q. Because I just want to make sure I understand because you -- I --

MR. CROMWELL: Strike that.

Q. When you refer to any time in your report you're referring to the more a person smokes, you're referring to their status as a never, former, or current smoker?

A. Generally speaking, that's the

way I look at it in my practice, correct.

Q. Okay.

A. I don't look at it in terms of X-pack year history or whatever it may be.

Q. Okay.

Would you agree, Doctor, that smoking remains the most significant preventable cause of urothelial carcinoma and cessation is critical to reducing risk?

MR. WALLACE: Objection.

A. I mean, again, I -- I think that's patient specific, right.

Modifiable factors exposures, if they're working in -- if they're not smoking, but they're working in -- in an industry that has exposure, they should stop the industry exposure. But, yes, if you look at the numbers, 50 percent are tobacco exposed.

Q. Okay. You've got your Cagiano report there, Exhibit 5.

If you would look -- it's also on page 15, and just the very last

sentence of that first full paragraph you write: Smoke remains the most significant preventable cause of UTUC and cessation is critical to reducing risk.

First, did I read that correctly?

A. Yes.

Q. Would you agree that smoking remains the most significant preventable cause of urothelial carcinoma and cessation is critical to reducing risk?

MR. WALLACE: Objection.

A. I think I just answered that question for you.

Yes, if you look by the numbers, 50 percent are smoking, so yes. But again, if it's -- it's very patient dependent.

Q. I understand.

A. But by the numbers, yes, but it's also patient specific.

Q. Okay. I want to talk about Mr. Laramore's smoking history.

You agree there are a number of

medical records for Mr. Laramore in this case; is that correct?

A. Yes.

Q. And you would agree that there are a number of medical records referencing Mr. Laramore's smoking history --

A. Yes.

Q. -- is that correct?

And just make sure we're clear, you are of the opinion that Mr. Laramore had a 30 pack year history prior to his diagnosis; is that right?

A. As far as I can recall, yes.

Q. Okay.

And pack years is determined based on the amount someone smokes and the duration of them smoking; is that correct?

A. Yes.

Q. Okay.

When you read that Mr. Laramore had a 30 pack year history in his medical records, what amount, if any, did you conclude he was smoking on a daily basis?

A. I can't come to a -- an opinion on that. I just -- I -- I've never seen or examined or asked that question. So, and I don't remember any specifics when they broke it down to how much for how long.

Q. Okay.

What is your opinion regarding when Mr. Laramore smoked?

A. I don't think I can come to an opinion on that. Again, I've never actually spoke with him or met him or asked him questions, so.

Q. Well, did you -- sorry, I didn't mean to interrupt.

A. No. So, I mean, if you're making the assumption one pack a year for 30 years, then 30 years before that you can make the assumption, I mean, I guess you can't say half a pack year for 60 years because you would have --

Q. I understand.

A. So it's all a guessing game.

Q. Okay.

Would you rely on his medical records to the extent they stated the amount and how long he had been smoking to provide that information?

A. Yes.

Q. Okay.

Do you have any idea -- well, first of all, you -- did you review Mr. Laramore's deposition testimony in this case?

A. I actually don't remember. I don't think so, no.

Q. Did you review --

A. Actually, I'm sorry, I -- I really don't remember.

Q. Okay.

Did you review Mr. Cagiano, Mark Cagiano's deposition testimony in this case?

A. I really don't remember that either, I'm sorry.

Q. Okay.

If your report indicates that you did, would -- do you have any reason

to disagree that you did?

A. I -- I don't have any -- if my report said I did, then I did. I just don't remember.

Q. Fair enough.

A. It's been a while since I've looked through everything, so.

Q. I think I know the answer, but do you recall when -- when Mr. Laramore testified he began or started smoking?

A. I don't remember that.

Q. Okay.

If Mr. Laramore testified that he started smoking when he was 16 years old, would you have any reason to disagree with that?

A. No.

Q. Okay.

Would you agree that 30 pack years is a significant smoking history?

A. Significant in terms of what?

Q. In terms of it being sufficient to cause urothelial carcinoma.

MR. WALLACE: Objection.

A. I -- I mean, again, in my opinion, I am not an epidemiologist, toxicologist to know the specifics of how much or how little, but I just think smoking versus nonsmoking versus current smoking is important. So any smoking exposure I think is significant.

Again, the majority of smokers don't develop bladder cancer. So I think, you know, that's why I think smoking is important, not necessarily the -- and again, I'm not an expert in this. So I don't know the quantifiable amount that would lead to smoking 'cause we see five packs -- pack a day smokers and we see 150 pack a day smokers and I see 150 pack a day smokers who don't develop bladder cancer.

Q. Right.

A. So it's --

Q. Okay.

Did you see anywhere in Mr. Laramore's medical records that he was referred to as a chronic smoker?

A. I can't recall that.

Q. Do you agree that based on his smoking history, Mr. Laramore was a chronic smoker?

A. Again, chronic would need a definition.

I mean, I think he's -- he was a smoker and he smoked for 30 pack years. So I don't know what the definition of "chronic" would be.

Q. Okay.

A. But he's a smoker.

Q. Are you aware of any of his medical records, contemporaneous medical records, that show he smoked more than a pack a day?

A. I can't recall. Not something I was paying attention to.

MR. CROMWELL: Okay.

All right. Would you hand me 28?

Doctor, I'm going to hand you what we're marking as Exhibit 17.

(Sfakianos Exhibit 17, Michelle

Moody medical report 02/26/2010, Bates 00594_LARAMORE_0000002007-010, was marked for identification, as of this date.)

BY MR. CROMWELL:

Q. And, Doctor, would this have been one of the medical records you had access to and reviewed in your preparation for your report with Mr. Laramore?

A. Yes.

Q. And Exhibit 17 is a H and P outpatient record dated February 26, 2010; is that correct?

A. Yes.

Q. And the author is a Michelle Moody; is that right?

A. Correct.

Q. And if you look at the second page ending in Bates number 2008, there's a section called "Habits."

Do you see that about halfway down?

A. Yes.

Q. It says: Tobacco smokes about

two packs per day since teenage years. Quit for about ten years, but started back in 2000.

First of all, did I read that correctly?

A. Yes.

Q. Do you have any reason to disagree with that being the amount he was smoking at that time?

MR. WALLACE: Objection.

A. Again, this is what this says, but I've never verified it or met the patient. So I would have to believe a medical record.

Q. Okay.

So without independently verifying or interviewing Mr. Laramore himself, you would rely upon his medical records, what they say?

A. Correct.

MR. WALLACE: Objection.

BY MR. CROMWELL:

Q. Okay.

Did you ever -- do you have an

opinion one way or the other as to when Mr. Laramore stopped smoking?

A. I do not.

Q. Okay.

Is it fair to say it's not relevant for the opinions you're offering in this case?

A. Correct.

Q. And the amount he smoked is not relevant for the opinions you are offering in this case?

MR. WALLACE: Objection.

A. Correct.

Q. Would you agree that if he smoked two packs a day for 35 years, you would agree that gives him a 70 pack year history?

A. Yes.

Q. If he were smoking, for instance, a pack and a half a day for 35 years, that would give him 52 and a half pack year history?

A. Correct.

Q. All right.

You would agree that you've treated patients who have less than a 30 pack year history of smoking that you've determined their smoking was the cause of their urothelial carcinoma; is that correct?

A. So, I have patients who have urothelial carcinoma who were less than 30 pack smoking history. That is one of their -- that is part of their history, making it, yes, a risk factor etiology of possibly for their bladder cancer.

Q. Do you have patients whose only risk factor is a less than 30 year pack year history where you've determined that smoking history was the cause of their urothelial carcinoma?

A. Again, similar answer to the question before is that when we interview patients, if that's what they tell me, then I would put that into their differential as the risk factor for their -- for their bladder cancer.

Q. If that patient had only one

risk factor and it -- that risk factor was less than 30 pack year history of smoking, would it be your opinion that their urothelial carcinoma was caused by their smoking history?

MR. WALLACE: Objection.

A. Again there's sometimes unknowns, but that would be one of the factors, yes, that -- I mean, there's -- there's lots of things that we don't know, like you were implying before, but if that's what -- the only one that we know, yes, but there's obviously a lot of things out there.

Q. Well, would you consider idiopathy in that scenario when --

A. No.

MR. WALLACE: Objection.

A. No, because there's a risk factor.

Q. Okay.

So just to be clear, if you had a patient whose only risk factor was a less than 30 pack year history of smoking,

would it be your opinion that their urothelial carcinoma was caused by their smoking history?

A. So, what I'm trying to get at is you're giving me a single question about a patient without knowing all the data. So I just want to make sure that, yes, if -- if I have done my thorough investigation of that patient and the only thing that comes up is that he has a risk factor, or she has a risk factor of smoking, then that would be my reason for the cancer, yes.

Q. Okay. All right.

And in your -- in the end, you have opined in your report that smoking is a potential cause of Mr. Laramore's blad -- bladder cancer; is that correct?

A. Correct.

Q. Do you agree that there's some association between alcohol consumption and the development of urothelial carcinoma?

A. I do not agree.

Q. Okay.

Is it your opinion that there is not sufficient scientific evidence to show association between alcohol consumption and the development of urothelial carcinoma?

A. I would say that I actually have never really done a deep dive or research into it, so I can't answer that question.

Q. Okay.

A. Just from my medical expertise and clinical practice, it's not something that I look at, but I would have to really take a, you know, a literature search and look more further into that.

Q. Fair to say you did not assess Mr. Laramore's history of alcohol consumption in this case; is that correct?

A. In this case, correct.

Q. Okay.

You have noted that obviously occupational exposures are a risk factor for the development of urothelial carcinoma; is that correct?

A. Yes.
Q. And you would agree that occupational exposures are linked to approximately five to 10 percent of all urothelial carcinomas; is that right?
A. Yes.
Q. What percentage -- would that be true also for UTUC?
A. I would have to look into that. I, you know, don't remember off the top of my head because UTUC -- UTUC does have some other, you know, etiologies that are not found in bladder cancer. So I -- that percentage may be off, but I --
Q. Okay.
A. But yes.
Q. Okay.
A. Generally, yes.
Q. If there are -- just following this out, if there were other potential causes for UTUC unrelated to bladder cancer, would you say that, at most, 5 to 10 percent of UTUC is related to occupational exposures? Does that make

sense?

A. It does make sense to me, but I -- I would not know how to answer that because it could be more than 10 percent.

Q. Okay.

A. I just don't want to give that percentage.

Q. That's fine.

So as you sit here right now, you can't give a percentage as to what -- you cannot give an answer as to what percentage UTUC is related to occupational exposures; is that right?

A. Yes.

Q. Okay.

And when we're talking about occupational exposures, this would include people who work with amylin dyes; is that correct?

A. Correct.

Q. People who work in the rubber industry; is that correct?

A. Correct.

Q. People who are tobacco workers;

is that correct?

A. Tobacco workers, not sure about that one.

Q. Okay.

People who work in the textile industry, correct?

A. Yes.

Q. People who work around paint products; is that correct?

A. Correct.

Q. Okay.

And just generally speaking, occupational exposures are generally higher than exposures that the general public would be exposed to; is that correct?

A. General high -- well, again, that's a very general question. I guess it would depend on where the -- I mean, where the general public lives and what's around. And you informed me of a lot of -- a lot of very interesting things before, so generally speaking, yes.

Q. Let me -- let me try to do it

this way.

You understand that a number of epidemiological studies are performed on certain occupations under the presumption that those workers and those occupations are exposed to higher -- higher rates of contaminants than the general public. That's a reason why occupational studies are done; is that correct?

MR. WALLACE: Objection.

A. Again, I'm not an epidemiologist.

Q. Right.

A. So I would have to fall back on how those studies are done and, you know, the controls, but I think you're getting to that they do use controls that have less exposure or should have less exposure than the -- the industry or -- or whoever's working in wherever for that exposure.

So I don't know if that's necessarily the general population, but most studies have a control that should

have less exposure to that chemical, yes.

Q. Okay.

You note in your report that TCE and PCE are classified as human carcinogens or suspected human carcinogens by IARC, correct?

A. Yes.

Q. Would you agree that when IARC makes those statements, it's based off evidence that those compounds may be carcinogenic in specific or certain organs, correct? That's what those statements are based upon?

MR. WALLACE: Objection.

A. I mean, I can't speak about an IARC. I don't know what, you know, methodologies and what they do and how they come up with their conclusions, but, you know, I -- I -- they list them as carcinogens.

Q. Well, if some -- if a compound is considered a human carcinogen, it does not automatically mean that the compound causes cancer in all the organs of the

body, correct?

A. Repeat that, I'm sorry?

Q. Sure.

If a compound is considered a -- or classified as a, quote, human carcinogen or a suspected human carcinogen, it does not mean that that compound causes cancer in each organ of the body.

MR. WALLACE: Objection.

BY MR. CROMWELL:

Q. Correct?

A. It can, but doesn't necessarily mean it does.

Q. Okay.

A. Does that answer the question?

Q. I think so.

A. Yeah.

Q. So, is there -- are you aware of T -- any studies showing TCE or PCE causing cancer in each organ of the body?

A. Again, I'm not an epidemiologist, so I haven't looked into this. So I can't -- I can't speak to that.

Q. Okay. Okay.

So, when you make the statement in your reports that TCE and PCE are classified as human carcinogens or suspected human carcinogens by IARC, what relevance does that opinion have, or what relevance does that statement have to your overall opinions?

A. So, knowing that they are carcinogens, my opinion is regarding bladder cancer.

Q. Right.

A. And so my opinion is that these carcinogens can actually be -- or play a role in the development of bladder cancer.

Q. And that's kind of hinting at what I'm trying to understand.

Just because they're called carcinogens doesn't mean that they actually cause bladder cancer or UTUC, correct?

MR. WALLACE: Objection.

A. Again, that's a question for an epidemiologist. I don't know the science

and -- and everything behind everything.

From that question specifically, but there's no reason that they can't cause bladder cancer either.

Q. Okay. Okay. Fair enough.

Is it your opinion that Mr. Laramore's occupational exposures where he would have been exposed to known bladder cancer-causing chemicals was while he was, one, a civil servant as a small arms repairman, and, two, his time as a truck driver? Is that your opinion for Mr. Laramore?

A. I mean, I think that that part of his medical records is fairly vague. I do think that there's probably some, or there could be some exposure that also could lead to bladder cancer, yes.

Q. Okay.

A. But I think the quality of that data, in the records at least, you know, is -- is pretty weak compared to the other -- the other factors that he has.

Q. Okay.

So you'd agree that the evidence -- well, let's take this one by one. Talk about his time as a civil repairman -- small -- small arms repairman.

Do you recall when he was a civil servant small arm repairman?

A. I don't remember the specific times.

Q. Okay.

And do you understand that Mr. Laramore was exposed to some sort of solvent as a civil servant working as a small arms repairman?

A. That's what was said, yes.

Q. Okay.

As you sit here, do you know the solvent Mr. Laramore was using?

A. No.

Q. Okay.

How does the fact that you don't know the solvent factor into your analysis?

A. I don't think it plays a huge

role because, again, there's -- there's multiple exposures and carcinogens that he was exposed to. So I think each one of them may have played a role independently or together.

So, and I don't even know if it's a solvent that is a carcinogen. So that's why I don't -- you know, it doesn't -- knowing everything else, it doesn't play that -- that huge of a role other than it could have potentially be also present.

Q. Okay.

And as you got to where I'm trying to go, which is if you don't know the solvent that Mr. Laramore was using, you do not know whether the solvent he was using was carcinogenic or not, correct?

A. Correct.

Q. Do you know the duration or the amount of the solvent Mr. Laramore was using while he was a civil servant?

A. No.

Q. You'd agree with me that if you

don't know the solvent that Mr. Laramore was using, you would not, for instance, know how that solvent was volatilized in the air, correct?

A. Correct. And even if I did know it, I wouldn't know that answer anyway.

Q. Fair.

You mentioned the other occupational exposure you discussed in your report was his time as a truck driver; is that correct?

A. Yes.

Q. And you understand that Mr. Laramore worked as a truck driver for approximately ten years; is that right?

A. Yes.

Q. You are aware that truck driving is an occupation that has known increases in risk for developing urothelial carcinoma, correct?

A. Truck driving in general I was not aware of.

Q. Okay.

Are you aware of any studies --

are you aware of any peer-reviewed epidemiological studies that show greater incidence of urothelial carcinoma for those in the truck driving industry?

A. No.

Q. Okay.

You mentioned truck driving as a occupational exposure for Mr. Laramore's development of urothelial carcinoma.

Why did you include it?

A. 'Cause there was exposure to diesel fumes.

Q. Okay.

Do you know what particular contaminants in diesel fumes he would be exposed to?

A. No.

Q. Do you know the primary contaminant of concern in diesel fumes?

A. I do not.

Q. Okay.

When you say "diesel fumes," are you relying upon certain epidemiological studies that identify exposure to diesel

fumes as a risk factor for developing urothelial carcinoma?

A. I don't know if they were epidemiological studies, but it's a -- it's one of the known risk factors for occupational exposures that's, you know, listed in several, you know, publications.

Q. Okay.

You've concluded that while there are gaps in understanding the nature of Mr. Laramore's occupational exposure, you do consider it to be a potential cause in his bladder cancer diagnosis; is that correct?

A. Yes.

Q. Okay.

At the same time, you would agree that it would be highly speculative to estimate his quantity, duration, and intensity of exposure to the solvent as a civil servant; is that correct?

A. Correct.

Q. You would agree that IARC classified diesel exhaust as probably

cancerogenic to humans primarily for lung cancer, but noted a possible association with bladder cancer; is that correct?

A. Correct.

Q. Doctor, you've opined that another risk factor for the development of urothelial carcinoma involves chronic bladder infections and stones; is that correct?

A. Yes.

Q. Okay.

You agree that chronic bladder infections can significantly increase the risk of developing bladder cancer; is that correct?

A. Correct.

Q. The same would be true for UTUC; is that correct?

A. In -- not exactly the same, but yes.

Q. Okay.

How would it be different for the development of UTUC versus bladder cancer?

A. A lot of the bladder cancer requires -- is from patients who have chronic Foley catheters, or tubes --

Q. Okay.

A. -- in their bladders, where you don't necessarily see that in upper tract urothelial cancer, but the concept of infection and inflammation is similar.

Q. All right.

So, is it fair to say that prolonged inflammation and cellular damage in bladder lining can lead to the development of urothelial carcinoma, including UTUC?

A. It is incorrect. It is mostly squamous cell carcinoma, which is not urothelial carcinoma. It's a different histology. You can categorize it under bladder cancer.

Q. Okay.

A. But it's -- it's squamous cell usually, not urothelial.

Q. You say "usually."

Do you know what percentage is

squamous cell versus urothelial carcinoma in that scenario?

A. If I remember correctly, it's roughly 90, 95 percent squamous cell.

Q. Okay.

Are there particular studies you're relying upon?

A. None that come to mind. That's just from my general medical knowledge and training.

Q. Okay.

Would you agree that certain things like recurrent urinary tract infections, or UTIs, or chronic cystitis, bladder inflammation, can lead to long-term irritation and inflammation of the bladder creating an environment conducive to cancerous cell changes?

A. That's exactly what we just spoke about, the squamous cell, yes.

Q. You understand that surgeries or traumas in a given area can lead to increased inflammation and risk of cancer?

MR. WALLACE: Objection.

A. I -- no, I do not -- you said surgery, correct?
Q. Yes.
A. No, that's not true.
Q. Okay.
Do you under -- would you agree that certain traumas to certain areas -- well, do you agree that surgeries can lead to inflammation of a particular area that you're operating on?
A. Yes.
MR. WALLACE: Objection.
BY MR. CROMWELL:
Q. And are you aware of any studies that show inflammation from those surgeries can increase the risk of developing cancer in those same locations?
MR. WALLACE: Objection.
A. No.
Q. Okay.
Doctor, would you agree that conditions like bladder stones and the use of medical devices such as ureter catheters can further irritate the bladder

and contribute to cancer risk by causing repeated trauma to the bladder lining?

MR. WALLACE: Objection.

A. We just discussed that, yes, catheters can lead to squamous cells carcinoma, predominantly.

Q. And you agree that kidney stones, or nephrolyses, forgive me for butchering that, are a risk for developing upper tract urothelial carcinoma; is that correct?

A. Yes.

Q. And you'd agree that the formation of stones in the kidneys lead to mechanical damage to the urothelial lining; is that correct?

MR. WALLACE: Objection.

A. They can, but doesn't necessarily mean it does.

Q. Sure.

But this can result in chronic inflammation or irritation over time, correct?

A. I mean, usually that only

happens when you have something called an XGP or you have a very large stone for very long periods of time that are constantly blocking, but, yes, it can.

Q. What is the average age for someone developing kidney stones?

A. Honestly do not know.

Q. Okay.

Would you agree that kidney stones themselves can cause localized tissue damage which can disrupt the normal cellular repair process increasing the likelihood of abnormal cell division and malignancy?

A. I don't -- I can't answer that question. I'm not a cell biologist and really have never studied that or looked that up, to tell you the truth.

Q. Okay.

You evaluated the medical records for Mr. Cagiano; is that correct?

A. Yes, sir.

Q. And you're aware of Mr. Cagiano's bladder infections in 1974; is

that correct?

A. Yes, sir.

Q. And you're aware of Mr. Cagiano had two prior episodes of kidney stones requiring loss time from work in 1978 and 1980; is that correct?

A. Yes.

Q. And you understand that both these situations Mr. Cagiano presented with hematuria, or blood in the urine; is that right?

A. Yes.

Q. You understand more specifically in 1978, Mr. Cagiano was diagnosed with left ureteropelvic junction, or UPJ, obstruction and had a pyeloplasty operation; is that correct?

A. Yes.

Q. You're aware that from January 13th to 26 of 1980, Mr. Cagiano was on sick leave and admitted to the hospital for kidney stones; is that correct?

A. Yes.

Q. Will you would agree, Doctor,

that Mr. Cagiano underwent a left pyelolithotomy in 1980 which is an open surgery of the left kidney to remove kidney stones; is that correct?

A. Yes.

Q. Doctor, would you agree that Mr. Cagiano had a long-standing lower urinary tract symptoms?

MR. WALLACE: Objection.

A. I would have to go back and review those -- the -- the records.

Q. Okay.

A. I mean, for -- I can't answer off the top of my head.

Q. Well, for instance, like do you agree he underwent a transurethral resection of his prostate in 2008 and 2009 at Emory University?

A. Yes.

Q. All right.

And as part of that operation, he demonstrated benign prostatic hypertrophy; is that correct?

A. Yes.

Q. And is that just common language noncancerous enlargement of the prostate gland?

A. Correct.

Q. All right.

What does that procedure entail?

A. Similar to what we discussed before. You go in through the urethra with a camera. You identify the area of the prostate that's blocking, use electricity or other different energy sources to scrape away the part of the prostate that's blocking.

Q. Okay.

Does it entail the use of a catheter for a period of time?

A. Sometimes.

Q. Okay.

When you say "sometimes," just how -- I don't know, how long would a person have a catheter in when undergoing a procedure like this?

A. Some patients don't have a catheter. Some patients may have a

catheter for a week. It really depends on the physician, how you use it, what energy source you do. I mean, there's a lot of --

Q. Okay.

A. -- variability.

Q. Do you know how long, if -- if at all, Mr. Cagiano would have had a catheter in during this operation?

MR. WALLACE: Objection.

A. I actually don't recall coming through the records with that, no.

Q. Okay.

Doctor, would you agree that Mr. Cagiano saw a Dr. Mygatt with Wellstar Urology after noticing light brown urine with right back pain in December of 2013; is that correct?

A. Correct.

Q. And are you aware that Mr. Cagiano had a -- had left hydronephrosis show up on his CT imaging in April of 2014?

A. Correct.

Q. You agree that Mr. Cagiano again saw Dr. Mygatt with Wellstar in October of 2024 who ordered a renal scan that showed 46 percent of renal activity in the right kidney and 54 percent in the left kidney; is that correct?

A. Again I'll have to take your word. I don't remember off the top of my head those exact numbers, but sounds about right.

Q. Okay.

What's the normal function of renal activity in the left and the right usually?

A. It's variable. You know, anywhere between 40 and 60 on either side.

Q. Okay.

Doctor, you'd agree that in January 2018, Mr. Cagiano presented with several-day history of discomfort in the pelvic area and a urge to void all the time; is that right?

A. Yes.

Q. And urine analysis at that time

showed trace amounts of blood in his urine; is that correct?

A. Again, I would have to go back and look at the specifics for that one.

Q. Okay.

A. But I'll take your word for it, yes.

Q. And Mr. Cagiano underwent scans and eventually had a cystourethroscopy and left uroscopy where renal mass biopsy confirmed he had urothelial carcinoma, or UTUC; is that correct?

A. Yes.

Q. And then in March 2018, Mr. Cagiano underwent a left nephroureterectomy; is that correct?

A. Yes.

Q. And this is the surgical procedure to remove his left kidney; is that right?

Well, left kidney, left ureter and portion of his bladder; is that correct?

A. Correct.

Q. Would you agree that a nephrourect -- I'm going to --
A. Nephroureterectomy.
Q. There you go.
Would you agree that is the gold standard treatment for UTUC?
A. Yes.
Q. Okay.
Doctor, would you agree that bladder cancer is more likely to be diagnosed in men than women with a 3-to-1 ratio?
MR. WALLACE: Objection.
BY MR. CROMWELL:
Q. Respectively?
A. Yes.
Q. Okay.
And it is your opinion that the discrepancy in the rates of bladder -- or, urothelial carcinoma between men and women is explained by the differing rates of tobacco use by men and women --
A. That is --
Q. -- is that right?

A. That is one of the reasons, yes.
Q. What is another reason?
A. Exposures like amylin dyes and hair dyes that are more common in women than in -- than in men.
Q. Okay.
Aside from the dye issues, would you agree that much of the discrepancy can be attributed to the different rates of tobacco use between men and women?
MR. WALLACE: Objection.
A. I -- I don't know off the -- exact rates off the top of my head from both. So I don't necessarily know if I can answer that question without looking that up, but --
Q. Okay.
A. -- it is a factor.
Q. If you just look at your Laramore report, Exhibit 4, please.
A. We're on --
Q. We're looking at Exhibit 4 on page 16.
You have a section entitled "Age

and Gender" on page 16. You see where I'm at?

A. Yes.

Q. And then the second full paragraph there starts with: Additionally, bladder cancer is more likely to be diagnosed in men than women with a 3-to-1 ratio respectively. Much of the discrepancy can be attributed to the different rates of tobacco use as we see the prevalence of bladder cancer in women much higher in countries with higher rates of tobacco use in females. Other reasons can include the occupational chemical exposures for men working in various settings.

First, did I read that correctly?

A. Yes.

Q. Okay.

So, is it your opinion that the vast majority of the discrepancy between men and women having higher -- men having higher incidence of urothelial carcinoma

is due to men having a higher prevalence of smoking?

MR. WALLACE: Objection.

A. Again you're use the word "vast." I used the word "much" which you just read. So I think there's two different --

Q. All right.

A. So, I think it is a contributing factor, yes. It's not the only contributing factor.

Q. Understood.

A. Is it more? Possibly.

MR. WALLACE: Michael, we've been going for about an hour. Is it okay if we take a break? I don't want to interfere if you have a couple more questions.

MR. CROMWELL: Let's go ahead and take a break.

MR. WALLACE: Okay.

MR. CROMWELL: That's fine.

THE VIDEOGRAPHER: The time right now is 2:30 p.m.

We are off the record.
(Recess taken.)
THE VIDEOGRAPHER: The time right now is 2:55 p.m.
We are back on the record.
BY MR. CROMWELL:
Q. Doctor, we left off talking about your demographics as a risk factor.
I meant to ask before, though, you have reviewed the medical records and testimony of Mr. Mark Cagiano; is that correct?
A. Correct.
Q. Okay.
And you're familiar with his testimony that he smoked one cigarette a day -- or, one cigarette a week for two years; is that correct?
A. Correct.
Q. And is your opinion that and you did not consider his smoking to be a risk factor for his UTUC; is that correct?
A. Not a significant risk factor.
Q. Okay. You said "not a

significant risk factor."

Did you consider it to be a risk factor at all in his UTUC?

A. Well, I would say I considered it, but it's not a risk factor.

Q. Okay.

We were talking about gender disparities within bladder cancer -- or, urothelial carcinoma diagnoses, and I'm going to ask you are you aware of any literature that shows gender-related incidence disparity when controlling for smoking?

A. Not the top -- off the top of my head, no.

Q. Okay.

Are you aware of any literature showing men having particular metabolic enzymes different than women and its correlation to bladder cancer development?

A. No, none that I know of.

Q. Okay.

Are you aware of any literature that shows the -- shows urothelial

carcinoma prevalence between men and women --

MR. CROMWELL: Strike that.

Q. Are you aware of any literature that shows the urothelial carcinoma prevalence between men and women has to do with their use specifically and exposure to TCE, PCE, benzene, or vinyl chloride?

A. Can you repeat that, I'm sorry?

MR. CROMWELL: Sure.

Can you read that question back, please?

(The requested portion of the record was read back by the court reporter.)

A. So, off the top of my head, no.

Q. Are you familiar with the percentage of women to men working in the dry-cleaning industry or around dry-cleaning chemicals?

A. No.

Q. Are you familiar with the percentage of men to women working in truck driving occupations?

A. No.

Q. Would you agree that bladder cancer is predominantly a disease of older adults, with the average age of diagnose in the U.S. being 73?

A. The average age is 73, so yes.

Q. Okay.

And just because someone is diagnosed earlier in their life, it does not mean that their urothelial carcinoma was caused by a chemical exposure; is that correct?

A. I'm sorry, can you repeat that?

Q. Just because someone is diagnosed earlier in their life prior to 19 -- prior to being 73 years of age does not mean that their urothelial carcinoma was caused by a chemical exposure; is that correct?

A. Sorry, there's a double negative there, so I'm trying to figure this out.

Does not mean that their cancer was not because of chemical exposure?

Q. In other words, if somebody is

diagnosed with urothelial carcinoma prior to being 73 years of age, it can be caused by things other than a chemical exposure, correct?

MR. WALLACE: Objection.

A. Well, I think almost all cancers are caused by carcinogen. It's a chemical exposure of some sort, you know, including tobacco. So I think at any age that bladder cancer is diagnosed, it's because of a chemical exposure or carcinogen exposure. So the majority will be because of carcinogen exposures.

Q. Okay. Fair enough.

The same would be true then of people who are diagnosed with urothelial carcinoma after the age of 73, correct?

A. Correct.

Q. Okay.

And when we say the median age for bladder cancer -- or urothelial carcinoma diagnosis is 73, you mean that half the people who are diagnosed are younger than 73; the other half are older

than 73, correct?

A. So, we would have to define "median," but I don't think median is initially half or half, but it is sort of the, I guess, top of the bell curve which might be half.

Q. Right?

A. It's --

Q. No, I think -- I think you're right.

A. Yeah.

Q. It is the top of the bell curve with --

A. Right, but it's standard deviation, so it's not necessarily half and half, but it's the median age.

Q. Okay.

You would agree that individuals diagnosed with urothelial carcinoma under the age of 73 includes people not exposed to Camp Lejeune water?

A. Yes.

Q. Okay.

It would include people who do

smoke, correct?

A. It would.

Q. And it would include people who work in factories and are exposed to chemicals in those factories, correct?

A. Again, it can. I guess could, but it can.

Q. Doctor, would you agree that a family history of urothelial carcinoma can increase an individual's risk of developing urothelial carcinoma?

MR. WALLACE: Objection.

A. So, urothelial carcinoma in general, no. Upper tract TCC --

Q. Okay.

A. UTUC, as you call it, there are genetic predispositions or familial diseases, yes, but bladder cancer, none that I am aware of. So for me, family history doesn't necessarily play a huge role in bladder cancer, but it does in upper tract.

Q. Okay.

If you would look at your report

for Laramore, Exhibit 4, just to clarify something here.

On page 16 you have a section entitled "Family history and genetic predisposition" and the first sentence reads: A family history of bladder cancer or other cancers of the urinary tract can increase an individual's risk.

First of all, did I read that correctly?

A. Correct.

Q. Are you saying now that family history of bladder cancer doesn't increase their risk -- of the individual's risk for developing bladder cancer?

A. So, that's where the genetic predisposition, so the genetic causes. So just because you have a family history, and I go on to specific about the specific mutations --

Q. Sure.

A. -- and the specific syndromes.

Q. Yeah.

A. So in the context of what I'm

saying here, it is if you have one of these genetic disorders, but just a family history does not.

Q. Okay. Okay.

So, just to follow up, you agree that there are certain genetic mutations that have been identified in some individuals with U -- developing UTUC; is that correct?

A. Correct.

Q. In your report for Mr. Cagiano, you state that he has -- there is no evidence that: He has any inherited genetic condition and I can remove genetic or family history as a possible cause of his UTUC.

Is that correct?

A. Yes.

Q. Did you see any evidence of Mr. Cagiano having a gene mutation or a chromatosis?

A. I do not recall that.

Q. Okay.

Are you familiar with what

hemachromatosis is?

A. I am not, actually.

Q. All right.

Are you aware whether hemachromatosis can lead to organ failure?

A. I am not.

Q. Okay.

Do you know one way or the other whether hemachromatosis -- or, a gene mutation for hemachromatosis increases the likelihood of developing UTUC?

MR. WALLACE: Objection.

A. It is not one that I'm aware. I don't even know what those mutations are, so I would need to understand the mutations and -- to get a more understanding of it.

Q. Okay.

But as you sit here, you are not aware of it being a risk factor?

A. No.

Q. All right.

Doctor, we talked a little bit about idiopathy, and you issued a

supplemental report in this case; is that correct?

A. Correct.

Q. Okay.

Before we get to that, I just want to be clear "no known cause" is not the same as "no cause," correct?

A. Correct.

Q. So an idiopathic urothelial carcinoma is still caused by something, it's just that we cannot identify that something. Is that fair?

A. That's how I would use the definition of "idiopathic," yes.

Q. Okay.

Would you agree that the science -- that science is continuing to identify new potential causes of urothelial carcinoma?

A. I think that there is a lot of science that is ongoing in urothelial carcinoma and we're learning a lot about it. I think we are -- part of it, yes, risk factors, but also therapeutics and

other things that, you know, are -- are about treating the disease as well.

Q. Okay.

I mean, are there instances -- you would agree that there are instances of urothelial carcinoma that we cannot explain with our current knowledge of risk factors; is that correct?

A. Right. And again, you're -- you're, sort of, defining urothelial carcinoma as upper tract urothelial carcinoma and bladder cancer, correct?

Q. Well, that's how we've been using it.

A. Yeah, right. I just want to make sure because that -- that's again a very -- you can't answer that question specifically just saying with urothelial carcinoma because the research, you know, and it's research that I did and -- and studied genetically the differences between upper tract urothelial carcinoma and bladder, so there are differences that are being studied. So the same findings

are not necessarily, you know, can be applied to both bladder and upper tract urothelial carcinoma. So I just want to make sure we clarify that.

Q. I think I understand.

I guess the -- my follow-up is that it would still be true regardless of whether it's bladder cancer or UTUC that there are still many instances in which we, meaning science, does not know the cause of some of these cancers, correct?

MR. WALLACE: Objection.

A. I -- I would agree, but just to clarify, it's what you may find for upper tract urothelial carcinoma may not apply for bladder cancer. So using the urothelial, I just want to make sure we separate those two as it has been my research and others showing that they are -- they can be different, the diseases.

Q. Understood. Understood.

I may have asked you this already, so forgive me. In your clinical

practice, approximately what percent of bladder cancer, and I'm using that term specifically, cases have you seen have -- that are -- that you've considered idiopathic?

A. It would be a small percentage, maybe five percent, five or 10 percent.

Q. Okay.

A. I think that's what I said before.

Q. Okay.

And same question but with regards to UTUC cases?

A. So, UTUC cases are a little bit more rare, so I would be guessing a little bit more here. But I would probably say somewhere around the same line, 10 percent maybe.

Q. Doctor, would you agree that simply having a risk factor or even many risk factors for urothelial carcinoma does not mean that you will actually get urothelial carcinoma?

A. Correct. Like we spoke about

before, not every smoker gets bladder cancer.

Q. Right.

A. Or urothelial carcinoma.

Q. Right.

So the fact that a person has risk factors does not automatically mean that a risk factor is going to cause an individual's urothelial carcinoma, correct?

A. Correct. Unless they have urothelial carcinoma, and then those risk factors are irrelevant.

Q. Okay.

A. Like our patients.

Q. If a patient has -- well, are there particular risk factors for urothelial carcinoma that you consider to have weak supporting evidence? Let me be more specific.

A. Yeah.

Q. Do you consider BMI to be a -- to be a --

MR. CROMWELL: Strike that.

Q. Do you consider BMI to have weak scientific support for the development of urothelial carcinoma?

A. BMI alone, yes.

Q. Okay.

If a patient of yours walked in with no known risk factors except for high BMI, obesity, would you consider that person's BMI to be the cause, or at least -- at least as likely as not the cause of their urothelial carcinoma?

MR. WALLACE: Objection.

A. I think BMI alone is something that we -- or that I personally don't look at. It's more about metabolic syndrome. So it's about underlying full picture of the patient. So you need to really dig deep into, quote/unquote, metabolic syndrome.

So BMI alone I would not consider that a risk factor, and I would really want to understand the metabolic syndrome of that patient, if the patient has metabolic syndrome.

Q. Okay.

Is there a metabolic syndrome that has a strong association with the development of urothelial carcinoma?

A. I think it's stronger than BMI alone, but still needs a lot of research to be performed.

Q. Okay.

So if a person -- so just change the hypothetical. If a patient of yours walked in with a particular metabolic syndrome and no other known risk factors, would you consider their metabolic syndrome to be as least as likely as not the cause of their urothelial carcinoma?

MR. WALLACE: Objection.

A. It would be something I would consider, yes.

Q. You would consider it, but would you consider it to be at least as likely as not the cause of their urothelial carcinoma?

MR. WALLACE: Objection.

A. Yes.

Q. Okay.

Would you in that instance consider unknown causes?

A. No.

Q. Idiopathic causes, or idiopathic nature of their cancer?

MR. WALLACE: Objection.

A. No.

Q. Okay.

Is it fair to say that if a person has a risk factor, whether there's weak or a strong association for urothelial carcinoma, that as long as they have that, you would not consider their cancer to be idiopathic?

A. I -- I think I agree with -- yes, I do agree with that because idiopathic means that we've looked at the risk factors, and if we find one, then they can't be idiopathic because per definition, as we explained before, it's unknown cause.

So, are there other causes potentially, yes, but we already

identified certain factors, so we need to focus on those.

Q. Okay.

Is it fair to say that Mr. Laramore's bladder cancer might have occurred regardless of his exposure to Camp Lejeune water?

MR. WALLACE: Objection.

A. I mean, I can't -- I don't think you can -- I can answer or make that assumption. There's multiple risk factors, including the Camp Lejeune water. The Camp Lejeune water may have -- be the only reason that he developed his bladder cancer. It may be part of the other risk factors that he's had. You can't go backwards. You can't make assumptions. What you know is that they all are risk factors and that, at least as likely as not, each one of them may have contributed to the development of his bladder cancer.

Q. Well, if you had a patient that walked in and had exactly the same risk factors except for not having exposure to

Camp Lejeune water, would you -- what would be your conclusion as to what caused his or her urothelial carcinoma?

MR. WALLACE: Objection.

A. That's different than the question you asked me before, I just want to clarify. So this patient has bladder cancer, correct?

Q. Yes. Well, both Mr. Laramore and the hypothetical I'm using both have bladder cancer.

A. Right.

So to clarify, a patient walks in that has bladder cancer, has, you know, the solvent possible, the diesel fumes possible, the cigarette smoking and no Camp Lejeune.

Q. Correct.

A. Right. He has bladder cancer. So any one of those three are at least as likely as not to have led to his bladder cancer.

Q. Okay. Okay.

Would you ever in that scenario

reach a conclusion as to a risk factor being more likely than not to be the cause of their risk fact -- of their urothelial carcinoma?

MR. WALLACE: Objection.

A. Yeah, I think you asked me that question before and I answered the same. It's impossible to do so.

Q. Okay.

Same question with regards to Mr. Cagiano. Is it -- are you able to determine whether Mr. Cagiano would have developed UTUC regardless of his Camp Lejeune water exposure?

MR. WALLACE: Objection.

A. Again, I can't -- I don't -- I can't answer that question.

Q. Okay. You don't know one way or the other?

A. I don't know one way or the other.

Q. Okay.

A. That's making too much of a large assumption.

Q. Okay.

If you would, Doctor, pull out your rebuttal report in this case, which is Exhibit 6.

A. Six.

I thought I had put these in order.

Okay.

Q. And this is your rebuttal report that you filed in these cases; is that correct?

A. Correct.

Q. And this has to do with your response to certain conclusions that Dr. Kates came to in his reports; is that correct?

A. Correct.

Q. Okay.

One of your critiques of Dr. Kates is under your title "Bladder cancer is rarely idiopathic and" --

MR. WALLACE: I'm sorry, I just wanted to pause for a moment just to say for the record that Exhibit 6

appears to have some highlighting to it.

MR. CROMWELL: That's unfortunate.

MR. WALLACE: Do you want to take a moment to replace Exhibit 6 before we dive into it?

I'm happy to do that and just swap it out before we look at it any further.

It happens.

MR. CROMWELL: Yeah, no, I know. It's -- it's okay. It's not a big deal. I appreciate the professional courtesy though.

MR. WALLACE: Yeah.

BY MR. CROMWELL:

Q. So, looking at Exhibit 6 on your second page, you have a section titled "Bladder cancer is rarely idiopathic."

Correct?

A. Correct.

Q. And in that second paragraph underneath the section you note: Dr.

Kates opined that 40 percent of bladder cancer cases cannot be attributed to a known risk factor and are thus idiopathic because the causes either are spontaneous or not yet known. Dr. Kates' sole citation for this claim that 40 percent of bladder cancer cases are idiopathic is to Berger et al.

You state: I have reviewed this publication and it does not address idiopathic urothelial carcinoma or upper tract urothelial carcinoma. Instead, Berger et al. state that most bladder tumors are associated with an acquired carcinogen exposure. End quote.

First of all, did I read that correctly?

A. You did.

Q. Okay.

You are of the opinion that -- at least your interpretation of Berger is that most bladder tumors are associated with an acquired carcinogen exposure; is that correct?

A. That's what it says, yes.
Q. Would you agree that both can be true, that most bladder tumors are associated with an acquired carcinogen and that 40 percent of bladder cancer cases cannot be attributed to a known risk factor? You would -- would you agree that both of those can be a true statement?
A. Can you repeat that? I'm sorry.
Q. Sure.
Isn't it true that most bladder tumors are associated with an acquired carcinogen exposure, as you stated, but also that 40 percent of bladder cancer cases cannot be attributed to a known risk factor?
A. Can that in general be true?
Q. Yes.
A. I mean, I think in general, I guess anything can be true, yes.
Q. Okay.
Well, just the idea that most, or I guess you're referring to more than 50 percent, right, bladder cancer -- or

bladder tumors are associated with acquired carcinogen exposure, it could also equally be true that both -- that and the fact that 40 percent of bladder cancer cases cannot be attributed to a known risk factor, both can be true in theory, correct?

MR. WALLACE: Objection.

A. I guess in general both could be true, but in this specific sentence, you can see that I reviewed this -- the actual. There is nowhere in that publication that says 40 percent.

Q. Okay.

A. So I'm not sure where that validity of that number comes from.

Q. Okay.

A. In my general practice, I would disagree with that, that idiopathic disease is probably 10 percent or less.

Q. Okay.

A. And for my general memory knowledge, you know, being part of numerous conferences, review boards, NIH

grant reviews, et cetera, et cetera, I would say that that's not true.

Q. When you say "most bladder tumors are associated with an acquired carcinogen exposure," you understand that that includes tobacco use, correct?

A. Correct.

Q. Okay.

You go on to state in the next paragraph of your rebuttal report marked as Exhibit 6: Furthermore, other reliable studies have suggested that the percentages of idiopathic bladder cancer are far lower than what Dr. Kates suggests. For example, Al-Zalabani et al. 2016 found that 81.8 percent of bladder cancer diagnoses were attributable to modifiable risk factors and 7 percent attributable to genetic factors.

First of all, did I read that correctly?

A. You did.

MR. CROMWELL: Okay.

I'm going to hand you -- would

you hand me 38? Sorry.

I'm going to hand you what we're marking as Exhibit 18.

(Sfakianos Exhibit 18, Abdulmohsen study, was marked for identification, as of this date.)

BY MR. CROMWELL:

Q. And, Doctor, this is an article by Al-Zalabani Abdulmohsen entitled "Modifiable risk factors for the prevention of bladder cancer: a systematic review of meta-analysis."

Is that correct?

A. Yes.

Q. This is the article you're referring to in your rebuttal report?

A. Yes.

Q. Okay. If you would look at the abstract.

A. Yes.

Q. And it -- and it just starts: Each year 30,000 people are diagnosed with bladder cancer due to the high recurrence rate of the disease, primary prevention is

paramount. Therefore, we reviewed all meta-analysis on modifiable risk factors of primary bladder cancer.

Further down in that same paragraph it states: Probability of causation was calculated for individual factors and a subset of lifestyle factors combined.

And then it goes on in that paragraph to state: Statistically significant associations were found for current or former cigarette smoking, pipe, or cigar smoking, antioxidant supplementation, obesity, higher physical activity levels, higher body levels of selenium and vitamin D, and higher intakes of processed meat, vitamin A, vitamin E, folate, fruit, vegetables, citrus fruit, and cruciferous vegetables. Finally, three occupations with the highest risk were tobacco workers, dye workers, and chimney sweeps. The probability of causation for individual factors range from 4 to 68 percent. The combined

probability of causation was 81.8 percent.

First of all, did I read that correctly?

A. You did.

Q. Okay.

Doctor, just kind of breaking some of this apart, are you of the opinion that consumption of vitamin A or vitamin D is a risk factor for the development of urothelial cancer?

MR. WALLACE: Objection.

A. My opinion is indifferent. It's what it says here, but I am -- I don't know the vitamins and -- and their effect and have really studied them.

And again, there's a -- a weight here based on these relative risks, so I would ask a colleague who knows and can explain it to me a little bit more from that standpoint.

Q. Okay.

Just I think I understand that, but specifically we talked about your clinical practice and that you have -- you

don't typically inform patients to decrease their vitamin or supplemental vitamin intake due to potential exposures to carcinogens, correct?

A. Correct.

Q. Are you of the opinion that higher levels of selenium is a risk factor for the development of bladder cancer?

A. Same -- same answer. I am not.

Q. Okay.

You testified just previously that obesity by itself is not a significant risk factor for the development of bladder cancer, correct?

A. Correct.

Q. You understand that this article is saying that there is a statistically significant association for obesity?

A. Correct.

Q. Okay.

You understand that the probability of causation, the 81.8 percent, is -- has to do with lifestyle risk factors?

A. Correct.
Q. Okay.
So if you were to look at Exhibit 18 page 815, it's table 1.
A. Okay.
Q. If you were to look on the left side it has "Risk Factor" and then the first, kind of, portion of that is "Lifestyle Factors."
Do you see that?
A. Yes.
Q. And then if you go further down that same column it eventually gets to "Occupational Factors"?
A. Yes.
Q. Right above that has the combined POC that you're referring to of 81.8 percent.
A. Yes.
Q. Is that right?
So, the 81.8 percent has to do with specific lifestyle factors of total fruit and vegetable consumption, processed meat consumption, smoking and physical

activity; is that right?
A. Yes.
Q. This is what makes up the combined probability of causation; is that right?
A. Yes.
Q. You would agree with me that there is nothing in here in the 81.8 percent with regards to exposure to TCE, PCE, benzene, or vinyl chloride; is that right?
A. Not in here.
Q. And there's nothing specific in here with regards to the consumption of Camp Lejeune water; is that correct?
A. Correct.
Q. And you note in support -- or, you reference this article to say that genetic effects account for 7 percent of bladder cancer incidence; is that right?
A. Correct.
Q. And in your rebuttal report, Exhibit 6, at the bottom of page 2 you go on to say that: Further, as Al-Zalabani

notes, modifiable and genetic risk factors do not include medical conditions which would include chronic bladder infections and other medical conditions. This means at most, but probably less, 11.2 percent of bladder cancer diagnoses would be from potentially unknown risk factors.

First of all, did I read that correctly?

A. Correct.

Q. If lifestyle and genetic factors account for 88.8 percent of the combined probability of causation for bladder cancer and at most 11.2 percent are potentially unknown risk factors, what portion does that leave for exposure to TCE, PCE, benzene, or vinyl chloride?

MR. WALLACE: Objection.

A. I wouldn't -- I mean, the -- that's the -- that's a great question, and I wouldn't even know how to answer that because that's not something that was studied here. So it would need to be studied alongside everything and then we

can get an answer to that.

I don't know what the percentage of the population is that has exposure, et cetera, et cetera. I don't -- I'm not an epidemiologist, don't do these studies. But from that 11.2 percent, I would assume. Or, you know, the other part of it is we don't know how much overlap there is, so, you know.

Q. Well -- okay. Understood.

The 80 -- 81.8 percent includes -- includes risk factors that you do not consider to be actual risk factors for bladder cancer development though; is that correct?

A. Some of them and some not, yes.

Q. Okay.

Okay. I want to go back to something we touched on briefly before which is your conclusion for Mr. Laramore. If you go to page -- Exhibit 4, page 21 because we've talked about Mr. Laramore's risk factors, and you've concluded that: Because I cannot find any risk factor that

is more likely than not to have caused his bladder cancer, I conclude that each of his risk factors is at least as likely as not to be a cause including his exposure to chemicals at Camp Lejeune.

So I just want to break that apart a little bit.

It is your opinion that none of Mr. Laramore's risk factors is more likely than not to have caused his bladder cancer; is that correct?

A. It is my opinion that I cannot -- yes, I cannot differentiate one causing the bladder cancer more than the other.

Q. Okay.

A. So yes.

Q. And you've identified Mr. Laramore's smoking history as a risk factor, correct?

A. Correct.

Q. You've identified his occupational exposures as a risk factor, correct?

A. Correct.
Q. And you identified his exposure to the water at Camp Lejeune as a risk factor, correct?
A. Correct.
Q. Anything else as a potential risk factor for him that I'm missing?
A. I think we missed one. The diesel fumes, the solvent, the Camp Lejeune water, and the tobacco.
Q. Okay.
So when I refer to occupational exposures, I -- I guess I'm referring to the solvent exposure as well as the diesel fume exposures. Is that fair?
A. I guess you could consider Camp Lejeune an occupation as well.
Q. Well, you --
A. Yes.
Q. -- you separated out Camp Lejeune exposure from occupational exposures.
A. Yes.
Q. So I'm just following your

metric.

But other than those items we just discussed, any other known risk factors that you're referring to in this conclusion?

A. No.

Q. Okay.

Taking that apart, based on your conclusion, you would agree that you do not find Mr. Laramore's smoking history is more likely than not to have caused his bladder cancer, correct?

A. I -- you know, doing an independent review of Mr. Laramore, those are the risk factors, and I wanted to make sure we pointed them all out, and there is no way that it is possible to say that one is more the cause of his bladder cancer than the other.

Q. Okay.

A. But we just need to make -- be honest and show the risk factors, but also be honest and say we will never know which one it is that actually led to his bladder

cancer.

Q. Okay.

So you're of the opinion that we have no way of knowing which one of his risk factors that you've identified is the cause of his bladder cancer; is that correct?

A. They -- they could be a single one or it could be a combination of all of them. You know, it -- it -- we just don't know, yes.

Q. Okay.

Okay. So that being said, because you do not find any risk factor that is more likely than not or a combination of risk factors that's more likely than not, you reached the conclusion that each of his risk factors is at like -- is at least as likely as not to be the cause of his bladder cancer, correct?

A. Correct.

Q. Okay.

And that means, just breaking

that apart again, that means, in your opinion, Mr. Laramore's smoking history is at least as likely as not the cause of his bladder cancer, correct?

A. Correct.

Q. And that means Mr. Laramore's occupational exposures to solvents and diesel fumes are at least as likely as not the cause of his bladder cancer?

A. Yeah, those are --

Q. Correct?

A. -- possibly just because we don't have all of the details, but we need to include them as -- as at least as likely as not.

Q. Okay.

And -- and also means that Mr. Laramore's exposure to the water at Camp Lejeune is at least as likely as not the cause of his bladder cancer, correct?

A. Correct.

Q. Is there a methodology you are relying upon to say that if you cannot find any risk factor to be more likely

than not to have caused a person's bladder cancer, then you reach the result that all of them, all the risk factors are as least as likely as not the cause of their bladder cancer?

MR. WALLACE: Objection.

A. Methodology, can you -- what -- what do you mean by "methodology"?

Q. I'm trying to -- so, I'll just forecast I'm trying to understand how you reach -- if you -- you say, I can't say that any of them is more -- is more likely than not, therefore each is at least as likely as not.

So I'm trying to understand is there a methodology you used to reach that conclusion?

A. Again, methodology is -- I mean, I think you're using -- I used my experience as a bladder cancer clinician. I used my experience in the research of bladder cancer to help me identify what are risk factors. But there is no proven analysis or test that you can do on the

tissues, on the tumors, or on anything to say that, one, that cancer is because of this, right. And because you can't do that, you can't make an assumption that one plays more relevant role than the other in developing the cancer when you know all four are possible in causing the cancer.

So that's, sort of, the thought process behind how I came to that conclusion, or summarized the process.

Q. All right. That's fair.

It's been a day, so forgive me if I did this already, but are you treating -- for purposes of your conclusion that you're offering for Mr. Laramore, are you treating all the risk factors as equivalent as potentially -- as being at least as likely as not cause of his bladder cancer?

MR. WALLACE: Objection.

A. I mean, I'm treating them all as risk factors.

The -- the word "equivalent," I

don't know how to answer that.

Q. Do you weigh them the same in reaching your conclusion?

MR. WALLACE: Objection.

A. If you consider -- yeah, I mean, I treat them all as a risk factor. So I guess they're all 100 percent a -- a risk of developing bladder cancer.

Q. Okay.

A. I can't tell you which one is more of a risk or less of a risk or which one did it or if it was a combination of two or all four or three. They're all risk factors, so.

Q. Okay.

And again, dose to each -- the dose that a -- Mr. Laramore would have been exposed to with regards to smoking, with regards to a potential solvent exposure, with regards to diesel, and with regards to Camp Lejeune is not irrelevant in you reaching your conclusion in attempting to differentiate between any of the risk factors, correct?

MR. WALLACE: Objection.

A. I am not -- so, dose -- toxicology and epidemiology is not my forte.

What I know is that all four of those risk factors can lead to bladder cancer. So -- and again, without a solid -- solidified piece of data, you know, saying here is the tissue from this cancer, it shows X, Y, and Z, or whatever it may be, you can't say one is the culprit more than the other.

Q. Gotcha.

A. So that's -- that's, sort of, the thought process.

Q. Okay.

So just in this situation without tissue to -- to -- or something that would differentiate the two, to the extent that Mr. Laramore had a risk factor for developing bladder cancer, each of those is considered to be at least as likely as not a cause of the bladder cancer in that scenario?

A. Correct. Because he has bladder cancer.

Q. Okay.

A. Right, so we can't -- risk factors are for us -- giving us, sort of, a calculation maybe of will you ever have that disease, but these patients have the cancer. We have the cancer. In my opinion, it doesn't matter, you know, how little the risk is or how big the risk is. In a sense, they developed bladder cancer. They have it.

Q. Okay.

A. So we can't -- you know, we can't go backwards, as we say.

Q. If you have your Laramore report, Exhibit 4, in front of you.

A. Yes.

Q. Would you look at page 19, please.

Okay. If you look at the very first not full paragraph, but very first paragraph on page 19 there is a sentence at the bottom, the very last sentence of

that paragraph that starts "In a similar way."

Do you see where I'm looking?

A. Yes.

Q. You write: In a similar way, a risk factor that relies on speculative inferences cannot be considered on the same level as risk factors that are on a stronger footing.

First of all, did I read that correctly?

A. Correct.

Q. How do you -- how do you consider Mr. Laramore's solvent exposure, for example given we don't know what he was exposed to, the time, or the duration he was exposed to, with his smoking history of at least 30 pack years?

A. So, again, this goes back to the, sort of, same answer I gave before. It's -- you know, when we're looking at risk factors and you're trying to predict if you're going to get a disease, right, but these patients have the disease. So

having the disease is different in making these types of conclusions and assumptions, right.

So any risk factor that has the potential to lead to the cancer needs to be considered 'cause you have the cancer in these two patients.

So, right, the -- like I mentioned before as well, the diesel fumes and the solvents, there's probably weaker information and data. So not sure how exactly to put them in, but you can't ignore them, right, because they're present. So that's why all four are risk factors or considerations of developing Mr. Laramore's cancer.

Q. All right.

If -- if Mr. Laramore had not developed bladder cancer, or did not have bladder cancer, would you be weighing or considering his risk factors that you've identified differently?

MR. WALLACE: Objection.

A. I don't understand that

question.

Q. Well, you've told me that because he has bladder cancer, that you can consider each of his risk factors being at least as likely as not.

I'm trying to understand if you would somehow weigh his risk factors differently than that if he had not yet been diagnosed with bladder cancer.

MR. WALLACE: Objection.

A. So, I wouldn't necessarily weigh them differently, but if somebody doesn't have the disease that you're concerned about because of their risk factors, that's where you screen patients, right. So that's where you would say okay, you have these.

If I personally in my practice, if Mr. Laramore came in and had something like blood in his urine or something, I would strongly want to do all the tests possible to rule out bladder cancer.

Q. Right.

A. So that's, like, sort of the

difference the way we use risk factors clinically. Similar to smoking and all of a sudden now we're screening everybody with chest CT scans because of the known risk factor for lung cancer.

So, I -- you know, you look at it differently from a patient who doesn't have the disease and a patient who has the disease. If you have the disease and you know you have the disease, you have to consider all the risk factors, but you can't -- unless there is a proven test to say this risk factor causes this cancer because you find this, and in this case we don't have any of that, so you can't say one is more than the other.

Q. Right.

But getting back to my original question, if you -- if Mr. Laramore was not diagnosed with bladder cancer, would you be weighing or look at -- would you find that certain risk factors of his would be more significant than others in that scenario?

For instance, would you find his smoking to be more significant than his solvent exposure given the information that you have?

MR. WALLACE: Objection.

A. No.

Q. Okay. Okay.

For Mr. Cagiano, you state that the only risk factor for him had -- that he had for developing UTUC was contaminated water at Camp Lejeune; is that correct?

A. Correct.

Q. And this is based on your review of the general causation reports from -- plaintiff general causation reports; is that correct?

A. Correct.

Q. Okay.

We kind of danced around this before, but did you review any epidemiological studies that evaluated whether UTUC was a specific health endpoint for exposure to TCE, PCE,

benzene, or vinyl chloride?

MR. WALLACE: Objection.

A. I -- I don't remember. No, I don't think so.

Q. Okay.

As you're sitting here, you don't recall?

A. No.

Q. Okay.

Do you know whether the plaintiffs' general causation experts that you're relying upon ever reached their conclusions by evaluating kidney cancer epidemiological studies rather than bladder cancer epidemiological studies?

MR. WALLACE: Objection.

A. I don't know.

Q. Okay.

Doctor, I want to talk about, kind of, the medical side for Mr. Laramore and Mr. Cagiano. I might be able to short-circuit this, we'll see.

You understand for Mr. Laramore, you understand that in 2018, he was

experiencing microscopic blood in his urine; is that correct?

A. Correct.

Q. And in March 2020, his urologist was Dr. Henry Ruiz and located a -- a mass inside his bladder via ultrasound; is that correct?

A. Correct.

Q. Okay.

You understand that Mr. Laramore had a -- a urologist prior to his bladder cancer diagnosis because he had other urological issues that he was being treated for, correct?

A. Correct.

Q. Okay.

When the mass was found in March 2020, he was referred to Dr. Ruiz's colleague, Dr. David Alonzo; is that right?

A. Sounds correct, yes.

Q. Okay.

And then in April of 2020, Dr. David Alonzo performed a TURBT, correct?

A. Correct.
Q. And Dr. Alonzo resected two tumors; is that right?
A. Correct.
Q. And the initial path -- pathology findings was a papillary urothelial carcinoma invasive high grade with the tumor invading the lamina propria and detrusor muscle; is that right?
A. That was the pathology report, correct.
Q. That's the original pathology report?
A. Correct.
Q. And what happened with Dr. Alanzo took -- Alonzo took three biopsies of one of the tumors, and one of the three biopsies indicated that the tumor could be muscle-invasive, correct?
A. Correct.
Q. You understand that Dr. Alonzo sent those slides to Dr. Jonathan Epstein at John Hopkins to re-examine the pathology?

A. Correct.
Q. Do you know Dr. Epstein?
A. Just by reputation.
Q. Okay.
Did you -- you read Dr. Hitt's, one of his -- one of Mr. Laramore's treating physician was Dr. Warren Hitt, correct?
A. Yes.
Q. And Dr. Hitt considered Dr. Epstein the leading authority on urinary pathology in the world; is that right?
MR. WALLACE: Objection.
A. I mean, I think he's a very prominent urological pathologist. Published a lot of literature.
Q. Okay.
A. I wouldn't say there's only one person in the world that is --
Q. Understand.
A. But, yes, he's a well-respected pathologist.
Q. Okay.
A. Uropathologist.

Q. And Dr. Epstein re-examined the pathology as a high grade T1 versus T2, correct?

A. Correct.

Q. T1 being, I guess, stage 1 versus stage 2, is that what we're talking about with T1 versus T2?

A. Yes.

Q. Okay.

You opined in your report that Dr. Epstein confirmed invasive high grade papillary urothelial carcinoma with associated insight to urothelial carcinoma, correct?

A. Correct.

Q. So this is where I'm depending on your answer will short-circuit this.

What do you mean by "invasive" in that opinion?

A. Stage 1 is invasive.

Q. Okay.

So to be clear, Dr. Epstein was not saying that it was muscle-invasive stage 2 bladder cancer, correct?

A. No. He identified muscularis mucosa, which is stage 1 disease.

Q. Okay.

So just to re-ask my question, Dr. Epstein was not saying that it was muscle-invasive stage 2 bladder cancer, correct?

A. To clarify, there's muscularis mucosa, muscularis propria.

Q. Yes.

A. Muscularis propria is stage 2 disease. Muscularis mucosa is stage 1 disease.

So he did not identify a muscularis propria invasion, so he still thought it was stage 1 disease.

Q. Stage 1.

A. Yes.

Q. Okay.

So, when you say "invasive," you're referring to the level of the muscle, but not that he had muscle-invasive stage 2 bladder cancer, correct?

A. Correct.
Q. Okay. All right.
In fact, Dr. Epstein wrote that additional -- sorry.
Dr. Epstein specifically noted: It's difficult to distinguish whether --
MR. CROMWELL: Strike that.
Q. Based off Dr. Epstein's findings, Dr. Alonzo recommended a restaging TURBT to determine the extent of the disease.
Is that correct?
A. That is correct.
Q. Okay.
You agree at this point Mr. Laramore was not diagnosed with muscle-invasive stage 2 bladder cancer, correct?
A. Correct.
Q. He subsequently moved to Panama City, Florida where he saw Dr. Hitt; is that correct?
A. Correct.
Q. And that's when he underwent the

restaging TURBT, correct?

A. If I remember correctly, I would have to look, but sounds correct, yes.

Q. Okay.

And is it your recollection that that restaging TURBT was benign with inflammation consistent with prior surgical resection?

A. Correct.

Q. Okay.

I should have asked this before, Doctor, but what is BCG?

A. BCG is a -- stands for Bacillus Calmette -- Calmette-Guerin. It is basically the tuberculosis bacterium that's been attenuated and is used as a therapy for nonmuscle-invasive bladder cancer.

Q. So I think you said that BCG is typically used for nonmuscle-invasive bladder cancer treatment, correct?

A. Correct.

Q. Okay.

And that's how Mr. Laramore was

treated; is that correct?
A. Correct.
Q. Okay.
To date, do you know how many rounds of BCG treatment Mr. Laramore has undergone?
A. If I remember correctly, two.
Q. Okay.
You understand that Mr. Laramore received routine cystoscopies post his original diagnosis that came back as nonmalignant until fall of 2023, correct?
A. Fall of 2023, correct.
Q. Okay.
And at that time, he -- a biopsy showed he had a high grade T1 with no muscle in the specimen; is that correct?
A. Correct.
Q. Okay.
And at -- subsequent to that, that's when he went -- underwent his second induction course of BCG, is that right, in the spring of 2024?
A. Correct.

Q. Okay.

And the last medical record showing Mr. Laramore underwent a cystoscopy appears to be from September of 2024 which showed the presence of two small papillary lesions, and cytology report stated that urine cytology was benign and negative for malignant cells.

Is that your recollection?

A. Correct.

Q. Okay.

Doctor, would you agree at this point that Mr. Laramore appears to be disease free for the last year, year and a half?

MR. WALLACE: Objection.

A. I don't have any records for the last year, so I'm unsure. I -- I can't answer that question.

Q. Okay.

Would you agree that given his current -- assuming his current status remains, he will continue to need observational cystoscopies quarterly until

he is two years from his last occurrence or until December of 2025? Is that the standard of care?

A. It would be 2026.

Q. So he would get quarterly cystoscopies for three years?

A. It's 2024 where he had the BCG, so then September he had a recurrence 2024. So 2025, 2026, two years.

Q. Okay.

A. If he does not have a recurrence.

Q. Got it.

A. And obviously if he does, that changes.

Q. Understood.

Okay. So then he would need routine cystosc -- or observational cystoscopies every six months until he is four years out from his diagnosis, so spring of 2028; is that right?

A. Again, it sounds like you are using the AUA recommendations. So if you follow these recommendations, yes.

Q. Do you follow those recommendations?
A. I do.
Q. Okay.
And then he would need observational cystoscopies every year until ten years out from his BCG treatment, so until the spring of 2034; is that right?
A. Correct.
Q. Okay.
Would you also agree that he would need CT imaging every two years -- or every year until two years out, so again spring 2026?
A. Correct.
Q. Okay.
And then after that, every two years until he was ten years out; is that correct?
A. Correct.
Q. Okay.
As you sit here, do you have any way of knowing whether Mr. Laramore will

have a recurrence of his bladder cancer?

A. I do not.

Q. All right.

Have you formed an opinion as to what percentage or chance he would have of any kind of recurrence at this point, given that he is a year to a year and a half out from his last diagnosis?

MR. WALLACE: Objection.

A. I would just use what the -- you know, what we've learned throughout my training and, you know, reviews and literatures and so forth for T1 high grade bladder cancers, you know, roughly 40 to 50 percent of the patients have a recurrence.

Q. Okay.

A. He's had a recurrence, so that, kind of, goes up now for future recurrences, but can't be certain.

Q. Okay.

So at this point, it's your opinion that he would have a 40 to 50 percent chance of additional recurrence

given that he's one to one and a half years out, somewhere in there?

A. Well, that and he already had a recurrence after his BCG, so.

Q. Right. I'm -- I'm measuring from his last treatment. So I don't know if that changes your opinion or not.

A. So, no, that's what -- I'm just -- what I'm using to make that estimate.

Q. Okay.

A. Yeah.

Q. All right.

A. The fact that he's had a recurrence already plus that.

Q. Okay.

If he did have a recurrence, do you have any way of knowing whether Mr. Laramore's recurrence would be non -- nonmuscle-invasive versus muscle-invasive?

MR. WALLACE: Objection.

A. No way.

Q. Okay.

Being disease free for more than

a year to a year and a half, would you agree that Mr. Laramore's risk of another nonmuscle-invasive recurrence would be approximately 35 percent?

A. So, I would say the approximate risk of him developing muscle-invasive is about 20 to 40 percent.

Q. Yeah.

A. So about 60 to 70 percent nonmuscle-invasive recurrence.

Q. Okay. Got it.

And just to be clear, those are the percentages the chance if he had a recurrence, the type of recurrence it would be, correct?

A. Correct.

Q. Okay.

If Mr. Laramore had a recurrence of nonmuscle-invasive bladder cancer, would you agree that his options would be a radical cystectomy or urinary -- and urinary diversion or a second line bladder-preserving therapy?

A. I think it would depend on his

pathology, his, you know, what -- nonmuscle-invasive bladder cancer encompasses multiple stages, multiple grades. So it all will be dependent.

Q. Okay.

But would those be two options for him?

A. If he has high-risk nonmuscle-invasive recurrence, yes.

If he has low-risk or intermediate-risk, those are options. But for low-risk, it would -- the cystectomy would not be an option. For immediate-risk, it would be an option, but it would be further down the line.

Q. Okay.

A. For high-risk it would be, you know, high up on the different -- on the options, so.

Q. If it was low- or medium-risk, would the primary treatment be another round of BCG?

A. That would be, sort of, higher on the option, but of course, like you

said, for intermediate, the cystectomy would still be there. For low-risk it would not.

Q. Okay.

Doctor, you spoke with Mr. Laramore's life care planner, Michael Fryer; is that correct?

A. Yes.

Q. Okay.

You spoke to him on January 22nd, 2025; is that right?

A. Yes, that sounds about right.

Q. Okay.

According to him in his report, you indicated it was likely Mr. Laramore would require bladder removal in the future due to recurrence of the bladder cancer; is that correct?

MR. WALLACE: Objection.

A. Yes.

Q. Okay.

And is Mr. Fryer representing your opinion correctly?

MR. WALLACE: Objection.

A. What -- what opinion is he representing?
Q. Yeah, yeah, yeah. Unfair.
A. Yes.
Q. Sorry.
A. No problem.
MR. CROMWELL: Would you hand me 52, please?
I'm going to hand you what we're marking as Exhibit 19.
(Sfakianos Exhibit 19, Inquis Surgical Cost Analysis 02/06/2025, was marked for identification, as of this date.)
BY MR. CROMWELL:
Q. This is a copy, Doctor, of Mr. Fryer's life care plan for Mr. Laramore; is that correct?
A. Yes.
Q. Have you ever seen this before?
A. I have not.
Q. Okay.
If you would, please turn to -- well, it was about five pages in, it was

not numbered, but it is a letter to you dated January 22nd, 2025 from Mr. Fryer.

A. A letter to me? I don't think it's a letter, but --

Q. I apologize. Seven pages in.

A. One, two, three, four, five, six, seven.

Q. One more maybe.

A. Eight.

Q. Yes.

A. Yes.

Q. Doctor, this is a letter dated January 22nd, 2025 from Mr. Michael Fryer to you; is that correct?

A. This was an email, yes.

Q. It was an email?

A. Yes.

Q. All right.

And you recall receiving this email?

A. Yes.

Q. Okay.

And this is essentially Mr. Fryer's recounting of what you have -- you

and him have talked about; is that correct?

A. Yes.

Q. Okay.

Bullet number 1 you state -- you explain it is medically likely Mr. Laramore will require bladder removal in the future due to recurrence of bladder cancer for him, correct?

A. Yes.

Q. Okay.

What percentage are -- would you give Mr. Laramore having a recurrence of his bladder cancer?

A. So, at this point in time or from the initial diagnosis? 'Cause this was before he had his recurrence.

So from this -- when we spoke about in this time.

Q. Well, just to be clear, this is dated January 2025, right? So his recurrence had already occurred.

A. I did not have those records. I just received those records. I did know

that he had a recurrence.

Q. At the time you had this?

A. Yes, at the time I had this, I did not know he had a recurrence.

Q. Sure.

A. So that's why I'm asking. So from now or from when I had this?

Q. Well, let's start from -- let's start from now that you have all his records.

A. Okay.

Q. What is -- what percentage chance do you -- in your opinion, would it be for him to have -- require bladder removal due to recurrence of bladder cancer?

A. I would say it's roughly 40 to 60 percent.

Q. Have you -- you testified before you have not had any conversations with Mr. Laramore.

Have you ever had any conversations with his treating physician, Dr. Alonzo?

A. I have not.
Q. Have you ever had any conversations with any of his treating physicians?
A. I have not.
Q. Okay.
Do you know what kind of treatment Mr. Laramore would select if he did have a recurrence of his bladder cancer?
MR. WALLACE: Objection.
A. I'm sorry, could you repeat the question?
Q. Do you know what kind -- we were talking about different potential treatments depending on the type of recurrence he has.
Do you know what kind of treatment Mr. Laramore would select if he were to have a recurrence of bladder cancer?
MR. WALLACE: Objection.
A. No idea.
Q. Okay.

In the last bullet point, again looking at page -- or, Exhibit 19, same email-slash-letter, the bullet states: You indicated it is medically difficult at present to precisely outline Mr. Laramore's life expectancy without first having knowledge regarding the state of the cancer recurrence. You noted survival rates five years after bladder cancer can vary and range in the literature from 20 percent to 95 percent depending on the stage of the disease with only 20 percent of patients with stage 4 cancer statistically being alive in five years. Also you explained bladder removal for the treatment of stage 1 cancer can be considered a cure for the patient and that 95 percent of patients with stage 1 are alive in five years.

First of all, did I read that correctly?

A. Yes, sir.

Q. Okay.

And this was your -- was this

your opinion as of January 22nd, 2025?

A. Yes.

Q. Has that changed since you have received additional medical records? Have any of your opinions changed since you received additional medical records related to Mr. Laramore's recurrence?

A. The -- knowing that he has a recurrence now, I do worry that the risk of him needing a cystectomy does go up slightly, more than --

Q. How --

A. So closer to 60 percent.

Q. Okay.

And would you still agree that as you sit here, you cannot offer an opinion as to Mr. Laramore's life expectancy; is that correct?

A. Correct.

Q. Okay.

All right. Almost there.

Doctor, for purposes of your Cagiano -- Mr. Cagiano's report, is it fair to say you're treating Mr. Cagiano's

UTUC under the umbrella of urothelial carcinoma?

A. Yes.

Q. And at various points throughout your report, you make comparisons between UTUC and bladder cancer; is that correct?

A. Correct.

Q. You note, for instance, that UTUC has similar risk factors to bladder cancer; is that correct?

A. Correct.

Q. You also discuss common genetic alterations -- or, you discuss genetic alterations that are common to both UTUC and bladder cancer; is that correct?

A. Right. That's the research I've published numerous times on.

Q. Right.

A. Yes.

Q. And you agree that the genetic pathways leading to tumorigenesis in UTUC and bladder cancer are strikingly similar; is that right?

A. Are -- are similar, but not

exactly the same on -- in every instance, yes.

Q. Okay.

You have mentioned a few times certain risk factors related to UTUC that are different than what may be normal risk factors for bladder cancer; is that correct?

A. Yes.

Q. Does that include, help me with the pronunciation, phenacetin?

A. Yes.

Q. Okay.

That includes aristolochic --

A. Aristolochic acid.

Q. Aristolochic acid as well as chronic kidney stones and bladder infections; is that correct?

A. So, not bladder infections 'cause that's in the bladder, but kidney stones could.

Q. Okay.

Is it your opinion that --

MR. CROMWELL: Well, strike

that.

Q. Doctor, you would agree that it's your opinion that it is necessary to monitor and treat Mr. Cagiano's bladder for any follow-up issues with Mr. Cagiano's UTUC; is that correct?

A. So, again, the urothelium where this disease initiates is the lining of the hollow part of the kidney, or the renal pelvis, the ureter which comes all the way down to the bladder, the bladder, and a part of the prostatic urethra. And so when we speak about the similar pathogenesis, it's whatever metabolite that causes a cancer comes into the urine from the kidney and that can touch basically any part of that urinary system, so anywhere that urine touches, and can lead to damage that can develop bladder cancer.

So upper tract urothelial carcinoma, there's two thought processes, and again this is what my -- my research looked at, whether it's -- is it whatever

caused the damage up here also caused the damage down here, or did cancer cells, sort of, leak from up here and then find a home in the bladder.

So, 70 percent of patients who have upper tract urothelial cancer develop a bladder cancer recurrence. Why one or the other happened, we're not -- you know, it's hard to tell. But that's why you have to constantly check the bladder of upper tract urothelial cancer patients.

Q. Okay.

To check the bladder, would you be doing surveillance cystoscopies?

A. Correct.

Q. Are surveillant cystoscopies also able to evaluate the upper tract area, or is it confined to the bladder?

A. Confined to the bladder.

Q. Okay.

You understand Mr. Cagiano began surveillant cystoscopies following the removal of his left kidney in September of

2018; is that correct?
A. Correct.
Q. Okay.
And eventually Mr. Cagiano was transitioned to surveillant cystoscopies on a yearly basis; is that correct?
A. Correct.
Q. All right.
And at least from June 2024, Mr. Cagiano's -- had a MRI that showed -- confirmed the left nephrectomy without evidence of cancer recurrence; is that correct?
A. Correct.
Q. Would you agree at this point that Mr. Cagiano is now in remission?
A. So, the word "remission" is always challenging when we use the word "caner." So I think that he has no evidence of disease.
Q. Okay.
A. But still has to be surveilled and followed.
Q. Understood.

Would you agree he is unlikely to experience a distant recurrent -- distant recurrence of UTUC or bladder cancer at this point?

A. What are we defining less likely?

Q. Less than 50 percent.

A. I would say yes.

Q. Okay.

Would you agree that most bladder cancer recurrences after UTUC are in the first two years after diagnosis?

A. Most distant recurrences, yes. And to some extent, the bladder recurrences as well.

Q. Okay.

A. It also does depend on the grade, stage, you know, multi -- multiple factors in -- in that, but I would say in generally speaking, yes.

Q. Okay.

Would you agree that Mr. Cagiano's chances of bladder cancer recurrence are very low?

MR. WALLACE: Objection.

A. I would still say that he has a high chance of developing a bladder recurrence.

Q. He has a high chance of recurrence?

A. If we're going to use the more than 50 percent that you used earlier -- I -- I'm sorry, more likely or less likely, I forgot what it was, but I would say he still has more than 50 percent chance of having bladder recurrence.

Q. Okay.

Even being seven years out at this point?

A. Yes.

Q. Okay.

So you would dis -- you would disagree then that -- that bladder cancer recurrences after UTUC are rare after ten years?

A. After ten years.

Q. Yeah.

A. They -- yeah, that significantly

drops, yes.

Q. Okay.

If Mr. Cagiano did have recurrence or distant bladder cancer, would you agree that it likely would be low grade, that's how it typically presents?

A. I would -- I would say not -- not necessarily, no. You know, there's plenty of high grade bladder recurrences after upper tract urothelial carcinoma.

Q. Okay.

A. So statistically speaking, I think it would -- it's hard for me to say that it would be more like -- you know, more -- low grade 'cause high grade is also a risk as well, yes.

Q. Okay.

As you sit here, if he did have a recurrence of a distant bladder cancer, you don't know how it would present. Fair to say?

A. How it would present, no.

Q. Okay.

A. This is why we do cystoscopies.
Q. Right.
Would you agree at this point that Mr. Cagiano's type of cancer is not considered to be life-threatening?
A. Life-threatening meaning that he's going to die from the cancer?
Q. Correct.
A. I -- I would say that my concern is the sequelae from the treatment of his bladder cancer. He does have some renal insufficiency. So, you know, I personally consider that because of his cancer because if he didn't have the cancer, he wouldn't necessarily have that. So I do worry about his renal insufficiency, so.
Q. Okay.
You would agree that in your report you noted there is no predicting if or when Mr. Cagiano's renal function will deteriorate further, correct?
A. Correct.
Q. Okay.
You also made mention of Mr.

Cagiano's prostate cancer in your report; is that correct?

A. Yes.

Q. You'd agree you're not offering an opinion as to whether Mr. Cagiano's prostate cancer is somehow related to his previous UTUC, correct?

A. Correct.

Q. Okay.

You understand that Mr. Cagiano underwent an open radical prostatectomy in February of 2025; is that right?

A. Yes.

MR. CROMWELL: Doctor, if we can go off the record, maybe give me five minutes to see what I have to --

THE WITNESS: Sure.

MR. CROMWELL: -- follow up, if anything, and then I'll give it over to you.

THE VIDEOGRAPHER: The time right now is 4:13 p.m.

We are off the record.

(Recess taken.)

THE VIDEOGRAPHER: The time right now is 4:31 p.m.

We are back on the record.

BY MR. CROMWELL:

Q. Doctor, we left off talking about Mr. Cagiano, and you mentioned that the likelihood of a recurrence for Mr. Cagiano after ten years drops.

Do you recall that testimony?

A. Yes.

Q. Can you tell me what it drops to? What is the likelihood of recurrence post ten years diagnosis?

A. Just guesstimating, I would say about ten years is probably less than ten -- five to 10 percent.

Q. Five to 10 percent, okay.

And is it your understanding that Mr. Cagiano's plan is to undergo surveillant cystoscopies in the near future?

A. I can't answer that question.

Q. Okay.

A. I don't have any records or have

spoken to him.

Q. Okay.

If he continued to receive surveillant cystoscopies, do you have an opinion as to what grade of any recurrence he would have?

MR. WALLACE: Objection.

BY MR. CROMWELL:

Q. If any?

A. I do not.

MR. CROMWELL: Okay.

Doctor, thank you, very much for your time. Those are all the questions I have.

Your counsel may have a few.

MR. WALLACE: I do.

EXAMINATION BY

MR. WALLACE:

Q. Dr. Sfakianos, we've talked about a lot of things today, and I'll circle back on some of them, but one of the things we -- we haven't talked much about is your background, and so I'd like to give you the opportunity for anybody

who might be reading this transcript to understand a little bit more about your, kind of, educational experiences.

So if you could explain maybe starting from medical school on, kind of, what your education has been?

A. Sure.

So, I went to medical school at the University of Buffalo in -- in New York. Graduated in four years and then was accepted to an internship and a residency at SUNY Downstate here in Brooklyn, New York. My internship was in general surgery, and then my residency was in urology.

Kind of had a passion for -- for research and cancer my whole life. So I've been in a research laboratory since college. I actually went to college here in Hunter here in New York, and then I've been in the laboratory starting off at New York Presbyterian Cornell when I was, I think, a junior in -- in high school. Ever since then, it's been a passion of

mine to -- to study cancer.

So in residency, I was a urology resident and then decided to -- to continue my passion, which was urologic oncology. So I did a fellowship at Memorial Sloan Kettering Cancer Center. I spent one year in the laboratory doing bench research, and then I spent one year clinically with patients doing surgery, et cetera. And then joined the Icahn School of Medicine roughly eleven years now, and since then I've had both a research entrants. So I have, I think we discussed, the laboratory research that I do, part of the translational work, along with clinical trial work all focused on nonmuscle-invasive bladder cancer -- or I should say most focused on nonmuscle-invasive bladder cancer and a little on muscle-invasive bladder cancer. So I run all phases of clinical trials. I have two NIHR-1 grants that I am a PI on or co-PI on. I have numerous other small grants all focused on studying bladder

cancer.

Q. For terminology's sake, when you say you're the PI on something, what does that mean?

A. Principal investigator.

Q. Okay.

And what significance is that?

A. It means I'm the lead. So I'm the -- like in these two I'm the co-PI, so I am the lead along with my partner in terms of putting together the grants and obtaining the funding.

Q. Do you do any -- any teaching in addition to any clinical work do you?

A. I do. I teach residents, urology residents. I -- I also teach masters students, or have taught masters students, cancer bi -- cancer biology I think it's the name of the course, but I specifically focus on teaching prostate cancer and bladder cancer. And I -- I have a fellow that I teach. I teach medical students, college students, you know, plethora of -- of teaching in terms

of both clinically, so my clinical practice, or also in the laboratory.

Q. Thank you.

You testified about research that you perform.

Can you give us a little bit more understanding of what research topics you get into?

A. So, broadly speaking, 'cause I won't bore you with the details, it's all around nonmuscle-invasive bladder cancer, specifically looking at BCG unresponsive nonmuscle-invasive bladder cancer, and I think I had mentioned previously looking to identify new therapies to help the patients who -- who have that unfortunate situation where the BCG doesn't work for their cancer.

I also do a variety of other, you know, muscle-invasive work, metastatic work. That is more in -- in -- in -- in combination with our medical oncologists.

Q. Does any of your research focus, look at the intersection of between smoke

and bladder cancer?

A. I don't specifically look at the intersection between smoking and bladder cancer, but my laboratory, we've in the past used a mouse model that we basically give them the metabolites from smoking in their drinking water to give them bladder cancer so we can actually study that.

Q. Okay. All right. Thank you.

So, your lab work, does that involve -- sorry, what sort of specimens do you look at in your lab work?

A. The majority, because it is translational, we -- we look at tumor tissue. We look at some normal, quote/unquote, bladder. We look at blood, and we look at urine.

Q. Okay.

In looking at tumor tissues, those are bladder tumor tissues?

A. Yes.

Q. Okay. And so looking at bladder tumor tissues, are these specimens from some of your own patients or exclusively

from other people's patients?
A. The majority are from my patients.
Q. Okay.
And so, in looking at the tumor -- excuse me, the bladder tumor specimens from your patients, you know if somebody is, for example, has risk factor of smoking, for example?
MR. CROMWELL: Object to form.
A. I would know that for my patients, yes.
Q. Okay.
And you would also know if looking at these bladder tumor specimens from your patients if they had other risk factors besides smoking; is that correct?
MR. CROMWELL: Same objection.
A. Correct, there -- I would know that from my patients, yes.
Q. Okay.
So, under -- under microscope, how do bladder tumor specimens vary between risk factors?

A. Right, so, I review the pathology with the -- the tissue your pathologists, you know, 'cause I'm not a trained pathologist, of course, but you can't differentiate, you know, a tumor coming, and I think I mentioned this before, from one risk factor versus the other. You mostly could say this is a bladder cancer or a bladder tumor and this is the stage and grade of the disease.

Q. Is there anything that you can note -- identify from a bladder tumor specimen that would help you determine if this person's bladder cancer was caused by any particular risk factor?

A. So, I think we had mentioned this before as well. Sometimes squamous cell carcinoma. So if I know that the patient has a chronic in-dwelling Foley catheter and it's a squamous cell carcinoma, you can really correlate those two being from one leading to the other, yes.

Q. Okay.

Now what about urothelial carcinomas?

A. Nothing from urothelial carcinomas.

Q. Okay. So looking at a urothelial carcinoma under the microscope, you are not able to determine if that person's bladder -- excuse me, urothelial carcinoma was caused by any particular risk factor?

A. Correct. It -- and it's, like I mentioned before, not only by looking under, but there's no test that can really tell us it's because of one risk factor versus the other.

Q. Okay. Thank you.

I want to switch gears here. You had mentioned earlier today that the bladder cancer is a storage vessel.

Can you explain what you mean about that?

A. So, the bladder is a storage vessel, or a storage organ.

Q. Excuse me, yes.

A. Yeah.

So what that means is that the urine that we make from our kidney, so our kidneys will filter blood and put certain metabolites or, you know, electrolytes or other things into our urine, the urine will go from our kidney down to our bladder through the ureter, through the renal pelvis in the ureter, and then it will sit in our urine -- in our bladder, I'm sorry. The urine with all of its components will sit in our bladder for, in some cases, hours and, you know, in some cases less than hours. So that's why it's a storage organ. It will keep the urine there until we're ready to -- to void and excrete it.

Q. From your review of the plaintiffs' general causation expert reports, do you know whether or not any of the metabolites from the chemicals that individuals that were exposed to at Camp Lejeune ends up in the bladder?

A. Yes, there are multiple

metabolites that end up filtered through the kidney and the urine stored in the bladder until excreted.

Q. Thank you.

I want to switch gears again here. So, you include a section on general causation in your report.

Why was it important to you to include a section on general causation?

A. I think you need to -- for me it was important because I needed to understand exactly the -- the -- what -- so, I needed to understand the whole picture of what I'd been asked to do to better identify specifically what I've been asked to do.

So, what I mean that, you know, TCE, PCE, benzene, vinyl chloride, those are important components in the specific question I was asked, and I wanted to make sure that I understood that, reviewed it, and been able to fully make my opinion based on -- on all the knowledge.

Q. And much has been discussed

today about how you're not an epidemiologist or a toxicologist, but is it fair to say that you're conversant with the materials that you cite in the general causation section of your report?

MR. CROMWELL: Object to form.

A. Yes, I would say so.

Q. Okay.

When you reviewed the materials that you site in the general causation section of your report, were you able to understand them?

A. Yes.

Q. Did that get -- the materials in your general causation section of your report give you a sufficient basis to make a determination as to general causation in this case?

MR. CROMWELL: Object to form.

A. I'm sorry, I don't understand that question.

Q. That's okay. I'll rephrase.

Did your review of the resources that you cite in the general causation

section of your report give you a sufficient basis to satisfy your desire as to whether or not these chemicals are capable of causing bladder cancer?

MR. CROMWELL: Object to form.

A. I would say yes. I think that that background I reviewed, putting everything together allowed me to, yes, come up with my opinion that these chemicals can lead to -- to bladder cancer.

Q. Okay.

All right. You discussed at length today how you differentiate between potential risk factors. So I want to ask you this question.

First off, do -- do you recall that testimony earlier today about evaluating a patient with multiple risk factors?

A. Yes.

Q. When you treat somebody with urothelial carcinoma, are you -- just a moment.

Are you able to conclusively determine whether or not someone's urothelial carcinoma was due to one given risk factor versus another?

A. No, I cannot.

Q. All right.

And why is that?

A. Because I -- like I mentioned before, there is no analysis, test, way of really saying or correlating or -- or even putting together the risk factor with the cancer. You know, we know that the risk factors can lead to the -- the bladder cancer, but there's -- there's no way of saying which one or a combination of which ones or which one may have a bigger reason for developing it versus the other.

Q. All right.

In reviewing Mr. Laramore's records, did you consider smoking as a potential risk factor for his development of urothelial carcinoma?

A. Yes, absolutely.

Q. Okay.

In your re -- in your role as a clinician, have you seen nonsmokers be diagnosed with urothelial carcinoma?

A. I have.

Q. All right.

And have you seen smokers with less than a 30 year pack history being diagnosed with urothelial carcinoma?

A. Yes. I think I mentioned it before, yes.

Q. Okay.

And have you seen smokers with less than a 30 year pack history not develop urothelial carcinoma?

A. Yes.

Q. And in your experience, have you seen smokers with a greater than 30 year pack history of smoking not being diagnosed with urothelial carcinoma?

A. I have.

Q. All right.

And then would that also be true for upper tract urothelial carcinoma?

A. Yes.

Q. Okay.

Now, why is it, to you, that smoking is not, as you say in your report, an overriding factor for determining if someone, or for determining a risk factor for their bladder cancer?

A. Well, I think it's multimodal. You know, like we said, only a small portion of actual smokers develop bladder cancer. So it's not, you know, the overwhelming majority. I do think when you -- when you have the cancer, you have to consider that the risk factor because we know it leads to that.

When you have multiple factors, like I mentioned before, you don't know which carcinogens are in the urine at which concentrations in the urine and which one is interacting with which one and how much of each one needs or is it combinations of each one or, you know, do you need one more than the other. It's just there's no answer to too many questions to be able to say that one is

more likely to -- to cause the cancer or not. You have to consider them all as risk factors and potential reasons for that cancer.

Q. Can you explain how the quality of information known about Mr. Laramore's exposure to -- excuse me, exposure to solvents prior to coming to Camp Lejeune impacted your differential diagnosis -- or differential etiology? Excuse me.

A. Well, I mean, I think -- I think the quality is concerning, right, because I wish I had a few more details, but, you know, I just -- you can't ignore it. So from that standpoint, that's why I listed the solvents and I listed the diesel fumes 'cause you can't ignore them, and they are known risk factors and it may -- they may have contributed, but more detail would allow me to understand, you know, the truth of -- regarding those -- those risk factors, so.

Q. Is there any methodology that you're aware of that could differentiate

between various potential risk factors of bladder cancer to arrive at the more likely risk factor?

A. No, none that I can think of.

Q. All right.

You were asked some questions -- excuse me. You were asked some questions about metabolic syndrome.

Do you recall that, those questions?

A. I think I brought up metabolic syndrome on questions regarding obesity, yes.

Q. Okay.

Can you explain your view of the strength of support regarding the connection between metabolic syndrome and bladder cancer?

A. I think that the, sort of, it's a -- it's -- I would say that it's probably a -- a more newer risk factor, quote/unquote, meaning that it's something that's been studied, you know, over the last ten years in greater -- in greater

strength or greater -- I don't even know the word, but just been studied more over the last ten years. So I think it's a relatively newer risk factor that requires just a little bit more longevity and a little bit more, sort of, deeper understanding. So I would say that it's something that needs more studying. There's definitely a signal there, but we need to be able to parse it out slightly more and just understand it a little bit more.

Q. Okay.

What issues arise from using metabolic syndrome as a potential risk factor for bladder cancer?

A. I mean, I think metabolic syndrome incorporates a lot of risk factors put into one. I think obesity is just a one of the many different because, you know, metabolic syndrome may include environmental factors as well. You know, metabolic syndrome you have uncontrolled diabetes, you have cardiovascular disease,

likely you are a smoker or have been a smoke or you have poor dietary, and just -- I think the -- the idea behind that is just chronic inflammation. Your body' just constantly in an inflammatory state, and some of these -- you know, some of these factors may have metabolites that come into the urine that are filtered by the kidney that can cause storage in the urine at long periods of time leading to damage again, and that's just my interpretation of -- of how the metabolic syndrome and the, you know, the bladder cancer can correlate, and I just think obesity is just a small part of that metabolic syndrome.

Q. You mentioned just now that the interests surrounding metabolic syndrome, the research surrounding it is fairly new.

Why are you -- why -- you note that as a potential concern when you think about risk factors for bladder cancer, the longevity of the -- of the research?

A. I think you -- you want to have

good quality research for long periods of time. I think metabolic syndrome put together is challenging because different people define it in different words and different terms. So there's not, like, a single definition, per se, of metabolic syndrome.

I think metabolic syndrome has been around for many years. It's just in bladder cancer it's something that's relatively newer. So again, this just goes back to the idea of obesity. I just don't think obesity alone is the -- the risk factor. I think we need to look at it from a larger bigger picture.

MR. WALLACE: Okay.

I don't have any further questions for you at this time. Counsel for the DOJ may, and then I'll have potentially further follow-up.

MR. CROMWELL: I only really have two areas.

FURTHER EXAMINATION BY
MR. CROMWELL:

Q. One, you were just asked about TCE and PCE metabolites in the bladder.

Do you recall that --

A. Yes.

Q. -- questioning?

Do you know the half-life of TCE or PCE metabolites?

A. I do not know it off the top of my head.

Q. Okay.

Do you know whether all PCE or TCE metabolites are excreted through the body through the bladder or other organs?

A. I do know that they are -- there's some liver and the kidney as well, yes.

Q. Okay.

You were asked about the documents -- or, the studies you reviewed for your general causation opinion.

In forming your opinions, did you ever review an article by the National

Research Council?

A. The National Research Council.

Q. A branch of the National Academy of Science.

A. I think, yes, that does sound -- I -- sounds familiar and I think, yes.

Q. Okay.

If that's something you looked at, would you agree that probably -- do you know whether that's on your materials considered list?

A. If I looked at it, it should be.

Q. Okay.

Do you know what the conclusions were of the National Research Council with regards to TCE, PCE, benzene, and vinyl --

MR. CROMWELL: Well, strike that.

Q. Do you know what the conclusions were with regards to TCE and PCE and their association with bladder cancer?

A. I don't remember that off the top of my head, no.

Q. Okay.

But as you sit here, you recall it being a study that you evaluated in forming your general causation opinions?

MR. WALLACE: Objection.

A. I do from what I -- I think I remember that name from the study that I reviewed, yes.

MR. CROMWELL: Okay.

Doctor, that's all I have for you.

THE WITNESS: Thank you.

MR. WALLACE: No further questions here.

THE WITNESS: Thank God.

MR. CROMWELL: Yeah.

THE VIDEOGRAPHER: The time right now is 4:55 p.m.

We are off the record.

(Deposition adjourned at approximately 4:55 p.m. EDT)

INSTRUCTIONS TO WITNESS

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.

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A C K N O W L E D G M E N T

STATE OF)
:ss
COUNTY OF)

I, JOHN SFAKIANOS, M.D., hereby certify that I have read the transcript of my testimony taken under oath in my deposition of July 2, 2025; that the transcript is a true and complete record of my testimony, and that the answers on the record as given by me are true and correct.

_____
JOHN SFAKIANOS, M.D.

Signed and subscribed to before me this _____ day of _____, 20__.

_____
Notary Public, State of

E R R A T A

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C E R T I F I C A T E

I, MARIE FOLEY, Registered Merit Reporter, Certified Realtime Reporter, and Notary Public for the State of New York, do hereby certify that prior to the commencement of the examination, JOHN SFAKIANOS, M.D., was duly sworn by me to testify to the truth, the whole truth and nothing but the truth.

I DO FURTHER CERTIFY that the foregoing is a verbatim transcript of the testimony as taken stenographically by me at the time, place and on the date hereinbefore set forth, to the best of my ability.

I DO FURTHER CERTIFY that I am neither a relative nor employee nor attorney nor counsel of any of the parties to this action, and that I am neither a relative nor employee of such attorney or counsel and that I am not financially interested in the action.

Marie Foley, RMR CRR

_____

COURT REPORTER
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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.

VERITEXT LEGAL SOLUTIONS

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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