FEDERAL TRADE COMMISSION

I N D E X

IN RE POM WONDERFUL LLC, ET AL.

TRIAL VOLUME 8

PUBLIC RECORD

JUNE 9, 2011

EXHIBITS	FOR ID	IN EVID	IN CAMERA	STRICKEN/REJECTED
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UNITED STATES OF AMERICA

BEFORE THE FEDERAL TRADE COMMISSION

In the Matter of	)	
	)	
POM WONDERFUL LLC and	)	
ROLL GLOBAL LLC,	)	
as successor in interest to	)	
Roll International Corporation,	)	
companies, and	)	Docket No. 9344
STEWART A. RESNICK,	)	
LYNDA RAE RESNICK, and	)	
MATTHEW TUPPER, individually	)	
and as officers of the	)	
companies.	)	
	)	
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Thursday, June 9, 2011

10:01 a.m.

TRIAL VOLUME 8

PUBLIC RECORD

BEFORE THE HONORABLE D. MICHAEL CHAPPELL

Administrative Law Judge

Federal Trade Commission

600 Pennsylvania Avenue, N.W.

Washington, D.C.

Reported by: Josett F. Whalen, RMR-CRR

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P R O C E E D I N G S

- - - - -

JUDGE CHAPPELL: Back on the record Docket 9344.

Next witness.

MS. DAVIS: Complaint counsel calls Dr. James Eastham to the stand.

JUDGE CHAPPELL: Okay.

- - - - -

Whereupon --

JAMES EASTHAM, M.D.

a witness, called for examination, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MS. DAVIS:

Q. Good morning.

Dr. Eastham, could you please state and spell your full name for the record.

A. James Eastham, first name J-A-M-E-S, last name E-A-S-T-H-A-M.

Q. And where did you attend college?

A. University of California at Irvine.

Q. What year did you graduate?

A. I received two degrees, so my first graduation date would have been in 1982 and then again in '83.

Q. And what degrees did you obtain?

A. In '82 it was a bachelor of science in chemistry. In '83 it was a bachelor of science in biology.

Q. And you attended medical school at the University of Southern California; is that correct?

A. Yes.

Q. What year did you obtain your medical degree?

A. 1987.

Q. After graduating from medical school, you completed a residency in urology; correct?

A. Yes.

Q. What is the field of urology?

A. Urology is the study of diseases of the urinary tract, so the kidneys, the bladder, prostate, male genitalia, testicles and penis.

Q. And where did you complete your residency?

A. University of Southern California at Los Angeles.

Q. In what year?

A. 1993.

Q. How long was your residency?

A. Six years.

Q. Did you complete any additional training after your residency?

A. Yes.

Q. What training?

A. Fellowship in urologic oncology.

Q. And where did you complete your fellowship?

A. Baylor College of Medicine in Houston, Texas.

Q. Can you please explain what fellowship in urologic oncology is.

A. So fellowship is specialized training in a particular area of urology, so urologic oncology would be focusing on cancers of the urinary tract, kidney, bladder, prostate, testis primarily.

Q. And what area did you focus on?

A. Primarily prostate cancer.

Q. And how many years was your fellowship?

A. Two years.

Q. Are you board certified?

A. In urology, yes.

Q. How do you become board certified?

A. There's a series of steps that are required for board certification. Initially you have to hold a medical license, which has its own examinations. Once one has completed an accredited residency program in urology, there are qualifying examinations, board examinations, and at the time I was going for certification, there was an examination in radiology, an examination in pathology in the urinary tract, and also

an oral examinations with two examiners.

JUDGE CHAPPELL: You're certified by which board?

THE WITNESS: American Board of Urology.

JUDGE CHAPPELL: There are other boards; correct?

THE WITNESS: In urology, no, but in medicine, yes, sir.

JUDGE CHAPPELL: Thank you.

BY MS. DAVIS:

Q. Is there a board certification for urologic oncology?

A. No.

Q. Where are you currently employed?

A. Memorial Sloan-Kettering Cancer Center.

Q. And you are the chief of urology in the Department of Surgery at Sloan-Kettering; correct?

A. Yes.

Q. What is your role at Memorial Sloan-Kettering?

A. My role is dual. I have a clinical practice as well as my administrative duties in terms of managing the urology service and the trainees that we have under our guide.

Q. And these trainees, who would they be?

A. Trainees are those that are either in the

residency program or in a fellowship in urologic oncology that rotate through with us to learn about urologic oncology, the management of urologic cancers.

Q. And you are also the director of clinical research for urology; is that right?

A. Yes.

Q. And what are your duties as director of clinical research?

A. Basically overseeing any of the research projects that our service is doing, so that stems primarily from concept of design, how best to formulate a research plan to address whatever it is that's being addressed; if resources are required, money, to carry out the project, whether or not those funds are available and if they should be allocated to the project; making sure that the appropriate collaborators have been involved in the study so that it's a well-designed, well-thought-out project; and then ultimately having the opportunity to review and comment on any of the results from the study.

Q. And you're also chair of a protocol review committee; is that correct?

A. Yes. In the Department of Surgery, prospective clinical research, primarily, involves a review process that's multilayered. The initial review of a proposed

study or trial goes through the Department of Surgery, and I head the committee that reviews those submitted projects.

Q. And you mentioned a prospective study. What is that?

A. A prospective study is one in which an endpoint is defined, how a study is carried out is well-defined, and then you follow the patients from the start to the end of the study.

So that's to be distinguished from a retrospective study in which the patients have already gone through their treatment, and then you look back and follow them and see what their outcomes were.

Q. Now, the research performed in your department is both prospective and retrospective; is that correct?

A. Yes.

Q. What is the focus of the clinical research program you oversee?

A. The focus of the program is trying to improve our diagnosis, prevention, management and overall outcomes of the patients that we see, so in specifically in urology trying to better understand the disease process and better care for our patients.

Q. Do you hold any academic appointments?

A. Yes.

Q. What appointments?

A. I'm a full professor at -- our appointments, our academic appointments, are through Cornell Medical Center, so I'm a full professor of urology there.

Q. And what do you teach in your role as professor?

A. Teaching primarily involves, as I mentioned, the residents and fellows. That involves didactic lectures where I'll talk on a specific topic. We have conferences that we run, and certainly I participate in those. The residents and fellows, the trainees, will work with me in my clinical practice, including the clinics as well as the operating room.

Q. Are you assigned to any national committees?

A. Yes.

Q. What committees?

A. One is the data safety and monitoring board for the SELECT trial, which is a study of vitamin E and selenium in the prevention of prostate cancer.

I'm also a member of the NCCN, the National Cancer Coalition Network, guideline committee for the management of prostate cancer.

Q. And you mentioned the SELECT trial.

Can you just explain briefly what the SELECT trial is.

A. Yes. The SELECT trial was designed to study whether vitamin E alone, selenium alone or in combination reduced the likelihood that a man would be diagnosed with prostate cancer.

Q. Is that trial still going on?

A. The follow-up component of the trial is. The actual intervention was stopped.

Q. And why is that?

A. Futility. There was no benefit that was projected to be shown for either of the compounds.

Q. And you mentioned that you're on the -- part of the -- is it the National Comprehensive Cancer Network? Is that --

A. NCCN. I can never remember all the letters, but it's basically a national committee that publishes guidelines on the management of a particular disease. The specific panel that I'm involved with is the management of prostate cancer.

Q. Okay. And what do you do exactly for the NCCN?

A. So the committee is charged with establishing the guidelines for how a particular stage of cancer should be managed, what the treatment options are.

So depending upon the risk and the stage of the patient, there will be a listing of potential choices that a physician and a patient can make in terms of best

practice policy, and that stems from the earliest diagnosis through end-stage disease.

So we review the literature, if a new compound has been approved, whether or not that should be added to the guidelines, if some technology has been developed, how should that be incorporated into the guidelines.

Q. Are you a member of any professional medical organizations?

A. Yes.

Q. What organizations?

A. So the American Urological Association is the national urology association.

I'm a member of the Society of Urologic Oncology, the Societé Internationale D'Urologie, ASCO, which is the American Society of Clinical Oncology.

Q. And are you also a fellow in the American College of Surgeons?

A. Yes.

Q. Do you regularly attend meetings of professional, national and international societies that specialize in urology and prostate cancer?

A. Yes.

Q. What meetings do you regularly attend?

A. There's a national meeting of the

American Urological Association annually.

The Society of Urologic Oncology typically has one or two meetings a year.

The European urology association, I occasionally go to that.

The New York section of the American Urological Association, GU ASCO, so American Society of Clinical Oncology with a focus on urologic cancers.

Those are the primary national meetings that I attend.

Q. Have you ever been invited -- strike that.

Have you ever been an invited speaker at these professional meetings?

A. Yes.

Q. How many times over the years?

A. Many times. Typically annually I'll be speaking at one or more of those meetings.

Q. Can you explain what an invited speaker is.

A. An invited speaker is someone who is asked to give a presentation on a certain topic, so typically at meetings there's a discussion of something, and several people will be asked to give a presentation addressing that specific issue.

Q. And are invited speakers considered to be experts in their field?

A. Yes.

Q. Have you engaged in scholarly research and writing regarding the treatment or prevention of prostate cancer?

A. Yes.

Q. Could you please describe the scope of your research and writing.

A. So over the years I've published a couple of hundred articles in urology. More recently in the past decade those have primarily focused on prostate cancer. I've been invited to and have written several book chapters for some of the texts that we use in training, invited to write reviews on various topics from the journals that are in our field.

Q. And the articles that you are discussing, have they been published in peer-reviewed scientific journals?

A. Yes.

Q. Dr. Eastham, I would like to show you what has been marked as Exhibit CX 1288 Exhibit A.

Dr. Eastham, is this a copy of your curriculum vitae or CV?

A. Yes.

Q. Is this the CV you provided to the FTC in connection with your work as an expert consultant?

A. Yes.

Q. Does your CV contain all of the publications you've just described?

A. There's a couple that have come out in print subsequent to my submission of this, but it's fairly complete.

Q. For the record, could you please just identify the pages listing your publications.

A. The bibliography starts on the bottom of page 13 and goes through page 34.

Q. Thank you.

Do any of these scholarly writings relate to the prevention or treatment of prostate cancer?

A. Yes.

Q. Approximately how many relate to these areas?

A. Approximately a hundred.

Q. And when you say "a hundred," you mean a hundred as a finite number or a hundred percent?

A. Oh. 100 as in approximate number, not percentage.

Q. Okay. And you've conducted clinical trials during your career; correct?

A. Yes.

Q. How many of those trials have been related to prostate cancer?

A. The majority of them if not all of them.

Q. And what questions did those prostate cancer trials explore?

A. They explored a variety of questions.

So some of the trials were related to quality-of-life outcomes after treatment, so using accepted and standardized questionnaires to evaluate the outcomes of men that either were managed with just observation versus surgery versus radiation therapy, so basically looking how treatment or no treatment impacted their health, going all the way through looking at what's called a neoadjuvant trial, trying to assess whether or not the use of chemotherapy before surgery is of benefit to men with high risk but clinically localized disease. And there's various in-between trials.

Q. And can you please describe the various roles you played in these trials.

A. So in some trials I'm an investigator, which means I contribute to the study, but the study is written and directed by another party, but I have patients that meet the qualifications for the study, so I participate in that way. In other trials I am the principal investigator, which means the concept writing and management of the study is under me. I also

contribute patients, but other investigators will contribute patients as well.

Q. Have you ever been involved in a randomized, double-blind, placebo-controlled trial studying a compound for the treatment of prostate cancer?

A. Yes.

Q. Can you please describe this trial.

A. So one of the trials that involved those parameters was a trial investigating a compound called zoledronic acid, now known as Zometa, which was used in or is used in patients with bony metastatic disease, cancer from the prostate that has spread to the bones, and the question was whether or not zoledronic acid prevented bone fractures, in general something called skeletal-related events. The primary event was bone fractures, but it also included did the man require surgery on the bone to prevent a fracture, radiation, et cetera. And that trial was a placebo-controlled trial.

Q. Have you ever participated in any clinical trial studying the effect of a food or food by-product on prostate cancer?

A. Yes.

Q. And can you please describe that research.

A. Sure.

So the two that come to mind, one is the SELECT trial that was mentioned previously that looked at vitamin E and selenium. The other instance was a study of lycopene, which is a product from tomatoes, and investigating the role of lycopene on prostate cancer, specifically men that were going to have surgery for prostate cancer, radical prostatectomy, being treated with lycopene for a period of time before their operation to see the effects of the lycopene on the tissues.

Q. Now, earlier we mentioned peer review.

Can you please explain what peer review is.

A. Peer review is a process in which a submitted manuscript, so a research paper, is sent to a journal, and the editors of the journal then distribute that manuscript to other scientists that then review it for quality, whether or not the design of the study addresses the question that's being asked by the research, whether or not the question that's asked is relevant, whether or not the conclusions that are drawn by the authors are valid, and whether or not it's appropriate for that particular journal to publish that manuscript.

JUDGE CHAPPELL: Let me ask you, regarding peer review, where does the journal get the distribution list

of other scientists?

THE WITNESS: Typically the journal will have what are called associate editors.

So in urology, for instance, there will be -- our main journal is the Journal of Urology, so there will be associate editors in stone disease, and that associate editor then knows people who does research in that area. They've presented at national meetings. They've published previously on a similar topic. And he or she will then contact them to see if they're willing to review the particular manuscript.

Typically a summary of the manuscript is sent to the potential reviewer, and then the reviewer can decide whether or not he or she would like to review that paper.

JUDGE CHAPPELL: And how does a scientist who wants to do peer review of articles get on the list?

THE WITNESS: One of two ways. They can either -- the scientist can either contact the editor directly and say, I'm scientist A and I'd like to be on your list to review these types of articles, or basically the editor will do a literature review, who's published in this area, and find people that have a track record of publication and contact those folks directly.

JUDGE CHAPPELL: Do you have some experience in this peer review distribution process?

THE WITNESS: In the distribution process, I'm not an editor, no, sir.

JUDGE CHAPPELL: Okay.

THE WITNESS: I have -- articles have been sent to me that I thought were a little beyond where my area of expertise is, so I have submitted to the editor that I would not review the article but gave the editor potential names who may be a more appropriate reviewer.

JUDGE CHAPPELL: Let's say that the scientist who wants to do review is someone out there on what's considered the lunatic fringe. Is there a vetting process for these peer reviewers?

THE WITNESS: If -- sometimes that's actually a benefit to having the review because it's a -- sort of a -- not in line with what everyone thinks, so sometimes their reviews are very provocative, so a -- I don't want say lunatic, but a fringe-type scientist who has possibly different beliefs, sometimes their view is critical to determine the value of the manuscript.

So there are physicians that are known to manage prostate cancer in a way that would not be considered traditional, but that doesn't mean they're wrong. It just means that they have a difference of

opinion, and then the editor has to weigh their summary of what they believe the article means compared to the other perhaps less fringe-like scientists that are reviewing the paper, and then the editor ultimately makes a decision based on the variety of reviews that the editor has received.

JUDGE CHAPPELL: And the scientist who does the peer review submits it back to the editor. Is that -- are the credentials of that scientist included somewhere?

THE WITNESS: Before -- yes. Before someone is considered an editor, they are vetted in one way or another. It depends somewhat on the journal.

So there are some journals that are considered of very high caliber and they have a much stronger vetting process. Others are happy to get anyone to review, and so there's a -- it's sort of a graded benchmark, if you will, of who can be a reviewer and who can't.

JUDGE CHAPPELL: And if you submit the article, the original article, do you get to see these peer reviews?

THE WITNESS: Yes and no. And I'll explain that.

Typically when an article is submitted for

publication and it's being considered, most articles are not accepted right off the bat. It will go through a process where you are provided the comments, blinded comments, meaning, you don't know who the reviewer is, but the reviewer will typically have comments asking you to clarify or perhaps address further a particular point within the paper, and you are given the opportunity to do what's called a revision. And you revise the paper, send it to the editor, and the editor will decide whether or not that's sufficient or whether it should go back to the reviewer for further clarification.

So there's a back-and-forth process of how the peer review process works. At times you'll send an article -- or a scientist will send an article to a journal. The editor will read the article and reject it outright, not necessarily because of poor scientific quality, but it just doesn't fit in with what that journal is trying to do.

So it's a process that is well worked out and it seems to work.

JUDGE CHAPPELL: Let's say -- one more question.

Let's say you had your review submitted. You go through this process. There are a number of critical reviews. You do a revision. The publisher of the

journal decides to print it.

Does the reader know about the critiques, or is just that article printed?

THE WITNESS: Typically at the bottom of a scientific article it will -- there's usually a couple of sentences that say "article originally submitted" and a date, "article revised and accepted" or "revised and accepted for publication" and another date.

And in most journals at least periodically there's an instruction for authors, and so the author will know that there's a peer review process in the journal before accepting an article and what that peer review process is.

JUDGE CHAPPELL: But it sounds like you're telling me that the reader of that journal generally then won't know that there were 50 peer reviews and, let's say, 35 disagreed or were critical.

THE WITNESS: That is correct.

For most journals, it's typically two or three reviews. There are some journals that have up to eight reviewers. But most journals it's two or three. Most everyone reading the journal knows that this is the review process, that there's been some back-and-forth, and that the manuscript as it was originally submitted has likely been adjusted based on the comments of the

reviewer and that the final product is a summation of that process.

JUDGE CHAPPELL: And someone else has answered this, but how would you define the difference in a peer-reviewed article and a review article?

THE WITNESS: So a peer review basically is the process that I tried to describe to you, sir. It's the evaluation of a manuscript by selected experts, if you will, authorities in that particular area.

A review article is a topic, prostate cancer, and an author is asked typically by the editor of the journal, We would like you to write on this topic, and so it's an invited manuscript. That still typically gets reviewed, but a review article is sort of a broad overview of an area, not specific research that the author necessarily did on their own.

JUDGE CHAPPELL: Okay. Thank you.

BY MS. DAVIS:

Q. And would it be correct to say that the purpose of peer review is to ensure scientific validity?

A. Yes.

Q. Have you ever peer-reviewed articles for scientific journals?

A. Yes.

Q. What journals?

A. Journal of Urology.

Urology.

Journal of Clinical Oncology.

Journal of the American Medical Association.

Cancer.

British Journal of Urology.

There's probably a few more.

Q. Approximately how many articles have you peer-reviewed in your career?

A. Certainly over a hundred. It typically ends up being about one per month.

Q. And did any of the articles that you have peer-reviewed report on the results of randomized, double-blind, placebo-controlled studies?

A. Yes.

Q. Dr. Eastham, let's discuss your clinical practice.

How many patients do you currently see during the course of a year?

A. Approximately 2,000 clinic visits a year.

Q. And what percentage of your patients have prostate cancer?

A. Essentially all of them.

Q. And what stage of cancer do your patients -- do the patients that you treat typically fall within?

A. Typically what's called clinically localized disease, meaning, the clinical staging would be T1 to T3, not typically any evidence of metastatic disease, so it's an earlier stage of prostate cancer.

Q. And what is metastatic disease?

A. Metastatic disease is when the cancer has spread beyond the primary organ to other sites.

Q. And localized prostate cancer would be confined to the actual prostate gland?

A. At least the area of the prostate gland. Microscopically there may be some cancer outside the capsule of the prostate which is still considered to be clinically localized.

Q. And your area of specialty is prostate cancer surgery; is that correct?

A. That's one of the areas of my clinical practice. Yes.

Q. What surgeries do you perform?

A. The primary surgery I perform is radical prostatectomy.

Q. And what is a radical prostatectomy?

A. "Radical prostatectomy" means the complete removal of the prostate gland itself with some surrounding structures.

So the prostate is connected to glands called

the seminal vesicles. There's also a little bit of fat around the prostate. The prostate is connected to the bladder, and it's also connected to the urinary tube or urethra.

So in doing a radical prostatectomy, basically you have to remove all of that, those tissues, or little portions of those tissues to completely remove the gland.

Q. And you also perform nerve-sparing radical prostatectomies; is that correct?

A. Yes.

Q. And what is that exactly?

A. So in referring to nerve-sparing, those are the nerves that are responsible for erections in men.

So the nerve bundles that allow a man to have an erection basically run outside but are attached to the prostate, so in performing a nerve-sparing radical prostatectomy, the surgeon has to disconnect or separate those nerve structures from the sides of the prostate on each side -- there's a left and a right nerve bundle -- while at the same time removing hopefully all of the cancer.

Q. And do you also perform salvage surgery?

A. Yes.

Q. What is that?

A. "Salvage surgery" refers to performing a radical prostatectomy, so the same operation, but it's done in patients who have failed prior treatment. Typically the most common treatment the patients have undergone and failed is radiation therapy.

Q. How many of these surgeries -- and I'm talking about all the radical prostatectomies that you've just described -- do you perform each year?

A. My average caseload is about 200 of these surgeries annually.

Q. Do you continue to treat these patients after surgery?

A. Yes.

Q. And how long do you continue to treat them?

A. They're followed in the center typically for at least five years. In my regimen of following patients, I follow them for at least a year after their treatment.

If they have relatively lower-risk disease and are doing well from a quality-of-life standpoint, they're typically graduated into what's called our survivorship clinic, which is run by one of our nurse practitioners. And she follows the patients in terms of recurrence and whether -- and other health issues, making sure that they address other health needs as

important for that patient.

If a patient is at higher risk for recurrence or has had a problem in one of the quality-of-life areas, I'll typically follow them a little bit longer just to be sure that they're doing well.

Q. Okay. And what are these quality-of-life areas?

A. So for patients that undergo traditional surgery, not the salvage surgery -- that's a different set of complications -- but for standard radical prostatectomy, the two primary issues in terms of quality of life are urinary incontinence, urinary control, and sexual function.

Q. Now, you said that if there's I guess a higher risk of recurrence or if there's recurrence, you would follow these patients for a brief period of time.

Would you also refer these patients to a medical oncologist?

A. I would only refer to a medical oncologist if the man had evidence of recurrence after a primary treatment.

So if someone has undergone surgery and they now have evidence of recurrence, depending upon a variety of different things, they will likely be referred to someone who specializes in that particular

area.

Q. And do you typically follow your patients after you've referred them to these other specialists?

A. It depends on whom they've been referred to.

So some patients I'll refer to radiation oncology to have treatment with radiation therapy after surgery. Typically those patients will come back to me, and I'll follow them along after their radiation therapy, and typically both the radiation oncologist and I will sort of have staggered appointments every six months, so see me, radiation, see me.

If someone has been referred to a medical oncologist, typically they're getting some form of what's called systemic or whole body therapy, hormonal therapy, chemotherapy, and those types of treatments have very specific complications and thus very specific monitoring that is much better done by a medical oncologist.

So I will get reports in our electronic medical record. If someone is seen at our center that I've seen previously, I'll get a copy of that, but I won't physically be involved necessarily in managing their cancer care.

Q. Are there meetings at Sloan-Kettering where the clinical management of patients is discussed?

A. Yes.

Q. Can you please describe these meetings.

A. So there are a couple of different types of venues, so one is what's called urology grand rounds, and during that meeting or conference we discuss patient management. That could be a difficult case, meaning, one in which there might be some controversy on how to proceed, or it may be a rare case that would be of general interest to those in the audience.

The audience typically involves urologists and urologic surgeons, medical oncologists, radiologists, radiation oncologists, pathologists, so all of those that are involved in the care of the patient get together and basically can evaluate the case and render a discussion or an opinion on management.

Q. And how often are grand rounds held?

A. Weekly.

Q. And is there something else called a prostate cancer working group at Memorial?

A. Yes.

So a prostate cancer working group is again a weekly meeting that specifically focuses on issues of prostate cancer. That's less likely to be case presentations and more likely to deal with research, so if there is a question that we believe is interesting to

address.

So, for example, if we want to evaluate the likelihood that a man will regain his urinary control after surgery, we will discuss how that study should be put together, what the eligibility criteria should be, what the endpoint of the study, the appropriate statistical analyses that are required, what data we need and how that data should be collected, what are the variables involved. And it's basically a working group. You design a study and talk about it, and then typically one of the fellows or residents gathers that data and does the initial part of the project.

Q. And you've been at Memorial Sloan-Kettering since 2000; is that right?

A. Yes.

Q. Where did you work prior to joining Memorial?

A. My first job out of fellowship, which was in 1995, was at Louisiana State University Health Sciences Center in Shreveport.

Q. And what position -- strike that.

And what did you do at LSU?

A. My academic appointment was initially as an assistant professor, and about -- I was there for five years. After about the third year I believe I was promoted to associate professor. I served as the

director of urologic oncology at LSU, and I was the director of urology at our affiliated Overton Brooks Veterans Administration Hospital.

Q. So you treated patients there as well; correct?

A. Yes.

Q. And how does your current practice differ at all from your practice at LSU and the VA Hospital?

A. So my practice at LSU was more general urologic oncology, meaning that I saw patients and managed patients with kidney cancer, bladder cancer, testicular cancer, penile cancer and prostate cancer. Just because of the incidence of the disease, most of the patients had prostate cancer.

Since joining the faculty at Memorial, I've almost exclusively focused on prostate cancer.

Q. Dr. Eastham, over the course of your career, how many men have you treated for prostate cancer?

A. From a surgical standpoint, I've certainly performed in excess of 2500 radical prostatectomies.

Not all of my patients go with surgery. I have a large group of men, probably a couple of hundred, that we manage with what's called active surveillance, which means that they have a low-risk prostate cancer, and they're basically observed and periodically reassessed to see if their risk has changed. And as long as they

stay very low-risk, we don't treat them.

Q. Dr. Eastham, based on your knowledge, skill, experience, training and education, do you believe that you are an expert in the field of urology, specializing in prostate cancer, including the prevention and treatment of prostate cancer?

A. Yes.

Q. Based on your knowledge, skill, experience, training and education, do you believe that you are an expert in clinical testing relating to the prevention and treatment of prostate cancer?

A. Yes.

MS. DAVIS: Your Honor, at this time complaint counsel would like to tender Dr. Eastham as an expert in the field of urology, specializing in prostate cancer, including the prevention and treatment of prostate cancer.

MR. FIELDS: No objection, Your Honor.

JUDGE CHAPPELL: Okay.

MS. DAVIS: And also --

JUDGE CHAPPELL: Hold on.

Did you want to reserve that objection or lack thereof?

MR. FIELDS: We're not going to object to any of these things, Your Honor.

JUDGE CHAPPELL: Okay. Go ahead.

MS. DAVIS: Just so the record is clear, we're also tendering Dr. Eastham as an expert in clinical testing relating to the treatment and prevention of prostate cancer, based on his education, training, experience and ongoing clinical and research activities.

JUDGE CHAPPELL: All right. To the extent any opinions offered meet the proper legal standards, they will be considered.

MS. DAVIS: Thank you.

BY MS. DAVIS:

Q. Dr. Eastham, I'm going to show you what has been marked as Exhibit CX 1287.

Can you please identify CX 1287 for the record.

A. The title of that exhibit is Expert Report of James A. Eastham, M.D., and it gives my opinion regarding questions that I was asked to address by the FTC.

Q. And does this document summarize the opinions you have provided in connection with this matter?

A. Yes.

Q. And does your testimony in this matter relate in part to prostate cancer and its prevention and treatment?

A. Yes.

Q. Doctor, you've already talked a little bit about what the prostate is, but I want to go through it a little more thoroughly now.

So please explain what is the prostate exactly.

A. So the prostate is a gland that's located in the male pelvis that basically is an organ of sexual function and fertility. The prostate basically makes the fluid that nourishes sperm so that once a man ejaculates, the sperm can live and potentially find an egg to fertilize.

Q. And what is prostate cancer?

A. Prostate cancer is when cells of the prostate, typically the glandular cells, become cancerous, which means they have uncontrolled cell growth.

Q. Can you please describe the course prostate cancer typically takes.

A. There's not a typical course. It's a disease that can have a quite variable history.

So there are many prostate cancers that, while we see them under the microscope, they really don't represent a threat to the life expectancy or the quality of life of the patient. And that's where that whole concept I mentioned previously, active surveillance, how many patients, even though they've been diagnosed with

cancer, are probably most appropriately left untreated, monitored but untreated.

For men that have what would be considered low or intermediate-risk prostate cancer or even some high-risk patients, those patients that have clinically localized disease, meaning, we believe based on our evaluation of the man that the cancer is only in the area of the prostate, but it's of a risk that we're not just going to monitor it, those men are candidates for potentially curative therapies. The two mainstays of cure are either radical prostatectomy, surgical removal of the prostate, or radiation therapy to the prostate which can be given in a variety of different ways.

Q. So --

A. The majority of men are in that grouping that we diagnose these days. There's a smaller percentage of men that actually have metastatic disease or cancer that's spread beyond the prostate at the time of diagnosis, and those men are typically treated with systemic or whole body therapies, the most common of which is hormonal therapy.

Q. How many men are diagnosed with prostate cancer each year in the United States?

A. Last year the number was about 220,000.

JUDGE CHAPPELL: Do you consider the prostate to

be an internal organ?

THE WITNESS: An internal organ? Yes, sir.

JUDGE CHAPPELL: Is it correct that there is a higher incidence of cancer in the prostate than other internal organs?

THE WITNESS: Yes, sir.

JUDGE CHAPPELL: Do you know why that is?

THE WITNESS: It's unclear. It is the -- prostate cancer increases with age more rapidly than any other cancer, and so as a by-product, if you will, of our improvements in cardiovascular disease, men are living longer, and so many men are now living long enough where they can develop prostate cancer.

So as life expectancy has increased, the number of cases of prostate cancer that we diagnose has increased as well, and it's expected that that will continue for the next couple of decades.

JUDGE CHAPPELL: So the odds of getting it increase with or they are a function of longevity.

THE WITNESS: They're a function of longevity and also a function of testing.

BY MS. DAVIS:

Q. Dr. Eastham, is it true that approximately one in six men over the age of 60 will be diagnosed with prostate cancer each year?

A. Yes.

Q. How many men die from prostate cancer each year?

A. It's about 30,000.

Q. And at what age are men typically diagnosed with prostate cancer?

A. The average age of diagnosis is in the sixties.

Q. And is it true that localized prostate cancer generally causes no symptoms?

A. That's correct.

Q. And are there tests used to screen for prostate cancer at this stage?

A. Yes.

Q. What are those tests?

A. The two primary tests are either a digital rectal examination where the physician inserts a finger in through the anus and the prostate can be examined, palpated, and one is looking -- not looking -- feeling for lumps or bumps, basically firm areas within the prostate. The more common way these days to evaluate a man's risk for prostate cancer is with a blood test called the PSA or prostate-specific antigen test.

Q. What is PSA exactly?

A. PSA is a protein, and it's made by the prostate. It has a well-known function within the prostate. As it

leaks, if you will, into the bloodstream, the value that the PSA measures is associated with something going on in the prostate, so it's prostate-specific, but it's not disease-specific.

Q. And is PSA screening commonplace?

A. In the United States, yes.

Q. Is there a recommended age for men to be screened here in the United States?

A. It depends somewhat on the medical society that you read, but for the American Urological Association, the recommendation is that screening with PSA be discussed with a man starting at about age 40 and that the man be offered PSA testing at that time.

Q. How much information do men -- do the men that you currently treat have about their PSA?

A. The men that I treat typically come out with an Internet printout about PSA, prostate cancer, and have read books, and they're very aware of PSA, its strengths, its weaknesses, and the nuances about using PSA as a screening tool.

Q. Is PSA screening controversial?

A. Yes.

Q. Why is that?

A. The concern with mass screening with PSA, meaning, just screen every man at a particular age, is

the concern about overinvestigation, meaning, biopsy in men that really don't have prostate cancer, and more importantly overdiagnosis of prostate cancer that really never would threaten the man's health.

Q. And is it true that there's a lot of sort of random fluctuations or variability in a man's PSA --

A. Yes.

Q. -- history?

A. Yes.

Q. And do you know why that is?

A. There are theories. Much of that is unknown. Studies about the stability of PSA in an individual patient have been done, and there seems to be, as there are with most blood tests, a sort of an up-and-down pattern of a test that really has no rhyme nor reason.

There are certain things that can cause the PSA to go up. Sexual activity will cause the PSA to go up a little bit. Some studies have suggested that very long bike rides can cause the PSA to go up. With aging, I mean, this is a longer-term process, but with aging the prostate typically grows and the PSA goes up. Inflammation in the prostate called prostatitis, that can cause the PSA to go up.

And some men just have what we call, in quotations, a leaky prostate. They just leak a little

bit more PSA into the blood. They don't have a disease or a problem. They just have an elevated PSA compared to what would be considered normal.

Q. Are there certain medications that a man might take that could impact his PSA levels?

A. Yes.

Q. What are they?

A. There's a class of compounds called -- that are used to really shrink the prostate. They're called 5-alpha reductase inhibitors, the two most common of which are finasteride and dutasteride, which basically cause the prostate to shrink, and they do that in a hormonal way, and those men are expected to have a decline in their PSA test.

Some over-the-counter products have been suggested as impacting PSA. There are some compounds that contain hormone-type products that are associated with androgens or testosterone, so you can get DHEA, not quite to the levels that athletes use, but there are hormonal products that can impact the PSA if they're used in large quantities.

Those types of things.

Q. What about cholesterol-lowering drugs or --

A. Sure.

JUDGE CHAPPELL: Hold on. Before you move on,

you described medications. Are those for the rest of the man's life or are they for a short period of time?

THE WITNESS: Typically they're given for the rest of the man's life. The two medications that I was specifically referring to, the 5-alpha reductase inhibitors, those are meant to be lifelong, yes, sir.

JUDGE CHAPPELL: Side effects?

THE WITNESS: Side effects of those are typically mild.

Some men note some hypersensitivity in their nipples. Typically they comment on it, but it doesn't stop them from using the medication.

There is a low risk of erectile dysfunction, but that is controversial as well whether or not it's related to the medication, but it is noted in the studies that have evaluated that that there's about a -- I believe it's about a 3 to 4 percent higher rate of erectile dysfunction in men that are using those types of compounds.

They do decrease the volume of the ejaculation, because they do shrink the prostate, so that when a men has sexual stimulation and reaches orgasm, the amount of fluid that's ejaculated is of lower amounts.

Those are the primary side effects of those drugs.

JUDGE CHAPPELL: Did you say hormone treatments?

THE WITNESS: It is a -- it's -- in the world of talking about hormones, they would be called hormone light. Basically they stop the conversion of testosterone to a more potent hormone, androgen, called dihydrotestosterone. They actually increase testosterone levels, so it's not -- when we talk about treating advanced prostate cancer, it's a totally different type of hormonal therapy in terms of what they do to testosterone.

JUDGE CHAPPELL: I guess what I'm getting at is, if someone comes to the doctor and they're diagnosed with a prostate issue, is this something where you're going to recommend the medicine, or if there was something you could do just for a healthy prostate, is there something you'd recommend?

THE WITNESS: So if a man comes in to me and says, I have no symptoms, I am concerned about developing prostate cancer, is there anything that's been proven to work?

JUDGE CHAPPELL: Right.

THE WITNESS: And the answer is, I discuss two clinical trials using both of those drugs that I mentioned, finasteride and dutasteride, that were used

in a -- in two very large clinical studies to see if they prevented prostate cancer. And both studies, little different eligibility, but both studies reduced the likelihood that a man would be diagnosed with prostate cancer by about 25 percent.

Now, the kicker is that of those men that were diagnosed, the men that received the treatment, the drug itself, had a little higher likelihood of having a less favorable cancer.

So the concern is that the drug is preventing perhaps the small indolent prostate cancer that probably didn't need to be identified anyway but may actually increase the risk of more virulent cancers. Now, that's an argument that is still going on despite these studies having been completed several years ago.

Ultimately, as a chemoprevention, those drugs were not approved for use, and it was primarily because of the concern of the development of higher-risk cancers.

JUDGE CHAPPELL: But if someone has a healthy prostate, let's just say prostate maintenance, would it be medically prudent or correct to prescribe those meds?

THE WITNESS: No.

BY MS. DAVIS:

Q. Dr. Eastham, is it true that

cholesterol-lowering drugs can also have an impact on a man's PSA?

A. Yes.

There have been a couple of studies looking at the cholesterol agents. The other compounds are some of the pills used in diabetes that have been looked at in terms of their impact on PSA.

So some studies would suggest that you need to adjust what your biopsy threshold or cutoff is if a man is on one of these medications because their PSA may be artificially -- not artificially but reduced compared to a man who is not on a cholesterol agent or an antidiabetic oral agent.

Q. Let's talk about men with an intact prostate.

What is considered to be the normal range for PSA?

A. Simplistically it's a level of 4, but there's a lot now that we know about PSA values that make it a bit more complicated than a single number for every single man. And it's more a threshold of risk.

So there's no PSA in which a man doesn't have prostate cancer or does have prostate cancer, so a man can have a PSA that's very, very low, and if you biopsied him, he still may have prostate cancer.

So it's all a degree of risk. The higher the

PSA goes, the higher the risk that the man has prostate cancer, but it's not definite.

Q. So an elevated PSA level does not always mean that the man has prostate cancer; correct?

A. Correct.

Q. Can PSA levels be indicative of other things, such as benign growth or inflammation?

A. Yes.

Q. Now, how do doctors confirm the presence of prostate cancer?

A. With a biopsy of the prostate.

Q. And what factors do you take into consideration before recommending a biopsy?

A. A variety of things are looked at.

So the current PSA value. If the man has a history of prior PSA values, has there been a trend. There are subtypes of PSA, the most common of which is called free PSA that we look at. Certainly findings on digital rectal examination.

The man's age and overall health, really trying to get at his life expectancy. Some men just are not well enough that even if you diagnose them with prostate cancer, you probably wouldn't treat them, so they need to be of an age that they would be benefit -- they need to be of a life expectancy where they would benefit from

treatment.

Ethnicity plays a role. Family history plays a role. Have they had a prior biopsy.

So all of those factors go in on an individual basis of whether or not a recommendation for a biopsy is made.

Q. And I know you alluded to this earlier, but what treatments are available if a biopsy confirms the presence of prostate cancer?

A. When a man is diagnosed with prostate cancer, the first thing one does is try to establish his staging. And very simplistically, there's three boxes you can put patients into.

At one extreme are those men that already have metastatic disease. That's the minority of men diagnosed in the United States. Probably no more than 10 percent of men will have x-ray or other type of imaging studies that actually show the cancer spread somewhere else. Those men typically are managed by the medical oncologist and are treated with hormones, chemotherapy, et cetera, systemic agents.

At the other end of the spectrum are those men that have very low-risk prostate cancers. Yes, you see them under the microscope, but it's of such small quantity and looks relatively indolent, and those are

the men that are candidates for active surveillance.

In between those groups, which is the largest group, are those men that have a clinically localized prostate cancer that you want to intervene on that natural history, meaning, you want to do something to get rid of that cancer. And then there's a number of treatment options.

We've talked about surgery, radical prostatectomy, radiation therapy to the prostate. You can freeze the prostate, which is called cryotherapy. In some countries you can heat the prostate, which is typically done with something called high-intensity focused ultrasound or HIFU.

And a newer strategy is what's called focal therapy, where you actually in selective patients that you are fairly certain the cancer is only located in a given part of the prostate, you just ablate or destroy that area of the prostate where the cancer is located.

Q. And is there a treatment known as brachytherapy?

A. Yes.

Q. And what's that exactly?

A. Brachytherapy is also called a seed implant. Basically it involves placing radioactive pellets, very small pieces of metal that are radioactive. Those

pellets are placed within the prostate. It's called a permanent seed implant, and then the radiation is delivered, and as time goes on, the radiation therapy decays and ultimately the radiation goes away.

Q. What side effects are associated with the therapies you've just described?

A. The side effects are associated with the type of treatment.

So for radical prostatectomy, I believe we've previously discussed the risks of urinary incontinence, urinary leakage, and sexual dysfunction.

For radiation therapy, the risks are bowel and bladder irritability and sexual dysfunction.

For focal therapy, the main risk is a small risk of erectile dysfunction. There is a small risk, although very small, of getting scar tissue within the area.

For active surveillance, the main risk is anxiety, patients being concerned that their cancers aren't being treated.

Q. Is there one treatment that is more popular than others?

A. For the patients that opt to undergo a therapy, radical prostatectomy is still used most commonly.

Q. And why is that?

A. Well, it's somewhat controversial. Most patients are diagnosed by a urologist, and most urologists perform surgery, so they're typically recommended to undergo the treatment that the diagnosing physician is capable of delivering.

But from a patient perspective, if you listen to your patients, things like, It's an organ I don't need anymore, I would rather have it out of my body, just remove it, that's a common theme. If the cancer truly is just in the prostate, I'll be cured. I don't have to worry about my prostate like I would if I just -- if it's focal therapy or even if I did radiation.

Some men will point to the fact that after surgery it's very easy to monitor a man. His PSA test after surgery should go to zero. And they like the -- basically the black and white of recurrence which you don't see with some of the other treatments.

JUDGE CHAPPELL: Let me ask a follow-up. You said something earlier. This is based on my having the advantage of realtime.

Just so the record is clear, you were asked about the effect of drugs on a PSA test. I think you said cholesterol drugs and diabetes drugs possibly would lower the score?

THE WITNESS: Yes.

JUDGE CHAPPELL: My follow-up is: Does that mean that the test would be inaccurate, or does that mean the prostate is more healthy, because the score went lower?

THE WITNESS: We don't know -- number one, we don't know what prostate health really means. But it's more of an impact on the PSA itself.

So it's more of you need to adjust a little bit your PSA values if you're on those medications.

JUDGE CHAPPELL: So you might be more likely to have a false negative.

THE WITNESS: Correct.

BY MS. DAVIS:

Q. Now, what happens to a man's PSA level after they've undergone these initial therapies that you've just discussed?

A. Hopefully it goes down. The amount that it goes down will depend on the type of treatment that the man has received and the effectiveness of that therapy in curing his cancer.

Q. And if a man has undergone a radical prostatectomy, what should his PSA level be after surgery?

A. Ultimately it should go to zero. It takes a little bit of time for the PSA that was already in his

circulation to be cleared. Typically we'll get the first PSA after surgery approximately six to eight weeks after the operation, but at that time the PSA should be nondetectable.

Q. Let's say that a man has undergone a radical prostatectomy and now his PSA is nondetectable. Is there any further treatment?

A. No. Except in very selected situations. Some physicians based on the pathology report may recommend what's called adjuvant therapy, and what that means is, even if the man's PSA is zero, they will add a treatment because the man's risk of recurrence is very high. That's not traditionally done, but in some settings a patient may be recommended to have adjuvant radiation therapy because of findings on their pathology.

Q. And so is that recommendation to them based mostly on the tissue that --

A. Correct.

Q. -- has been removed?

A. Most urologists don't manage patients that way, but some do, and it's discussed at meetings that patients have a benefit if they're treated with immediate radiation therapy as compared to waiting and then doing something else later.

Q. So the man has a nondetectable PSA after surgery. You said there's no treatment, so what do you do for this patient?

A. Basically monitor their PSA level. In terms of the oncologic doing of something, we basically just do a blood test.

The other aspects of their follow-up will include their quality-of-life issues, so managing or trying to help them improve their urinary control if they're having issues with that and certainly advising on treatments or -- yeah, advising on treatments for erectile dysfunction.

Q. And why do you monitor the PSA levels?

A. Because PSA is produced only by prostate cells, so if a man truly has had all of the prostate cells removed from his body, the PSA should go to and stay at nondetectable. If, however, there is a prostate cancer cell or prostate cell somewhere in the man's body, ultimately that cell will make PSA. And as time goes on, there may be enough cells making enough PSA that you can measure it, and that man is considered to have a PSA or a biochemical recurrence.

Q. So a biochemical recurrence indicates that there are still prostate cells located someplace in the body making PSA; is that right?

A. Yes.

Q. Are those cells necessarily cancerous?

A. Not necessarily. There are some instances and specifically -- again, it's a bit more complicated than absolutes because it will depend on what treatment the patient has had.

So if we're specifically talking about someone who has had their prostate removed, a radical prostatectomy, any PSA being detected is abnormal.

There are some cases where some benign tissue has been left behind by the surgeon, and that will become a detectable PSA, but that's not a cancer recurrence, and it occurs relatively rarely. Most men that have an elevation in their PSA after surgery have prostate cancer cells somewhere.

Q. Is biochemical recurrence the same as clinical recurrence?

A. No.

Q. And can you please explain that.

A. Biochemical recurrence simply means that the man has a detectable PSA value after surgery.

For the other types of treatments, for radiation therapy, for cryotherapy, et cetera, there are other definitions of what's called biochemical failure. But what biochemical failure means essentially is that the

PSA is elevated, but you can do whatever imaging studies that you want, and those imaging studies will be negative.

Clinical recurrence or clinical progression basically means you can see something on imaging studies, or the man has symptoms that's definitely related to cancer recurrence.

Q. Now, recurrence after initial treatment for prostate cancer can be localized or distant; is that right?

A. Yes.

Q. Can you please explain what a localized recurrence is.

A. Localized recurrence means that to the best of the clinician's ability to assess that the PSA-producing cells are only in the area where the prostate used to be, so basically in the area of the pelvis.

Distant recurrence means it's beyond that. It's somewhere else.

Q. And that would be the same thing as metastatic disease?

A. Yes.

Q. Is a patient's chance of survival -- strike that.

Does a patient's chance of survival differ based

upon the type of clinical recurrence?

A. Yes.

Q. And can you please explain that, so for localized recurrence.

A. Correct.

So if a man has local recurrence only after surgery or after any of the other types of therapies, there still is a chance of cure by doing other therapies to that local area.

So a man who has undergone a radical prostatectomy, surgery to remove the prostate, that then has a biochemical recurrence, some of those men can be cured by doing -- adding radiation therapy. That's called salvage radiation therapy at that point.

For a man who has been treated with radiation or cryotherapy or focal therapy and they exhibit a local recurrence only, those men can be cured if additional local treatment only is given to the prostate itself.

Men with distant disease, so men that have cancer cells somewhere else, they're not curable. They don't all die of their prostate cancer, but they're not curable.

Q. What percentage of men who have been treated for prostate cancer will experience a biochemical

recurrence?

A. It will depend somewhat on the patients that you select for treatment, so if you select a very low-risk group of patients and you treat them, their risk of biochemical recurrence should be relatively low. But if one looks in the literature that's been published, the risks of biochemical recurrence after radiation or radical prostatectomy are typically in the range of about 30 percent.

Q. Will PSA biochemical recurrence necessarily result in a clinical recurrence?

A. No.

Q. And why is that?

A. Because some prostate cancers grow very slowly, and they are not destined to result in symptoms for the patient or even radiographic evidence that the cancer is, you know, causing a problem by spreading to other parts of the body, so not everyone with a biochemical recurrence will ultimately develop either clinical progression or die from their prostate cancer.

Q. And in fact it's possible that you can have a biochemical recurrence and because of your age or other factors you could possibly die before ever having a clinical recurrence; is that right?

A. Yes.

Q. What percentage of men who experience a PSA biochemical recurrence would have a clinical recurrence?

A. That's difficult to study because -- and it's one of the nuances of treating prostate cancer in that many men will get treated based on biochemical progression or risk because of their biochemical recurrence, so that may delay their likelihood of clinical progression or dying from prostate cancer.

The best study that has looked at the natural history of recurrent prostate cancer after radical prostatectomy is a study -- the first author I believe is Pound, and it's out of Johns Hopkins. And they basically treated patients with radical prostatectomy, and if the man recurred, they did not treat him until he developed symptoms or a positive scan. And in that series, if I'm remembering, about a third of the patients never developed clinical progression.

Q. What is PSA doubling time?

A. PSA doubling time is a calculation of how rapidly the PSA is increasing. It's a mathematical formula. You need at least two but preferably more PSA values to do a calculation, and it tells -- the calculation gives a number on how rapidly the PSA is changing.

Q. So how rapidly the PSA is doubling; is that --

A. Correct.

Q. And how is PSA doubling time used in clinical practice?

A. It's used primarily to establish prognosis.

So if a man has, for example, recurrence after radical prostatectomy, you can assess his likelihood of then having a more rapid progression to clinical disease or death from prostate cancer based on that baseline or initial calculation of his PSA doubling time.

Q. And establishing risk helps determine what treatments should be administered; is that right?

A. Yes.

Q. Do clinicians use PSA doubling time to assess risk in patients who have been diagnosed but have not yet received initial treatment for prostate cancer?

A. There are some studies to suggest that that is beneficial. Other studies suggest that at the time of initial diagnosis, PSA doubling time is not prognostic, so again there's some physician variability in that.

I don't use PSA doubling time prior to surgery, for instance, to consider a man at higher risk just based on the PSA doubling time.

Q. In what clinical situations is PSA doubling time

most useful in?

A. It's most useful in establishing risk in patients who have recurred after primary therapy.

Q. And when you say "recurred," are you talking about biochemical recurrence?

A. Yes.

Q. Is PSA doubling time prognostic?

A. At baseline or at the time of recurrence it is.

Q. And so it's prognostic for predicting clinical progression or death; is that right?

A. Yes.

Q. And you just said it's prognostic at baseline. What do you mean? Is that just the time of the initial biochemical recurrence? Is that right?

A. So baseline would be when the patient exhibits biochemical failure, that's been confirmed because you need at least two PSAs to calculate a PSA doubling time, and typically while imaging studies are being obtained, et cetera, you'll get a few more PSAs so that you can get an assessment of what the PSA doubling time truly represents.

Q. Is there any data, animal studies, in vitro studies, clinical studies, showing that a therapy which modulates PSA doubling time will impact survival?

A. Not that I'm aware of.

Q. What cutpoints for PSA doubling time are considered to be clinically meaningful?

A. The most meaningful value for PSA doubling time is a very short PSA doubling time, which most would agree would be less than three months. Men with a PSA doubling time of less than three months after they failed radiation, surgery, et cetera, they are at very high risk; meaning, the vast majority of those men will go on to subsequent clinical failure; meaning, they develop metastatic disease or a positive scan and ultimately die of prostate cancer.

So they're considered a -- men with a PSA doubling time at the time of their recurrence that's less than three months are considered a very high-risk population.

PSA doubling times beyond three months, it's controversial. I mean, the cutpoints for where we make a -- you know, why is it three months, it's somewhat artificial, because PSA doubling time is a continuum. But in general, everyone, in quotations, agrees that a short PSA doubling time, typically less than three months, is a very high-risk population.

For men with a PSA doubling time above three months, risk will vary. It's always better to have a higher PSA doubling time at your baseline, meaning, at

the time you're diagnosed with recurrence, because that has less of an association or the man is less likely to go on to clinical progression.

Q. So patients with a PSA doubling time of less than three months at baseline have the lowest -- I'm sorry -- have the highest risk of clinical progression or dying from prostate cancer; is that correct?

A. Yes.

Q. What about patients with a PSA doubling time of greater than 12 or 15 months at baseline? What would their risk level be?

A. So as a PSA doubling time increases, that's a more favorable situation at diagnosis. And for men with a PSA doubling time of -- it varies in the literature -- either 12 months or 15 months or greater is considered to be a better prognostic factor.

Q. Is PSA doubling time the only factor used to establish the risk of clinical recurrence?

A. No.

Q. What other factors are used?

A. The patient's initial values at diagnosis, so what his PSA was at diagnosis, what his findings on digital rectal examination showed, what were the features in the biopsy, how many of the biopsy specimens -- typically we do a twelve -specimen biopsy,

was it one biopsy or twelve biopsies that contain cancer, how much of each of those positive specimens percentage-wise was involved.

If a man has had a radical prostatectomy, then one gets additional pathological information: where was the prostate cancer located, was it confined to the prostate or was it already in the lymph nodes or seminal vesicles or bladder. All of those are prognostic in terms of how a man will do.

How long has it been since treatment that it's taken him to recur. Men that recur very early after surgery are at higher risk for clinical progression than those men that recur two, three, four years later.

So there's a variety of factors, and all of those are taken into consideration in ultimately determining a man's risk.

Q. Thank you.

Now, would it be correct to say that establishing the risk of clinical recurrence is necessary to ensure that patients are not subjected needlessly to treatments that have serious side effects?

A. Yes.

Q. Let's talk about prostate cancer clinical study design. Okay?

Now, you are the director of clinical research at Sloan-Kettering; correct?

A. Yes.

Q. And earlier you testified that you are on the Data Safety Monitoring Board for the SELECT trial, which is a prostate cancer prevention clinical study; is that right?

A. Yes.

Q. Based on your experience, do you have an opinion with regard to what type of scientific evidence is necessary to support a claim that a product prevents or reduces the risk of prostate cancer?

A. Yes.

Q. Dr. Eastham, if you could just turn to page 12 of your report which has been marked CX 1287.

And in the second sentence in the second paragraph, you write, "In my opinion, experts in the field of prostate cancer would require that such claims be supported by at least one well-designed, randomized, double-blind, placebo-controlled clinical trial involving an appropriate sample population"; is that correct?

A. Yes.

Q. And is that your opinion?

A. Yes.

Q. To your knowledge, is that opinion shared by the bulk of the scientific community involved in studying potential prostate cancer prevention therapies?

A. Yes.

Q. How do you know that?

A. As my -- in my work on the data safety monitoring committee, attending various meetings, scientific committees, discussion amongst the members of the panel guidelines, the NCCN panel guidelines.

Q. Okay. I'd like to take a little time to explore the reasons why the type of study you described is necessary to support a claim that a product prevents prostate cancer.

So what is randomization?

A. Randomization is a process by which a patient has equal likelihood of being assigned to a given treatment.

So randomization is only used when treatments are being compared, so you have to have at least two treatments, and the chance that a patient will receive treatment A or treatment B is a toss of the coin.

Q. And why is randomization used?

A. It's used to eliminate the potential for bias.

So if a patient had the opportunity to pick,

they would typically pick the treatment rather than a placebo, for example. And if you leave it up to the patient, you'll have nobody on the placebo arm.

So it basically allows you to do a valid comparison.

Q. And what is double-blinding?

A. Double-blinding refers to the process by which neither the patient nor the physician knows what treatment the patient is getting.

Q. And why is double-blinding used?

A. Again, it's to try to limit the potential for bias. It depends on the particular type of study that's being designed, but one can imagine that if the patient knew that he had been assigned a placebo, he may go off and try to get the real drug or try to do some other treatment or alter something that may impact the results of the study so that it no longer is a valid comparison.

Conversely, a physician may have an interest in the compound, and so if he knew that the patient was getting the compound, his or her interpretation of an outcome, like a quality-of-life outcome or something that was perhaps subjective, may be influenced by that.

So it's an important way to eliminate bias.

Q. And what is a placebo?

A. A placebo is basically a nonactive compound, so it's meant to be designed to be delivered and look like the true drug but to be inactive.

Q. And why is a placebo used?

A. Because there are factors other than the treatment being studied that may influence your endpoint.

So by having a placebo arm, those factors may be balanced out between the groups.

So if you want to propose that a given compound is causing a given effect, you want to try to eliminate any potential biases, confounding factors, other things that a patient might have done, and the placebo arm should balance those out.

Q. Now, is a placebo used generally when there's no standard of care? Is that correct?

A. If one is doing a comparison of a compound, so you want to see if a compound improves a given endpoint, if there is no standard of care, meaning, we don't know what to do with this patient, then yes, you would compare the drug to a placebo.

If there is a standard of care, meaning, when a patient has this kind of disease we typically treat them with this, then you would compare your new compound to the old compound.

So there's also -- for a well-designed study there should be a comparison group, and the comparison group will be a placebo if there's no established standard or the standard if there is one.

Q. And a comparison group would be the same thing as a control group; is that correct?

A. Correct.

Q. And should that control group be approximately the same size and contain the -- or include the -- include similar participants?

A. Yes. There are statistical designs that sometimes it's -- the statistics get a little bit fuzzy, but in general, the size of the patient populations are similar.

Q. And the characteristics of the participants are similar also; is that right?

A. Yes. You want to make sure that the patients within each arm of the study are as similar as they can potentially be, so similar age, similar stage of disease. If they've had prior treatments, they've received similar prior treatments. If it's something like a pain study, that they have similar degrees of pain, that one group doesn't have more pain than the other. Those types of things. For a prostate cancer study, similar PSA values at the time of entry, similar

biopsy characteristics, et cetera.

Q. Now, what would be an appropriate sample population for a prostate cancer prevention clinical study?

A. Studies of that type that are designed to show efficacy, meaning, a decreased risk of prostate cancer, typically have somewhere in the range of ten to thirty thousand patients.

Q. And what ages?

A. Typically those types of studies would involve men at risk for developing prostate cancer, so a realistic age group would be somewhere between 50 and 65. You could expand that on the lower end to the forties, but typically they're patients that are in their fifties and sixties.

Q. And these would be men that have no sign of prostate cancer; is that right?

A. For a prevention study, yes.

Q. And you would need healthy men in order to see whether the agent can prevent the disease from arising over a course of time; is that right?

A. Yes.

Q. Why would you need so many men for a prostate cancer prevention trial?

A. The sample size is based on several things, the

most important of which in a prostate cancer prevention study are the baseline incidence of the disease and how big an effect you think your compound would have.

So if the disease is very rare, you need lots and lots and lots of patients because you need events. You need to find men that actually develop the disease.

If you're looking for a relatively small treatment effect, again you'll need more men because you need to see a difference. If something is a home run, it reduces the incidence of prostate cancer by 50 percent or more, your sample size will get much lower.

So there's a variety of things that go into how big a study needs to be in order to show a true effect caused by a given compound.

JUDGE CHAPPELL: Let's take our morning break now. For planning purposes, we'll break for lunch sometime around 1:00. We'll reconvene at 11:45.

(Recess)

JUDGE CHAPPELL: Back on the record Docket 9344.

Next question.

BY MS. DAVIS:

Q. Dr. Eastham, before the break, we were talking about the size of the appropriate sample population for a prostate cancer prevention clinical study; is that

right?

A. Yes.

Q. Is size also important to ensure generalizability of the results?

A. Yes. You have to have enough patients that it can -- you know, that the sample population is representative of the group that you're trying to treat.

Q. Now, would a well-designed study also need to include an appropriate statistical analysis?

A. Yes.

Q. And can you explain what statistical significance is.

A. So statistical significance is when one is comparing two groups, typically it's used in the guise of are those two groups either the same or are they different. And there are various mathematical means to assess that.

The typical statistic is reported as what's called a p-value, and more often than not studies are designed to have a p-value that is less than or equal to 0.05. And simplistically what that means is that if your statistic meets that test, meaning, your p-value is less than or equal to 0.05, there is a less than or equal to 5 percent chance that the results seen in the

study are due to chance alone.

Q. And this p-value of less than .05, is that the p-value that's accepted within the scientific community?

A. Depending upon the design of the study, yes, but most studies are designed with a p-value or a level of significance at 5 percent or .05.

Q. So the results of a study would need to be statistically significant to support a prevention claim; is that right?

A. Yes.

Q. And what is an endpoint?

A. An endpoint is what your study is trying to show, so it's basically the hypothesis of the study.

So whatever you're trying to show is considered the endpoint, so we're specifically at this point talking about prostate cancer prevention, so the endpoint will be the number of men with prostate cancer.

Q. Or the number of men who develop prostate cancer; is that --

A. Correct. Correct.

Q. And how long would a prostate cancer prevention trial need to be?

A. Years.

Q. Why so long?

A. Because you have to have enough time pass in order to have enough endpoints and to determine if your intervention was actually having an impact.

Q. And what is clinical significance?

A. Clinical significance means that it truly is a benefit to the patient.

So statistical significance just means the numbers are different. You could have statistical significance, meaning, a treatment caused an effect and it met the statistical test, but in reality, from a clinical perspective, the patient doesn't gain any benefit.

Q. So the results would need to be both clinically significant and statistically significant; would that be correct, to support a prevention claim?

A. Yes.

Q. Can you give us some examples of prostate cancer prevention studies that have been conducted?

A. Yes.

The first and the largest study was the prostate cancer prevention trial. That looked at a drug called finasteride compared to placebo.

Q. And how long was that trial?

A. The period of time was seven to twelve years.

Now, the reason there was that five-year window

was because the study involved 18,000 patients, and it was expected that it would take five years to enroll 18,000 patients, so the first person would -- and then they were going to follow the last patient for seven years, so the first person would have been followed for those initial five years plus the seven years, so that's why it's seven to twelve.

Q. Are there any other examples of prostate cancer prevention studies?

A. Yes.

So there was the SELECT trial, which is selenium, vitamin E, looking at whether or not either drug or the combination compared to placebo prevented the man developing or being diagnosed with prostate cancer. That was I believe a 32,000-patient study. It was designed for I believe seven years with the endpoint, as I mentioned, of being prostate cancer detection.

A third study would be the -- I believe it's the REDUCE study, which studied dutasteride, which is another 5-alpha reductase inhibitor. That was a four-year study. That was a smaller trial, but I believe it still was at least a thousand men, but I'm not exactly sure of the exact enrollment number for the REDUCE study.

Q. So generally prostate cancer prevention trials would include a large population and last a significant amount of time; is that right?

A. Yes.

Q. Earlier you testified you've conducted a clinical study or a clinical trial studying zoledronic acid as a treatment for prostate cancer; is that right?

A. Yes.

Q. Based upon your expertise, do you have an opinion with regard to what type of scientific evidence is necessary to support a claim that a product treats prostate cancer?

A. Yes.

Q. Dr. Eastham, I want to turn to page 15 of your report, which has been marked as CX 1287. I need you to look at the second sentence in the -- actually the first sentence in the second paragraph.

And in your report you write, "A prostate cancer treatment trial would include all of the features described above, namely, randomization, placebo control, double-blinding, objective criteria for patient selection and measuring treatment outcomes, and appropriate statistical analysis."

Is that your opinion?

A. Yes.

Q. In your opinion, is this the type of trial experts in the field of prostate cancer would require to support claims that a product treats prostate cancer?

A. Yes. With the caveat that if there was a standard of care, it wouldn't need placebo necessarily, it would need that standard of care. But for most of the trials that are looking at prevention or treatment, if there's no standard of care, then a placebo is required.

Q. To your knowledge, is your opinion shared by the bulk of the scientific community involved in studying treatments for prostate cancer?

A. Yes.

Q. And how do you know that?

A. Again, based on conversations and discussions at meetings, various committees, what's presented at the national organizations, et cetera.

Q. And I want to explore some of the features of the prostate cancer treatment trial you described.

So now, we've already talked about randomization, placebo control groups, double-blinding, and appropriate statistical analysis when discussing a prostate cancer prevention trial; is that right?

A. Yes.

Q. And those features would also be necessary for a prostate cancer treatment trial for the reasons we've already discussed.

A. Yes.

Q. So what would be the appropriate size of the sample population for a prostate cancer treatment clinical study?

A. It depends on the population you're studying and your endpoint.

So if your endpoint is survival, for example, and you start with patients with newly diagnosed prostate cancer, that study is going to have to be twenty years long and include thousands of patients.

If you're looking at a survival endpoint in men that have what's called hormone refractory prostate cancer, that study will involve a couple hundred patients and probably only be two to four years.

So it depends on the specific question that you're trying to ask, and then you have to define it in a specific population, and that will determine sample -- that will contribute to the determination of the sample size and the duration of the study.

Q. Is the persuasiveness of the clinical study dependent in part on the number of patients studied?

A. The number of patients will be determined by the

statistical test. As long as you meet your statistical test, the numbers are fine.

So if a hundred patients are needed, for example, to meet the statistical design of the study, having 500 just makes it typically a longer, more expensive study. But the sample size and how long the patients are followed are based on what the endpoint is and what patient population you start with.

Q. Does a study need to be, I guess, large enough to be confident that the results are broadly applicable?

A. Yes.

So part of having -- part of the sample size calculation does consider the generalizability of the results to the particular population that you're studying.

So if you're studying men with hormone refractory prostate cancer, it has to apply to men with hormone refractory prostate cancer. It doesn't have to apply to every man with prostate cancer.

So the study design has to take into account whom you're studying, what stage of disease, et cetera.

Q. And what would be the appropriate objective criteria for patient selection in a prostate cancer treatment trial?

A. For a treatment trial it will depend again on what your endpoint is, so the primary treatment trials that have been done in prostate cancer have typically involved patients with pain because of bone metastases. Another endpoint would be survival.

So your endpoint will determine how the study is designed, what types of patients you're going to include, the criteria, et cetera.

Q. And you mentioned survival as being an endpoint.

Is survival considered to be an appropriate endpoint for a prostate cancer treatment trial because it's clinically meaningful?

A. Yes.

So most studies that are looking at men with a diagnosis of prostate cancer, the most accepted and everyone would agree that survival is an excellent endpoint for clinical trials in men with prostate cancer.

Q. And what does it mean for an endpoint to be clinically meaningful?

So this would be something that would impact a patient's overall quality of life, their -- the way they function, the way they feel; is that correct?

A. Correct.

So a clinically meaningful endpoint will be a positive for the patient.

So if it's a survival trial, you want your agent to prolong survival. If it's a trial to prevent the development of bone metastases, you want to show that your drug prevents bone scans from becoming positive. If it's a pain study, you want to show that pain is either reduced or at least it doesn't progress as rapidly as it should.

So an endpoint is typically something that the patient will experience a benefit from.

Q. And what is a surrogate endpoint?

A. A surrogate endpoint has a very specific definition, and basically it's an endpoint that substitutes for the main endpoint that you're looking at.

So, for example, if survival is the ultimate outcome for a cancer treatment trial, if you could find something that was a very good predictor of survival, so a man with a particular feature on an imaging study, if you found that imaging you always knew he was going to do well, then that imaging study could substitute as an endpoint for a survival trial.

Now, surrogacy is very difficult to prove. There are very strict criteria that it has to make

biologic sense. You can't have, you know, something that you can measure that has nothing to do with prostate cancer but somehow you figure it's associated. That's just statistical noise, if you will.

It has to make sense that if you intervene on that endpoint that it should be associated with a change in the ultimate outcome, survival.

So there's a variety of steps that need to be used to prove surrogacy.

Q. Can you give us some examples of a surrogate endpoint in maybe some other context?

A. So probably one that most of us are familiar with is that lowering cholesterol tends to be associated with a lower risk of heart attack or heart disease, coronary artery disease; so using a cholesterol-lowering medication if you have an elevated cholesterol, if you see that drop in cholesterol, the reduction in cholesterol is a surrogate for not progressing to having a heart attack. That would be an example.

Q. Is there a surrogate endpoint for death or survival that has been accepted by experts in the field of prostate cancer for prostate cancer treatment trials?

A. Not that I'm aware of.

Q. And how do you know that?

A. Reading, interacting with colleagues, meetings. The drugs that have recently been approved for the treatment of prostate cancer, none have been approved based on a surrogate. They've all been approved on a clinical endpoint, so...

Q. I'm not sure we've talked about this, but how long should a prostate cancer treatment trial be?

A. It depends on the endpoint.

So for a treatment trial, if you're looking at very advanced patients, typically their life expectancy is a couple of years on average, so the study will be three or four years just to get events. It depends on what the endpoint is and how many events there are going to be.

So you have to pick your sample size and your sample -- more appropriately, your sample population appropriately.

Q. Can anecdotal evidence alone provide sufficient scientific evidence to support a claim that a product prevents or treats prostate cancer?

A. No.

Q. Why not?

A. It's an anecdote. It's basically an observation typically in one or a few patients that may have been

seen by chance. Certainly if it's only in a few patients it may not be generalizable to the population that you're writing the anecdote about.

Anecdotes are important in that they sometimes can be an observation that then can be studied further, so you notice that a compound happened to work.

So Viagra is a good example. That was originally designed as a blood pressure drug. And anecdotally, when they finished that trial and asked for all the drugs back, all the women sent them back, but the men didn't. And so they started calling the men to see, well, why aren't you sending the drugs back, and anecdotally they noticed that they were getting better erections.

So you went from a drug that really didn't work as a blood pressure medication and now it's a blockbuster.

So that's an anecdotal thing.

So it was an initial observation. They said, well, maybe the utility of this drug is in another disease, and so then they did the appropriately designed studies to look at erectile function.

Q. Can animal or in vitro studies alone provide sufficient scientific evidence to support a claim that a product prevents or treats prostate cancer?

A. No.

Q. And why is that?

A. Again, they're hypothesis-generating; they suggest that there might be a role for whatever you're looking at. But a cell culture plate, an in vitro study or an animal study, typically in rodents, those aren't humans, and what goes on in those models may not necessarily reflect what goes on in a human being.

So, again, they're hypothesis-generating. They're very important data. We do them all the time when we're trying to investigate whether a compound might have utility. They can show mechanistic issues or how the drug works mechanistically so you know what to look for when you do the trials in humans, but in and of themselves they're not sufficient.

Q. Let's say that a product being tested in a clinical trial is nontoxic.

Would that change your opinion as to the level of scientific support necessary for a claim that the product prevents or treats prostate cancer?

A. No.

Q. And why not?

A. Because the endpoint will be based on its impact on the disease. Toxicity is important, but you still need to show that a compound works and works

effectively, so just because something is safe doesn't mean it should be used or recommended without the scientific foundation, if you will, to support that it's beneficial to the patient.

Q. Is it possible that even a nontoxic compound could have negative or unexpected consequences?

A. Yes.

Q. Are there examples of compounds that appeared to treat or prevent prostate cancer based on animal or in vitro studies but showed no effect when tested in humans?

A. Yes.

Q. And can you give us an example?

A. There's lots of examples. Chemotherapies in general work very well in animals, and they certainly kill cells in the petri dish, but most chemotherapies don't work in humans, so that's one line of evidence.

Vitamin E and selenium work great in a petri dish. They kill prostate cancer cells or at least slow the growth of prostate cancer cells, yet when we studied them in humans they did absolutely nothing.

So it's not that those studies aren't important; it's just they're not enough. Again, they're hypothesis-generating. This is an interesting compound. It seemed to work in the lab. But there's much more

work that needs to be done before you can start recommending it to humans.

Q. Dr. Eastham, did there come a time when the Federal Trade Commission asked you to review some studies and protocols of studies on POM juice, POMx pills and POMx liquid extract to obtain your opinion regarding whether these products prevented, reduced the risk of or treated prostate cancer?

A. Yes.

Q. Dr. Eastham, I'd like to show you what's been marked as CX 1288 Exhibit B.

And is this an index of the documents that the FTC provided to you for your review?

A. I believe it is. It looks familiar.

Q. Did you review these documents with an eye toward forming an opinion regarding whether they constituted reliable scientific evidence that POM products prevented or -- prevented, reduced the risk of or treated prostate cancer?

A. Yes.

Q. And if you could please tell the court how you conducted your review.

A. Initially it was printing out that rather lengthy list of articles that was provided to me on a disk and reviewing those articles.

Any scientific manuscript typically has a reference section, which refers to other manuscripts. If I was unclear on a point or needed additional information, I would look up that reference.

And basically that was the literature that I reviewed.

Q. In forming your opinions did you also rely on your education, training, experience and knowledge of developments in the field of urology, specifically prostate cancer, including prevention and treatment of prostate cancer?

A. Yes.

Q. And also your education, experience and clinical research relating to the prevention and treatment of prostate cancer?

A. Yes.

So all of that goes in your -- your background and your baseline knowledge of course goes into your or my review and interpretation of the articles that were reviewed.

Q. And just so the record is clear, you've also reviewed the expert reports of Dr. DeKernion and Dr. Miller?

A. Yes.

Q. And the deposition testimony of Dr. DeKernion;

is that right?

A. Yes.

Q. Dr. Eastham, I'd like to show you what's been marked as CX 0185.

A. 0815.

Q. Sorry. Yes.

CX 0815; is that right?

A. Yes.

Q. Can you please identify CX 0815 for the record.

A. That is a manuscript that's been published entitled Phase II Study of Pomegranate Juice for Men with Rising Prostate-Specific Antigen Following Surgery or Radiation for Prostate Cancer. The first author is Allan Pantuck.

Q. And this report was published in Clinical Cancer Research in July 2006; is that right?

A. Yes.

Q. And is this one of the studies you reviewed in forming your opinions in this case?

A. Yes.

Q. Before we discuss this study, I want to -- well, strike that.

Throughout my examination today I'll often refer to this study as the Pantuck phase II study if that's all right.

A. Yes.

Q. So before we discuss this study, I would like to draw your attention to the words "phase II study" in the title.

A. Yes.

Q. And can you please explain for the court what a phase II study is.

A. So there are various phases or study designs that go into the evaluation of a product.

Phase I studies typically are looking at toxicity and trying to establish dose.

Phase II studies like this are, after you've studied a little bit of the toxicity and found the appropriate dose, you see if there's any benefit to the compound.

So typically phase II studies are single-arm, they're the agent that you're looking at at the appropriate dose for the appropriate period of time, and you're trying to see if they impact some endpoint.

Phase III studies are typically the comparison studies. Those are much larger trials. That's when a drug is compared to either the standard of care if one already exists or to a placebo if there is no standard of care.

Phase IV studies are basically looking at very,

very large numbers of patients to see if there's any toxicities that develop over time, so unforeseen bad things that happen with patients taking a particular compound for a very long period of time.

Q. And how would animal and in vitro studies fit into the framework you've just described?

A. They would be pre-phase I studies.

So initially if you have a compound, you test it in the petri dish or in some animals and see if it works on -- so for a cancer compound, for example, there are typically cell lines that are grown, so in prostate cancer there are some well-known cell lines, and typically you see if your agent has an impact on the growth of those cells.

There are also animal models for prostate cancer. They typically involve mice. And one sees if that compound in the animal does anything to the tumor, depending upon what you're looking for.

And if those studies are suggestive that they're may be a benefit, then the product can potentially be developed, and that's where it would go into the phase I studies.

Q. Thank you.

Dr. Eastham, could you just briefly summarize what was done in the Pantuck phase II study as you

understand it.

A. The Pantuck study, the Pantuck phase II study, basically looked at men who had biochemical recurrence after either surgery, radiation or both. And the men were managed by having their PSAs documented. They had a PSA doubling time calculated. And if they met specific eligibility criteria, meaning that their Gleason score was less than 7, their PSA had to fall within a certain range, they were assigned to drink pomegranate juice.

And periodically they had their PSA measured, and they had serum samples collected, and then ultimately they had their PSA doubling times and PSAs -- their PSAs measured and their PSA doubling times calculated. There were in vitro studies looking at the impact of the man's serum on growth of a particular prostate cancer cell line, and then there were measurements of oxidation, basically oxidative stress.

Q. And how many men were studied in the Pantuck --

A. The study ultimately studied 46 men, if I'm not mistaken.

Q. And in addition to surgery and radiation, some of the patients also I think received brachytherapy and cryotherapy?

A. I'm not sure -- I'd have to look at the cryotherapy, but when I say "radiation therapy," I include all forms of radiation, including brachytherapy.

I think some of the men may have had -- I'll have to look at the -- so a small -- 5 percent of the population, so two or three of the patients if it's a 40-patient -- 46-patient study, were treated with cryotherapy. Most were treated with surgery or surgery followed by radiation.

Q. Okay. And this was a single-arm study; correct?

A. Correct. Phase II, yes.

Q. And no placebo control group; is that right?

A. Correct.

Q. And so the patients' PSA doubling time was measured baseline and at the end of the treatment, and what were the results?

A. The results of the study showed that at the beginning of the study the mean PSA doubling time was 15 months and at the end of the study the mean PSA doubling time had lengthened to a mean of 54 months.

It also -- I'm sorry.

It also showed in their in vitro studies that if one grew the prostate cancer cell line LNCaP and

used the serum from the men before treatment versus after they had been on pomegranate juice, the cells basically slowed down, they didn't grow as rapidly, and there was a little bit more cell death, which is called apoptosis. And the oxidative stress indicators that they looked at showed a reduction in the oxidative state.

Q. And do you have an opinion regarding whether the Pantuck phase II study provides reliable scientific evidence to support the claim that POM juice prevents or reduces the risk of prostate cancer?

A. Yes.

Q. And what is that opinion?

A. That this study does not support that claim.

Q. And why is that?

A. This is a phase II study. It's insufficient scientific evidence based on a small number of patients to make a claim of prevention or treatment.

Q. And let's stick with prevention.

Is it the case that a prevention study would have to look at a population of healthy men?

A. Men without prostate cancer certainly.

So all of these men had already been diagnosed with prostate cancer, they'd already been treated for prostate cancer, they had recurrence of prostate cancer,

so there's nothing in this study in the patient population that would suggest that this prevents prostate cancer because it's impossible to do a prevention study in a man who already has the disease.

Q. Do you have an opinion regarding whether the Pantuck phase II study provides reliable scientific evidence in support of a claim that POM juice treats prostate cancer?

A. Yes.

Q. And what is that opinion?

A. That there's insufficient evidence to support that claim.

Q. And is one of the reasons that you believe that there is insufficient evidence is because the Pantuck phase II study lacked a placebo control group?

A. Yes.

Q. And why was the lack of a placebo control group problematic?

A. Well, the placebo arm is necessary to be sure that the results that one has seen are not by either chance alone or because of some other uncontrolled factor, so it's to provide evidence that the drug you're using is truly resulting in the effect that you're measuring.

Q. So there wasn't a way to eliminate confounding

factors; is that what you're trying to say?

A. Yes.

So with such a small number of patients it's, while they were treated with POM, the POM pomegranate juice, that then that was the true reason why their PSA doubling time was lengthened. I can imagine a variety of things that may have impacted that that by not having a placebo group that you just don't account for that.

So one of those would be many men that are on studies that look at nutraceuticals will change their diet. They'll change their diet in very dramatic ways, and so it may be the change in their other dietary factors that contributed to the outcome that was observed, not just simply the POM.

There are factors such as exercise. Exercise has been shown in some studies to have an impact on PSA levels. You know, reducing stress, that's been shown to have a benefit.

PSA doubling times in and of themselves can get longer even without treatment, so it's -- there are a variety of potential factors that can influence the results of this study.

Now, the Pantuck study is -- for what it's designed as, it is a very good study. It was designed

as a phase II trial. It was not designed to be a phase III big -- this is a hypothesis-generating study, and even the authors admit that. They say that -- two things about the study, didn't have a placebo control arm, and more importantly is the endpoint, which is PSA doubling time.

Q. And when you say they also referenced the PSA doubling time as an issue, what are you referring to exactly?

A. So PSA doubling time or modulation of PSA doubling time is not accepted as an endpoint for a beneficial effect for men with prostate cancer.

So they used an endpoint in this trial, changes in PSA doubling time, that no one has accepted as demonstrating, you know, the effects of surrogacy, if you will, that this is really a beneficial thing to do, especially in a group of men, as the study was designed, that were very favorable. These are already men that have the most -- they're already in the most favorable group for PSA doubling time, over 12 months, on mean anyway. They had Gleason scores that were not very high, 7 or less. Their PSAs at the time of enrollment in the study were rather low, less than 5.

So you've basically selected the most favorable of the most favorable recurrers, and does changing this

one thing, the PSA doubling time, does that make them -- I mean, how much more favorable can you get.

So the issue is the endpoint.

Q. Is it possible to have a compound that treats prostate cancer yet doesn't have an impact on PSA?

A. Yes.

Q. Can you please provide an example.

A. So a more recent example would be a drug that was -- an immunotherapy actually that was recently approved called Provenge or -- I won't say the real name because it's very hard to spell -- sipuleucel-T, and that's an immunotherapy that basically showed a survival benefit in men with hormone refractory prostate cancer and the PSA didn't change at all. Actually it kept going up.

Q. Now, earlier you testified that PSA doubling time is prognostic at baseline; is that correct?

A. Yes.

Q. So in the Pantuck phase II study the average pretreatment PSA doubling time was 15 months; is that right?

A. Yes.

Q. So is it your view that the PSA doubling time of 15 months, is that what you consider to be prognostic of clinical recurrence?

A. Yes.

Q. So if a patient takes a compound that modulates their PSA doubling time, would that be considered to be prognostic of clinical progression?

A. That has not been accepted as an appropriate monitor.

Q. What evidence would you need to support the proposition that modulating PSA doubling time impacts survival?

A. Basically that would be a study of surrogacy. You would have to have survival as the endpoint and then prove that by studying PSA doubling time or modulations of PSA doubling time that they are correlated very highly, using the appropriate statistical tests, that they're linked, that basically PSA doubling time modulation is very predictive of survival.

Q. Can PSA doubling time lengthen in men who have already gone with initial therapy, like the men in the Pantuck phase II study, without any further treatment?

A. Yes.

Q. Can you point to any examples of this phenomenon in medical literature?

A. Yes. There's been two studies that I'm aware of that have looked at compounds specifically to modulate PSA that have shown that in the placebo arm that PSA

doubling time for a substantial number of patients lengthened by itself.

So one study is an evaluation of a drug called rosiglitazone. That's an agent that was used in men, very similar to this population, rising PSA after primary treatment, and the endpoint was modulation of PSA as compared to placebo, and at least I believe it was 40 percent of the men in that trial had a 150 percent improvement in their PSA doubling time, a lengthening of their PSA doubling time.

A second study was looking at celecoxib, which is a COX-2 inhibitor, an anti-inflammatory very similar to aspirin, that was used in this same type of patient population, and about 20 percent of the men in the placebo arm had lengthening of their PSA doubling time.

So there is evidence in the literature that even without treatment the PSA doubling time could be prolonged, and that's one of the potential confounders in not having a placebo arm and then making claims.

Q. Have you ever seen this phenomenon in clinical practice?

A. Yes.

Q. Can you explain.

A. PSAs don't always follow the same trend, so a man that has a PSA recurrence after primary therapy,

his PSA doubling time doesn't follow an exponential curve. And it's just because cancers grow at different rates. And for reasons that are unclear, you can have a man with biochemical recurrence, and his PSA just doesn't go up very quickly, and he can have a PSA doubling time that basically is zero, I mean, is flat. It doesn't double at all.

So it's seen in clinical practice not infrequently.

Q. I want to go back to our discussion about the lack of a placebo control group.

Can each patient serve as their own internal control?

A. That's a difficult-type study design especially in a cancer study because the disease changes over time, so what you would have to envision is that the patient received a compound for a period of time, stopped, and then see what happens. But during the time that they were in any particular part of that, the disease can change independent of the treatment.

So a patient serving as their own control is not a traditional way to look at the effect of a compound on a cancer.

Q. Thank you.

Now, I just want to be clear.

You don't find the results of the Pantuck phase II study to be clinically meaningful; is that correct?

A. No. I think the Pantuck study was very well-done for what it was designed to do.

So this was a phase II study looking to see if there is any inkling of a benefit from pomegranate juice in this particular patient population, and I think the study was successful in doing that.

The next step, though, is to do further study. This study by itself does not stand alone to make any suggestion that this -- that this treatment, pomegranate juice, should be used as standard of care or for even treatment of biochemical relapse after treatment.

So it was a very good phase II study, and it's part of the foundation for building a case for using a compound. I mean, this is a process. But it's not enough.

Q. Dr. Eastham, I want to direct your attention to the conclusions paragraph of the Pantuck phase II study which appear on page 8 of Exhibit CX 0185.

I'm sorry. Yes, they appear on page I guess 17 of CX 0815.

A. Uh-huh.

Q. And the third sentence in that paragraph

indicates that "further research is needed to prove the validity of these tests and to determine whether improvements in such biomarkers (including PSA doubling time) are likely to serve as surrogates for clinical benefit"; correct?

A. Yes.

Q. And do you agree with this statement?

A. Yes.

Q. Why is that?

A. It recognizes the scientific process.

So as I mentioned, a phase II study is a requirement but not sufficient to result in any evaluation of a compound, so as the authors suggest, there are several issues that need to be clarified. One is you need larger studies, you need further testing to show that this is a true benefit, and that would include a placebo-controlled trial.

And more critically is does modulation of PSA doubling time or changing PSA doubling time, does that result in any clinical benefit, and that's a significant hurdle for any investigator looking at PSA outcomes. It's just not accepted and hasn't been accepted, despite being looked at for years and years and years, as a meaningful endpoint for any study looking to treat prostate cancer.

Q. Okay. Thank you.

Dr. Eastham, I would like to show you what has been marked as Exhibit CX1288-Exhibit B-POM2 0526.

Can you please identify this exhibit for the record.

A. Yes. It's an abstract entitled Long-Term Follow-Up of Pomegranate Juice for Men with Prostate Cancer and Rising PSA Shows Desirable Improvement in PSA Doubling Time.

Q. I guess that's "shows durable improvement"; is that right?

A. Okay. It's pretty small print. But sure.

Q. I guess I should have reminded you to bring your glasses.

A. Yes, it is "durable."

Q. Is this one of the documents you reviewed in forming your opinions in this case?

A. Yes. In much larger font.

Q. And this abstract is reporting on follow-up results from the Pantuck phase II study; is that correct?

A. Yes.

Q. Can you briefly summarize the results reported in the abstract as you understand it.

A. The results -- or this is a continuation beyond

the original Pantuck phase II study basically to look at, in men that had prolongation of their PSA doubling time, if they continued on pomegranate juice, was the benefit sustained. And basically this study showed that in those who responded, they tended to maintain the lengthening of their PSA doubling time if they continued on pomegranate juice compared to men who did not respond and/or continue on their pomegranate juice.

Q. Do you have an opinion regarding whether these follow-up results provide reliable scientific evidence in support of the claim that POM juice treats prostate cancer?

A. I do have an opinion.

Q. And what is that opinion?

A. Again that this is not sufficient to support that claim.

Q. And why is that?

A. Primarily for the reasons that we've discussed, that PSA doubling time modulation is not accepted as an appropriate endpoint or an appropriate surrogate to make a recommendation for an effective treatment for prostate cancer.

Q. Now, Dr. Eastham, you've already provided us with your opinion regarding whether the Pantuck phase II study provides support for claims about POM juice, so

now I want to ask you about POMx pills and POMx liquid extract.

Do you have an opinion on whether this study provides reliable scientific evidence in support of the claim that POMx pills prevents or reduces the risk or treats prostate cancer?

A. Yes.

Q. And what is that opinion?

A. That there's not enough evidence to support any of those claims.

Q. And why is that? And again we're talking about the POMx pills and the POMx liquid extract.

A. So several -- several reasons.

First of all, they haven't been studied appropriately. They haven't been evaluated in well-designed trials. The design of the trial includes the appropriate endpoint. And also it's unclear whether those compounds are identical, if you will, to the juice.

So if there's any processing involved, there's the potential to change the effectiveness of what you're studying, so it's unclear to me whether or not the active ingredient, if you will, or whatever is causing any effect is the same in juice versus pill versus anything.

Q. So it's your view that you'd have to study each product --

A. Correct.

Q. -- in its different variations?

A. Correct. Because POM juice has more than just one active ingredient, potentially, so if one processes something down to just one ingredient, you have to be sure that you've picked the right thing and that by eliminating everything else you haven't affected how it acts in the body.

So there may be something else in the juice that's interacting with the active ingredient that no longer is present once it's gone through processing.

Q. And do you have an opinion on whether this study provides reliable scientific evidence in support of the claim that POMx liquid extract prevents, reduces the risk of or treats prostate cancer?

A. Yes.

Q. And what is that opinion?

A. That it doesn't. There's not evidence to support claims to that effect.

Q. And for the reasons you stated earlier; is that right?

A. Yes.

Q. Dr. Eastham, I'd like to show you

Exhibit PX 0175.

Have you seen this document before?

A. Yes.

Q. And can you please identify PX 0175 for the record.

A. The abstract is entitled A Phase II Study of Pomegranate Extract for Men with Rising Prostate-Specific Antigen Following Primary Therapy. The lead author is Dr. Carducci.

Q. And according to your report, you reviewed both the protocol for this study and the clinical and statistical report on the results; is that correct?

A. Yes.

Q. And because those documents have been marked in camera, we're just going to focus on this particular abstract if that's okay.

Does PX 0175 summarize the methods set forth in the protocol and the results in the clinical/statistical report?

A. It summarizes them, yes.

Q. Could you briefly summarize your understanding of what was done in the Carducci study.

A. In this study, men with biochemical recurrence after treatment for prostate cancer were randomly assigned to one of two doses of POMx, either one gram or

three grams, and basically had their PSAs measured to determine whether or not there were any changes in PSA. The primary endpoint was looking at PSA doubling times at six months.

They also looked at whether or not taking the POMx had any effect on testosterone.

Q. And the treatment period was designed to be 18 months; is that right?

A. Yes. They were treated for up to 18 months.

Q. And there was no placebo control group in this study?

A. That is correct.

Q. And the endpoint were --

A. Was again PSA doubling time prolongation.

Q. Could you briefly summarize your understanding of the results of the Carducci study.

A. This study shows that the median PSA doubling time increased from a baseline value of approximately 12 months to 18.5 months after treatment. There was no difference whether the patients had the one gram versus the three gram dosage, and there was no impact on testosterone levels.

Q. Do you have an opinion regarding whether the results from this study provide reliable scientific evidence in support of a prostate prevention claim?

A. I do.

Q. And what is that opinion?

A. This study does not address in any way prostate prevention -- prostate cancer prevention because it only involves men that had prostate cancer already.

Q. Do you have an opinion regarding whether the results from this study provide reliable scientific evidence in support of a claim that POMx pills treats prostate cancer?

A. I do.

Q. And what is that opinion?

A. That this is inadequate evidence to support that claim.

Q. And why is that?

A. Lack of a placebo group, an endpoint that's not accepted as being relevant, small numbers of patients.

Q. Okay. And did you attend a professional meeting where Dr. Carducci presented his results?

A. Yes.

Q. Dr. Eastham, I want to show you what's been marked as CX 1175.

And could you please identify CX 1175 for the record.

A. This is from a Digital Network called Internal Medicine News. The particular article is

entitled Pomegranate Extract Produces Mixed Results in Prostate Cancer, and it was written by Patrice Wendling from that organization, Internal Medicine News Digital Network.

Q. And this article reports on the presentation of Dr. Carducci's abstract at the February 2011 meeting of the American Society of Oncology in Orlando; is that right?

A. It's the genitourinary ASCO, American Society of Clinical Oncology, meeting, yes.

Q. And according to this article -- I think you also mentioned this in your report -- some of the population studied in Dr. Carducci's study had a shortening of PSA doubling time; is that correct?

A. Yes.

Q. And what does the shortening of PSA doubling time indicate?

A. It may not indicate anything, just like lengthening may not indicate anything. It just means that the outcome that they're measuring is equally likely to go up as it is to go down, based on numbers of patients.

Q. And do you have an opinion regarding whether the results from the Carducci study provide reliable scientific evidence in support of the claim that POM

juice treats prostate cancer?

A. I do.

Q. And what is that opinion? Again we're talking about POM juice.

A. That the Carducci study does not address POM juice, it addresses POMx.

Q. And do you have an opinion on whether the results from the Carducci study provide reliable scientific evidence in support of a claim that POMx liquid extract treats prostate cancer?

A. I do.

Q. And what is that opinion?

A. That those claims are not substantiated by the results from this Carducci study.

Q. And why is that?

A. No placebo control, an endpoint that's not accepted. One was equally likely to have an increase or a decrease in your PSA doubling time.

Q. Now, Dr. Eastham, do you recall reviewing documents that we provided to you on the components of POM juice and POMx?

A. Yes.

Q. And did those documents indicate whether POM juice and POMx were identical?

A. Yes. They indicated that they were not

identical.

Q. Thank you.

Dr. Eastham, I want to show you a chart that complaint counsel has prepared summarizing some of the respondents' prostate cancer clinical studies.

Now, we've already discussed the Pantuck phase II study that's listed in the second column; is that correct?

A. Yes.

Q. And we've already just talked about the Carducci study which is listed in the third column; is that right?

A. Yes.

Q. Now, Dr. Eastham, you also reviewed protocols for the two ongoing studies listed in the fourth and fifth columns; is that right?

A. Yes.

Q. And is it your understanding that the Pantuck/Radiant ongoing study in the fourth column is the follow-up study referenced in the conclusion of the Pantuck phase II study report?

A. That's my understanding, yes.

Q. Now, the Pantuck/Radiant study has approximately 180 subjects, a treatment period of 52 weeks, it has a placebo control group and is testing POMx liquid

extract, and the primary endpoint is change in PSA doubling time; is that correct?

A. To my knowledge, yes, that's correct.

Q. And let's assume for the sake of argument that the results -- well, strike that.

And your understanding is that the results of this study are not available; is that right?

A. That is my understanding, yes.

Q. So let's assume for the sake of argument that the results show a statistically significant difference in PSA doubling time between the treatment arm and the placebo arm.

Do you have an opinion regarding whether such positive results could provide reliable scientific evidence in support of a prostate cancer prevention claim?

A. Yes.

Q. And what is that opinion?

A. This study does not address prevention, so no claim regarding the ability of POMx liquid to prevent prostate cancer can be made.

Q. And that's because the study subjects already have prostate cancer or have already been treated for prostate cancer; is that right?

A. Yes.

Q. Do you have an opinion regarding whether results from this study could provide reliable scientific evidence in support of a prostate cancer treatment claim?

A. Yes.

Q. And what is that opinion?

A. Because of the endpoint being PSA kinetics basically, PSA doubling time, and that's an endpoint that is not accepted as a valid endpoint, that the results would not be useful in making any claims of treatment benefit.

Q. Now, let's talk about the last study listed, the UCLA/Johns Hopkins/Duke study.

Dr. Eastham, you reviewed the protocol for this study as well; is that right?

A. Yes.

Q. Now, this study has approximately 70 subjects treated for four weeks with POMx pills, and it also includes a placebo control group; is that right?

A. Yes.

Q. And am I correct that the subjects of this study are being treated prior to undergoing surgery for a radical prostatectomy?

A. Yes. The design of the study is that the patients will receive a month of -- four weeks --

excuse me -- of either POMx or placebo and then undergo a radical prostatectomy.

Q. And the primary endpoint for this study looks at changes in a biomarker; is that right?

A. It looks at changes in histology and measuring biomarkers within the tissues of the prostate.

Q. Let's assume for the sake of argument that the results of this study show a statistically significant difference in changes to that biomarker between the treatment arm and the placebo arm.

Do you have an opinion regarding whether the results from -- whether positive results from this study could provide reliable scientific evidence in support of a prostate cancer prevention or treatment claim?

A. I do have an opinion, and that is that based on this particular study, it's insufficient evidence to make any treatment efficacy claims for either prevention or treatment.

Q. And why is that?

A. Several reasons. Changes in biomarkers have not been accepted again as an endpoint for anything clinically meaningful in prostate cancer.

It's a -- mechanistically it's an important study. It will give information about whether or not

POMx pills, the active compound even gets into the prostate and, if it does get into the prostate, what it's actually doing, but that's about all it will show. It can't be used as providing a benefit to the patient.

Q. Now, earlier we discussed -- or you discussed some in vitro results of the Pantuck phase II study; is that correct?

A. Yes.

Q. Did you review any other in vitro or animal studies looking at the effect of pomegranate products on prostate cancer?

A. Yes.

Q. Can you summarize what you reviewed just in general terms.

A. So within that list of articles that was shown on the screen a little bit ago there were several studies that looked at the impact of POM or POM ingredients on growth of prostate cancer cell lines or growth within animals or mechanistically what might be happening. In general, the growth in the cell lines was slowed.

Some of the studies demonstrated that there was an increase in cell death, apoptosis. Some of the studies demonstrated that there was a positive impact on the inflammatory pathway, meaning, the inflammation was

lessened. Some of the studies suggested that there was a benefit in terms of oxygenation or the hyperoxic state that has been associated with cancer.

So most of the cell line and animal studies suggest at least mechanistically that POM or POM product might be beneficial at least in the petri dish or the animal.

Q. And Dr. Eastham, are these studies -- now I'm talking about the animal and in vitro studies -- are these studies alone -- well, strike that.

Do these studies alone provide sufficient evidence to support prostate cancer prevention and treatment claims?

A. No.

Q. And why is that?

A. Because they're preliminary studies in things that aren't human.

So cell lines are human, but they're not the human state typically. They're isolated cells within a petri dish. And animals are models. They're not the -- they're not human.

And so they are a necessary research process. Mechanistically you can identify what's going on. They're important for research. But they're not in and of themselves sufficient to make any claims about

benefit in humans.

Q. And did you consider these animal and in vitro studies in reaching your conclusions here today?

A. Yes.

MS. DAVIS: Your Honor, it's 1:00. I don't know if you want to stop or --

JUDGE CHAPPELL: How much more time do you need?

MS. DAVIS: Probably 15 minutes, 20 minutes I think.

JUDGE CHAPPELL: Okay. Let's go ahead and take a break. We may need a little more than an hour today. I have something to deal with downstairs. Let's plan on coming back right now at -- it's after 1:00 now -- let's say 2:10. I think I can make that.

We're in recess.

(Whereupon, at 1:01 p.m., a lunch recess was taken.)

A F T E R N O O N S E S S I O N

(2:22 p.m.)

JUDGE CHAPPELL: Back on the record Docket 9344.

Next question.

BY MS. DAVIS:

Q. Dr. Eastham, based on your review of the evidence in this matter, including the data we've discussed here today, does competent and reliable evidence show that drinking eight ounces of POM juice, taking one POMx pill or one teaspoon of POMx liquid extract daily prevents or reduces the risk of prostate cancer, including by prolonging PSA doubling time?

A. In my opinion, no.

Q. Dr. Eastham, based upon your review of evidence in this matter, including the data we've discussed here today, does competent and reliable evidence show that drinking eight ounces of POM juice, taking one POMx pill or one teaspoon of POMx liquid extract daily treats prostate cancer, including by prolonging PSA doubling time?

A. No.

Q. Based upon your review of the evidence in this matter, including the data that we've discussed here today, do clinical studies, research and/or trials show that drinking eight ounces of POM juice, taking one POMx

pill or one teaspoon of POMx liquid daily prevents or reduces the risk of prostate cancer, including by prolonging PSA doubling time?

A. No.

Q. Dr. Eastham, based upon the review -- your review of the evidence in this matter, including the data we've discussed here today, do clinical studies, research and/or trials show that drinking eight ounces of POM juice, taking one POMx pill or one teaspoon of POMx liquid extract daily treats prostate cancer, including by prolonging PSA doubling time?

A. No.

Q. Dr. Eastham, what dietary recommendations do you make to your patients, if any?

A. So I tell all of my patients that they should follow a heart healthy lifestyle. Basically that means exercise, trying to maintain an ideal body weight, increasing fruits and veggies in their diets, decreasing calories from animal fat and carbohydrates, increasing the percentage of calories obtained from proteins. If they smoke, stop smoking.

Those are the main recommendations that I make for patients.

Q. And have your patients ever asked for your opinion about whether they should take certain dietary

supplements or foods to treat their prostate cancer?

A. Yes.

Q. And what do you tell them?

A. I tell them that most of the supplements have not been proven to be of any benefit, nothing is risk-free, that certainly side effects can occur with any type of product, that there's always costs involved, and I leave it to the patient to decide whether or not they want to take an unproven remedy. I discuss with them the pros and cons of it, what's known, what's not known, and basically tell them that it's up to them if they want to try to do something beyond the other dietary changes that I've recommended.

Q. And you mentioned cost as a concern.

Why is that?

A. Well, any -- some of the supplements are very expensive. And many of these patients are elderly. You know, most prostate cancer patients with advanced disease are, you know, beyond retirement age, they're on fixed incomes, and certainly finances come into consideration, for some patients.

Q. Have any of your patients ever asked you about taking POM juice or any POM products for their prostate cancer?

A. Yes.

Q. And what do you tell them when they ask?

A. Essentially what I tell them about all supplements, that it's unproven.

I review with them the data from the Pantuck study, that a small group of patients had prolongation of their PSA doubling time, but we have no idea what that means, whether it's beneficial or not.

I tell them if they do opt to take supplements, they're called supplements because they supplement routine medical practice, but I don't recommend it.

MS. DAVIS: If I could just have a minute.

JUDGE CHAPPELL: Go ahead.

MS. DAVIS: Dr. Eastham, thank you. I have no further questions.

JUDGE CHAPPELL: Doctor, are there any supplements you take that are prostate-related?

THE WITNESS: No, sir.

JUDGE CHAPPELL: Cross?

MR. FIELDS: Thank you, Your Honor.

- - - - -

CROSS-EXAMINATION

BY MR. FIELDS:

Q. Good afternoon, Doctor.

A. Good afternoon, sir.

Q. Perhaps I misunderstood your last couple of

answers.

Do you classify pure pomegranate juice as a supplement?

A. Yes.

Q. So you define "supplement" as anything in addition to the treatment that you prescribe?

A. A supplement in terms of a dietary supplement is something that's not part of a regular diet. If someone includes POM and they've been drinking it for years, I don't tell them to stop, but if they're not on a dietary product, I certainly don't encourage them to start.

Q. So it becomes a supplement if it isn't something they've been doing over a period of time.

A. It becomes a supplement if it's proposed to do something beneficial for the patient.

Q. Okay. Is it correct, sir, that your practice is primarily surgical?

A. My practice is primarily in the early management of prostate cancer.

Q. Is it primarily surgical, sir?

A. Define "primarily."

Q. Well, I meant it in the same way you meant it when you said, at page 72 of your deposition, "My practice is primarily surgical."

What did you mean by that?

A. It's more than 50 percent surgical.

Q. Now, if I understand you correctly, sir, you say that in order to justify the claims that pomegranate juice could help men with prostate cancer there would have to be a double-blind, placebo-based, randomized trial; correct?

A. Depending on what you're trying to help. If you're -- it depends on the endpoint you're looking at, so "help" is a fairly broad term, so I would need --

Q. Sorry. If I'm trying to improve their risk of not dying.

A. So if one is trying to prove that a substance prolongs survival, then survival has to be an endpoint.

Q. Well, I'm -- we'll get to endpoints, but I'm talking about a claim, let's say, that improves -- a substance improves your chances of surviving after you have prostate cancer.

A. If that claim is made, then survival has to be part of a study to support that claim.

Q. I understand, but are you telling me that the only thing that could support that kind of claim would be a double-blinded, placebo-controlled, randomized trial?

A. It depends on what you're comparing. Not all

trials -- there should be a comparison arm. The comparison doesn't necessarily have to be a placebo.

So if there's a standard of care already in the community, you compare it to the standard of care. But it should be compared to what's considered routine medical practice.

So there should be a randomized trial supporting your contention.

Q. Yes. A randomized trial, but it doesn't -- you say it doesn't have to be placebo-based because it can be based on what you call the standard of care, but I take it it has to be double-blinded?

A. Not necessarily because it will depend upon the treatments. Some treatments you can't realistically double-blind.

So if the standard of care is to do nothing and the treatment you're comparing is chemotherapy, you can't blind it to the chemotherapy. They have to get an IV put in their arm and receive a toxic medication.

So in the design of the trial it depends on the substances you're trying to compare, so some substances it's very easy to come up with a placebo or a comparison arm.

Q. So in saying that the claims that respondents are charged with making, that those claims could only

be supported by certain kinds of trials, you're talking about it has to be randomized, it doesn't necessarily have to be placebo-based if there's what you call standard of care, and it doesn't necessarily have to be blinded; correct?

A. For a medical treatment such as POM, that can be blinded. There's -- you can come up with a placebo or excuse me -- a comparison substance that's in a capsule form that's similar to the capsule. If there's a liquid they drink, you can come up with a liquid. That's something that should be able to be done.

Q. Didn't you testify that you were not criticizing Dr. Pantuck's study by his lack of blinding?

A. There was an impossibility of blind in that study because it was a single-arm study.

Q. So you weren't criticizing it for not being blinded.

A. For a phase II study, no. The Pantuck study is not criticized because it wasn't blinded. It couldn't be blinded.

Q. Okay. Now, you require this test, and then when you say that it -- when the test is one that deals with people that haven't gotten prostate cancer yet that it should have I think you said 10,000 to 30,000 men in the

study?

A. The chemoprevention studies which I believe you're referring to in terms of prevention, yes, those are the sizes of the trials that have been required to show -- to evaluate the agent that you're using.

Q. And that's what you would require of respondents in this case to make a similar claim; isn't that what you're saying?

A. Depending upon the statistics of the study and what claims in terms of benefit that are projected, that's about the size of the study.

Q. You would require 10,000 to 30,000 men I think you testified.

A. Yes. That would be the standard study for a chemoprevention trial.

Q. And wouldn't that be a very expensive study, Doctor?

A. They typically are incredibly expensive, yes, sir.

Q. Yes. I think the nurses health study it was like $600 million, something like that.

Isn't that what the ballpark for that kind of study is?

A. It's in that range.

But cost shouldn't necessarily change the bar of

the scientific effort. I mean, just because something is expensive and difficult to do doesn't mean that that relieves someone from the burden of proof.

Q. Yes.

And even though you might be talking about a substance that potentially has a benefit and is, let's say, harmless -- assume that -- and it might have a benefit, something like fruit juice, you still would require that kind of trial before you would allow the claims to be made?

A. Yes.

Q. All right.

A. And that's based on experience that we have with vitamin E and selenium. They're innocuous substances. They don't cause problems and they work. When the studies were done, they didn't work and they did cause problems, so it's -- it's not -- it's a leap of faith to make a claim that something is innocuous when it hasn't been very well-studied in the scientific realm.

Q. Well, I asked you to assume that the product was harmless, is my question.

So make the assumption the product is harmless, it might create a benefit, and you still would require --

A. Those are two pretty big hypotheticals, but I'd still require it.

Q. You would still require the test you're talking about, the very expensive kind of test; right?

A. Yes.

Q. Okay. And the reason I think you gave for that is it still costs money; isn't that the reason, that a harmless product that might create a benefit, you would not allow a claim to be made with respect to that product unless you had this kind of test, and that's because it will cost money?

A. That's one of the reasons. Yes, sir.

Q. Would you state the other reason that -- other than it costs money. If you assume it's harmless and you assume it might have a benefit, but you're not going to let a claim be made to the public about it, what's the other reason?

A. With the caveat that those are incredibly difficult assumptions to make or accept, you're purporting that you're providing a benefit to the patient when there might not be one.

Q. I asked you to assume that there's a possible benefit and no possible detriment, and you are saying, as I understand it, that you still would require these tests in order to make the claim, and I am asking you if

there's any reason other than cost, which is the reason you gave in your deposition.

A. Cost is one of them. You also don't want patients to ignore other types of treatments.

Q. Well, let's build that into the assumption, that no one tells the patient to ignore proper medical care. I don't think there's any evidence in this case of the respondents telling anyone that they should ignore medical care.

So build that into the assumption. Nobody is saying to ignore medical care. On the contrary, they're saying, See your doctor. It's safe and it might create a benefit. And you're saying, I wouldn't tell the public about it, I wouldn't tell anybody in the public about it unless they have this hugely expensive test.

A. That is correct.

Q. Thank you.

Now, Doctor, you said you perform about 200 radical prostatectomies per year?

A. Yes.

Q. You've been doing that for a number of years?

A. Yes.

Q. And you told us I think that that operation has serious side effects. Impotence, incontinence, those

are the two you mentioned, but there's also danger of bleeding, embolisms, infection, risks of general anesthetic.

Those are all risks of your operation; correct?

A. Yes.

Q. And you did that operation for years before there was any scientific evidence that it worked; isn't that correct?

A. Not no scientific evidence, no randomized, controlled trials that supported it.

Q. Yes. Not the randomized, controlled kind of trial you've been saying is necessary for pomegranate juice; right?

A. Yes.

Q. So you cut out hundreds of men's prostates, taking all those risks, and you're telling us you would not even consider pomegranate juice without this kind of trial, the kind of trial you didn't have to take out hundreds of men's prostate glands; right?

A. Yes.

Q. Thank you.

Doctor, you mentioned a p-factor and statistical significance. Do you remember that?

A. Yes.

Q. You're not suggesting that Dr. Pantuck and

Dr. Carducci's studies that show the benefit from pomegranate juice didn't reach statistical significance, are you?

A. The endpoint that they were looking at in the study that they both performed did reach statistical significance.

Q. So when you testified about the need for -- I don't think you called it a need, but you testified about what statistical significance was -- that didn't have anything to do with Dr. Carducci and Dr. Pantuck; correct?

A. It didn't have anything to do with their studies, no.

Q. Okay. Let's talk a little bit about a placebo.

You said, sir, that the -- I think you called it the standard of care could be substituted for a placebo; right?

A. Yes.

Q. And the standard of care means what happened before the intervention; is that correct?

A. No.

So if -- so in the setting up of biochemical recurrence, if there was a drug that had already been proven to be beneficial compared to placebo, that would be the standard of care, so that's what you would

compare it to.

Q. Yes. That's what I meant.

A. Okay. I misunderstood you then.

Q. What the patient had been doing before, what drug the patient had been taking, is measured against what new drug is given to the patient; isn't that correct?

A. Typically, yes.

Q. And you're saying that's okay instead of a placebo; right?

A. Because that other drug typically has already been shown to be better than placebo.

Q. But the new drug taken without a placebo doesn't enable you to know that it's because of the new drug that these changes are occurring, does it?

A. You would have to compare it to what the standard of care -- you have to have a comparison.

Q. I know, sir. But if the standard of care were drug A and it got certain results and now we take drug B and it gets a better result, without a placebo you don't know that that better result is because of drug B, do you?

A. Well, the scientific method would not be required to compare drug B to placebo; it would be to compare drug B to drug A.

Q. Yes. But there are other factors that might be causing the change other than switching drugs; right?

A. Not if the study has been randomized and appropriately done because that will take into account other biases that could happen during the study.

Q. How would you know, for example, that the people taking drug B aren't exercising more and eating more broccoli or taking some other drug?

A. So that's the importance of randomization and blinding. And what randomization and blinding tries to do is get you equivalent patients as closely as you can match within the groups so that those who exercise should be equally represented in those taking drug B and drug A.

Q. Well, once they start taking drug B and you go on for years or whatever it takes to do this experiment, you don't know that they're not exercising, do you?

A. That's what the randomization process is for.

Q. That's only at the beginning, sir; correct?

A. That's not true. You randomize patients taking into account that some of them may start exercising, some of them may start meditating, but the assumption is that randomization will include the same numbers of exercising people in each arm.

Q. So because you got people at the beginning who haven't been exercised -- exercise -- strike that -- you have people who have not been exercising, you make the assumption that they're going to continue not exercising?

A. No, you don't make that assumption at all. But you assume that the number of patients that begin to exercise will be similar in each group so that exercising is no longer a confounding factor.

Q. So you just assume that because everybody starts out approximately equal, what you call randomization, which is done by a computer these days, you assume that's going to stay the same on both sides?

A. You're going to -- you make an assumption that factors that are not necessarily controllable will even out in the two groups. Yes.

Q. Okay. Now, when Dr. Carducci and Dr. Pantuck did their studies, they measured against the prior curve of PSADT or PSA doubling time; correct?

A. They compared the PSA doubling time at patient's entry into the study to PSA doubling time at a defined endpoint after taking one of the POM products.

Q. Didn't you say that to constitute reasonable evidence you have to compare the new treatment against something?

A. Yes.

Q. They were comparing it against something, something very rational, sir, weren't they?

A. No.

Q. They weren't.

Were they comparing it against how the patient's curve had functioned -- I'm talking about their PSADT curve -- beforehand and comparing it with how they do afterwards is not comparing it with something?

A. Not something reasonable. That's considering a patient as their own control, which is an inappropriate way to look at PSA doubling times.

Q. When you say it's their own control, if scientists are measuring their doubling time beforehand, just as in your case of drug A you're measuring its effect, and now you're measuring it, just as in your drug B, against their new doubling time, that is a change and it's comparing it to something, isn't it?

A. No, it's not. It's comparing it to a historic time point, so what's happened before was not necessarily what's going to happen from the time frame when they start the drug.

Q. And sir, that's true of drug A and drug B, isn't

it?

A. No, it's not. They're taking it at the same time.

Q. Oh, I thought you said that --

A. So you're talking about sequentially doing things, and I'm talking about doing things in parallel.

Q. I didn't understand you, sir.

I understood that when you talked about comparing a new treatment to a standard of care, you were comparing it to a standard of care that had existed prior to the new treatment.

A. You're right, you didn't understand me.

Q. Yes.

A. So what you do is you have to compare the standard of care to the new treatment at the same time, so you have a group of patients -- you don't do standard of care, stop, and then start a new drug and see what it does. That's not how you do a study. You have to do the studies where you have patients that are as similar as you can get them and then start the treatments at the same time, whether it's a placebo or standard of care versus the drug you're studying. You don't do them sequentially; you do them parallel.

Q. Well, didn't you say that you -- instead of a placebo, if you were doing some kind of chemotherapy and

you were testing it, you would measure it against the prior chemotherapy?

A. No, I didn't say that.

Q. You've never said that.

A. Not to my knowledge in that particular way.

Q. I'll see if I can find the passage, but let's not take the time at the moment.

I think you said that Dr. Pantuck's study was well-designed and a good study; isn't that correct?

A. Yes.

Q. And I assume that applies to Dr. Carducci's study as well.

A. Yes.

Q. And they both showed, as did the earlier studies of animals and in vitro, a substantial improvement for people who took pomegranate juice.

A. Improvement in what?

Q. Improvement in the PSA doubling time.

A. So the studies were well-designed in how they selected patients, how they followed patients, and how they ultimately did their statistics and calculations. While they're well-designed, the flaw in the study is using PSA doubling time.

Q. Because they -- I think you told us that no one accepted PSA doubling time as a surrogate; isn't that

correct?

A. My statement as I recall was no one accepts modulation of PSA doubling time as a surrogate for clinical progression or death from prostate cancer.

Q. Yes.

Well, there are some people who accept it; isn't that true?

A. Not that I'm aware of.

Q. And you're not aware of Dr. DeKernion --

A. I know who Dr. DeKernion is, yes.

Q. And he's a reputable guy, isn't he?

A. I've met Dr. DeKernion. Yes, he is quite reputable.

Q. And you're saying he doesn't accept PSA doubling time as a surrogate?

A. He doesn't -- from my readings of his writings, he accepts PSA doubling time as prognostic. I didn't get the impression that he was saying that modulations of PSA doubling time were a surrogate for survival or death.

Q. Well, when you say --

A. His writings basically said, well, it might help, you know, what the heck, you should try it, but in nowhere did I see that he said modulation of PSA doubling time is a surrogate marker for clinical

progression or death from prostate cancer.

Q. When you say "modulation of PSA doubling time," that means change in PSA doubling time --

A. Correct.

Q. -- correct?

A. Yes, sir.

Q. And Dr. Pantuck himself I think said -- this is a quote I think -- that PSA doubling time is increasingly being seen by some as an important surrogate biomarker for prostate cancer mortality and that it is the clinical factor most consistently correlated with death from prostate cancer.

Did you see that when you read his report?

A. When I read his paper, it was the exact opposite, so I'm not sure what he means.

Q. Let's look at his paper because I wasn't misquoting it. And I refer to -- it's PX 0060 and it's on page 8 of that, 0008. And I quote, "PSADT" -- that's PSA doubling time -- "however, is increasingly being seen by some as an important surrogate biomarker for prostate cancer mortality." Then he gives an example, and we drop down, and he says, "PSADT," PSA doubling time, is a clinical -- "is the clinical factor most consistently correlated with death from prostate cancer."

Now, you're telling me you disagree with that.

A. No. We're talking about two different things.

So there's PSA doubling time as a predictor and then changing PSA doubling time as a clinically meaningful endpoint.

So at baseline, when a man is enrolled into a study, absolutely, PSA doubling time is a prognostic marker, so when you use it in that light, yes, PSA doubling time -- I wouldn't quite use the word "surrogate," but it is a predictor of clinical progression and death if it's less than three months.

Modulation of PSA doubling time is a completely different statement, and that's not what this says. That says "PSA doubling time." It doesn't say "modulation of PSA doubling time."

Q. So you're saying PSA doubling time is a surrogate, but changes in PSA doubling time is not a surrogate; is that what you're saying?

A. No. I would not use the word "surrogate" in that first part. I would say PSA doubling time is one of the prognostic factors that is used to assess risk when a man has recurrence of prostate cancer. Modulation of PSA doubling times has not been proven to be of any utility.

Q. When you say you wouldn't use the word

"surrogate," why is that?

A. Because it hasn't been proven in well-done studies.

So the studies that have looked at PSA doubling time have primarily been retrospective reviews of men that were treated with either radiation therapy or radical prostatectomy. Both were done by D'Amico. And those retrospective studies suggested that men with lower PSA doubling times in the group that was at most risk were those men with PSA doubling times of under three months were more likely to die from their disease. That has not been prospectively validated.

Q. Did you say, Doctor, that PSA doubling time can also be used as a surrogate marker for prostate cancer-specific death?

A. It is a -- "surrogate" is probably an overstatement. If you're reading it, I'd like to see it, but --

Q. Well, it's your article on prostate-specific antigen doubling time as a prognostic marker in prostate cancer.

A. PSA doubling time at baseline is a predictor of death.

Q. And when does it stop, the day after baseline?

A. It's not been studied the day after baseline, so

the day after baseline if you get another PSA, theoretically you could calculate another PSA doubling time.

Q. Yes, that's right.

So you're saying --

A. But it's too close.

Q. All right. Then does it stop being an accurate predictor of survival or death a month after baseline?

A. We don't know. It hasn't been well studied, whether -- when you calculate the PSA doubling time, what do you consider the baseline, how many PSAs do you need, and so that's one of the difficulties because patients typically get treated, and so the natural history of PSA doubling times, unless you have a placebo or you follow patients like that, you don't know what it's going to do, so it could be -- it can change.

Q. So when you said PSA doubling time can be used as a surrogate marker for prostate cancer-specific death, you meant it could only be used at the moment of recurrence.

A. Prior to treatment, yes.

Q. But after that, it no longer becomes a predictor of recurrence or death because you just don't know.

A. So if one intervenes, then the PSA kinetics typically change. That change in PSA kinetics isn't -- hasn't been well studied to see how that impacts a clinically meaningful endpoint.

Q. And you're saying that no one accepts changes in PSA doubling time as opposed to PSA doubling time at the moment of diagnosis, no one accepts that at all; is that -- I just want to get you on record as saying that.

A. To my knowledge, no one would propose that changes or modulation of PSA doubling time is a prognostic factor in men with biochemical recurrence after primary therapy for prostate cancer.

Q. And you've never seen any article that said that.

A. That have said what?

Q. That has said the opposite of what you just said.

A. That modulation of PSA doubling time has been associated with a clinical endpoint?

Q. Yes.

A. Not that I'm aware of.

MR. FIELDS: That's all I have.

JUDGE CHAPPELL: Redirect?

MS. DAVIS: May I just have one minute?

JUDGE CHAPPELL: Go ahead.

(Pause in the proceedings.)

MS. DAVIS: Just a few questions, Your Honor.

- - - - -

REDIRECT EXAMINATION

BY MS. DAVIS:

Q. Dr. Eastham, it's the case that neither the Pantuck nor the Carducci studies had placebos; correct?

A. That's correct.

Q. So neither study could conduct a statistical analysis of a difference between the POM product and a placebo; correct?

A. Correct.

Q. Is the assumption that factors that you cannot control in a randomized, controlled trial -- is the assumption that factors that you cannot control for in a randomized, controlled trial will be equal in both groups a widely accepted principle among clinical researchers?

A. Yes.

Q. And isn't it the case that in both the Pantuck and Carducci studies, the only statistical significance that could be calculated was a before and after calculation for the POM group? Is that right?

A. Yes.

MS. DAVIS: Thank you.

I have no further questions.

JUDGE CHAPPELL: Recross?

MR. FIELDS: Yes.

- - - - -

RECROSS-EXAMINATION

BY MR. FIELDS:

Q. I just want to clarify one thing, sir.

You were talking about how you don't compare the new to the old for standard of care, and I asked you about placebos. If you would take a look at page 75 of your deposition, perhaps I don't understand you.

Do you have that in front of you?

A. No, I don't, sir.

Q. We'll put it up on the screen.

MS. DAVIS: Objection, Your Honor. That wasn't part of my redirect.

JUDGE CHAPPELL: Are you beyond the scope of redirect?

MR. FIELDS: I'm not sure what the scope of redetect was. I thought it was more general than that, but --

JUDGE CHAPPELL: No. If this is not something she covered in redirect, then you're beyond the scope.

MR. FIELDS: I understand the rule, but I think

it's within it. I really just want to point out that what he said is not correct. A placebo is compared with -- pardon me -- a -- you compare the new chemotherapy with the old chemotherapy, not with some control chemotherapy, and I believe that's within the scope, but I'll withdraw it if the court feels it's not.

JUDGE CHAPPELL: You're trying to correct something he said when?

MR. FIELDS: Something he said in cross-examination.

JUDGE CHAPPELL: So you think the record is incorrect and you want to point that out.

MR. FIELDS: Yes.

JUDGE CHAPPELL: I'll allow that. Go ahead.

BY MR. FIELDS:

Q. All right, sir. Is it okay if you have a standard of treatment you compare whether or not the new thing is better than? Answer: Correct. That's the standard, the old treatment. So if one -- I have a new chemotherapy and I think it's better than what you use now, you would end up comparing that to the chemotherapy rather than a placebo because there's something already checked.

Now, so you do compare the new chemotherapy to

the old chemotherapy; correct?

A. I don't have the documents in front of me, so it's -- I'm not sure what you're referring to, so if you could get me a hard copy, I'd be happy to do it because this screen is bouncing on and off for me.

Q. I'm sorry that the screen isn't functioning, but we'll give you a copy of the deposition.

But without regard to that, isn't it correct, now that you reflect on it, that you do --

JUDGE CHAPPELL: Hold on a second. He's asked for a copy, so either give him a copy or move along.

MR. FIELDS: Okay. We'll give him a copy.

MR. GRAUBERT: May we approach, Your Honor?

JUDGE CHAPPELL: Go ahead.

THE WITNESS: Thank you.

BY MR. FIELDS:

Q. I'm referring to starting at line 13.

A. Okay. I have that.

Would you repeat the question, please.

Q. Yes.

Aren't you saying that you compare the present and proposed form of chemotherapy with the prior chemotherapy?

A. In what situation?

Q. In the situation you're talking about, when you

said this is the way we apply standard of care.

A. So if you're designing a clinical trial and you have an established chemotherapy that works.

So in men with lung cancer, drug A has been accepted because it was appropriately studied, went through all the phases of treatment, was compared to a placebo in a phase III study, was approved for that indication, that is now the standard of care.

So when you now design a new drug for lung cancer patients in that same setting, you would compare the new drug to the standard of care; you would not compare it to placebo.

Q. Yes.

And the standard of care you're comparing it to in the case of chemotherapy is the prior chemotherapy; isn't that correct, sir?

A. Well, it's not prior chemotherapy. It's the drug, so when you design the study, it's not as if you're giving the patient the prior chemotherapy and then you give him a new chemotherapy, no. It's you randomize the patients to receive either the old drug or the new drug, and they're treated in parallel.

Q. Sir, we're saying there is no placebo, so you don't have two groups.

A. Yes, you do. You have a group that receives

drug A and a second group that receives drug B.

Q. So you're saying that is a placebo.

A. No. There's a comparative arm. The comparative arm is the standard of care.

Q. Ah, so you're saying that the fact that they receive a different chemotherapy at the same time is compared with a group receiving chemotherapy B at the same time.

A. So if drug A is the standard of care and you want to determine if drug B is better than the standard of care, i.e., drug A, you would do a randomized, hopefully blinded, double-blinded study comparing patients with the same stages of disease, some of whom receive drug A, some of whom receive drug B, and follow them in parallel.

MR. FIELDS: All right. I think I understand you. I think that's all I have now.

JUDGE CHAPPELL: Any redirect based on that?

MS. DAVIS: No, Your Honor.

JUDGE CHAPPELL: Thank you, sir. You're excused.

THE WITNESS: Thank you, Your Honor.

JUDGE CHAPPELL: Next witness.

(Pause in the proceedings.)

MR. WONE: Are you ready, Your Honor?

JUDGE CHAPPELL: Right. Where's the witness?

MR. WONE: Complaint counsel calls Jeffrey Rushton.

JUDGE CHAPPELL: All right.

- - - - -

Whereupon --

JEFFREY ALAN RUSHTON

a witness, called for examination, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. WONE:

Q. Mr. Rushton, can you please turn off your cell phone if you have it. Thank you.

A. Okay.

Q. Thank you.

Mr. Rushton, can you please state and spell your name for the record.

A. Full name? Middle name as well?

Q. Yes, please.

A. Jeffrey Alan Rushton, J-E-F-F-R-E-Y, A-L-A-N, R-U-S-H-T-O-N.

Q. And where do you work, Mr. Rushton?

A. I work at the University of Louisville.

Q. And what office do you work in?

A. The department of communications and marketing.

Q. And what is your position, Mr. Rushton?

A. I'm the director of digital media.

Q. And prior to working at the University of Louisville, where did you work, Mr. Rushton?

A. I worked at POM Wonderful.

Q. And prior to working at POM Wonderful, how long had you worked in the field of Internet technology?

A. Prior to POM, about 14 years, 13 to 14 years.

Q. And what year did you start working at POM Wonderful?

A. I think it was two thousand -- 2007 or 2008.

Q. Would it be September 9, 2007?

A. That sounds right.

Q. And when did you stop working at POM Wonderful?

A. March I think the 31st -- the end of March in 2010.

Q. What was your position at POM Wonderful, Mr. Rushton?

A. I was the director of marketing for online.

Q. And was online its own department at POM Wonderful?

A. Yes.

Q. And were you head of the online department?

A. That's correct.

Q. And is the online department part of

POM Wonderful's marketing department?

A. Yes, it is.

Q. I'm going to refer to POM Wonderful as "POM" if that's okay.

A. Yes.

Q. And as director of marketing for online at POM, what were your responsibilities, Mr. Rushton?

A. I managed -- excuse me. My voice has been going out the last couple of days, so kind of bear with me.

I managed anything having to do with the Internet, so that meant all aspects of online either marketing, engagement, interaction, development.

Q. Would you define what you mean by "Internet engagement."

A. About a year into working at POM we converted our Web site from a traditional static Web site that was not dynamic to more of a blog format where we were asking for engagement from outside parties, from external sources. And that's essentially what I mean, is the actual engagement from people that weren't employees or associated with POM, other than maybe people who drink it or know about it.

Q. And what POM Web sites did you work on?

A. pomwonderful.com. pomegranatetruth.com.

There were probably a few others that I don't recall. We had one for a tea tour that was essentially a landing page, a single page or a couple of pages. I don't recall the domain name, though.

Q. Did you work at all on the POM pills Web site?

A. A little bit. I would do minor changes having to do with either copy, grammatical changes. I didn't do major changes to the pills Web site.

Q. Did you make major changes to the POM Truth Web site?

A. I put the Web site up, so yeah, that's fairly major. Yes.

Q. And how about the POM Wonderful Web site? Did you make major changes to that one?

A. Yes. When we switched from a traditional static Web site to a blog, that was -- that was mine.

Q. And you mentioned development.

Could you please describe what you meant by "development."

A. Development by definition for Internet folks has to do with actually writing programs that interact with a Web site. I didn't have to write very many programs that interacted with our Web site, but if we did or if there was a need for them, that fell under my department.

Q. And how many people were in your department?

A. We had -- we had anywhere from one to three or four interns, but full-time employees, it was myself, Andrea Scott and Lindsay Jones, so the three of us, three full-time.

Q. And did you ever work on any search engine optimization projects while you were at POM?

A. I did.

Q. And can you define what search engine optimization is.

A. Search engines all use an algorithm to determine what placements certain search results show up on a search query.

So if you go to Google, for instance, and type in "pomegranate," search engine optimization is the strategy or the ability to adjust content on a Web page or on a Web site so that the word "pomegranate" shows up higher in the search results on Google than it would if you did no optimization on the Web site.

Q. And are you familiar with the phrase "meta tags"?

A. I am.

Q. Can you please describe what that is.

A. Meta tags are meta information, meaning, they do not show up on the Web page, you cannot visually see

them, but they are used by the search engines to help define or better understand what the content is on that page or what it relates to.

Normally meta tags consist of a descriptive tag, a description, and/or a keyword text. The keywords are essentially that; they're words that help the search engines better understand what's on that page or what relates to that page.

Q. Were you also involved in Internet advertising for POM?

A. Yes.

Q. Do you recall what kinds of Internet advertising POM had while you were director of marketing online?

A. What I managed or what we did overall?

Q. What you managed.

A. Okay. The aspect of online advertising that I managed was specifically keyword advertising with the search engines.

Q. And what do you mean by "keyword advertising"?

A. Google, Yahoo, Bing, the major search engines that are used by Internet users, all provide the opportunity for retailers or anybody to put advertising on a search results page. You can pay for those advertisements, and what you do is purchase keywords

that people may search on, and those ads will show up when those keywords are searched.

Q. Did you ever work on any projects involving rich media?

A. The -- was that the end of the question?

Q. Yes.

A. Okay. The rich media was run through our agency, so Fire Station Agency or The Agency, depending on what time frame. All of the reach media was run through them, and they did the purchasing as well.

Q. And could you define what rich media is.

A. It would be any type of flash, which is -- flash is an animated movie, essentially, advertisement that shows up on the Internet. It also may be a banner, which is simply a graphic that shows up on a Web site.

Q. And did you attend any marketing meetings with Ms. Resnick while you were at POM?

A. Yes. They weren't called marketing meetings, though.

Q. What were they called?

A. The -- I think they were defined as the LRR meetings or Lynda meetings.

Q. Okay. And were you involved in writing any creative briefs while you were at POM?

A. Yes.

Q. Were you also involved in POM's communication with bloggers?

A. Yes.

Q. And while at POM who did you report to?

A. Over time? I had several bosses. There was quite a bit of churn. I reported to the VP of marketing, the vice president of marketing.

Q. And while at POM did you ever have any interactions with Ms. Resnick?

A. Only at the LRR meetings and maybe in passing.

Q. Did you have any interactions with Mr. Tupper, Matthew Tupper?

A. Yes. Occasionally.

Q. And were those at LRR meetings or some other context?

A. They would be LRR meetings or -- I mean, he would call an occasional Web site meeting where we would sit and discuss the statistics of how the Web site was doing. It could be anything. We had a few meetings, so I probably met with Matt more than I met with Lynda.

Q. And you mentioned Fire Station or The Agency.

Did you interact with somebody at Fire Station or The Agency?

A. Several people before Jon Bradley started. Jon Bradley was my account manager, and I don't remember what time frame he came on to the agency, but Jon Bradley was who I worked with most of the time.

Q. And you mentioned you worked on the POM Truth Web site.

Did you create the content for the POM Truth Web site?

A. No.

Q. Do you know who created the content for the Web site?

A. I don't, not specifically.

Q. So when you updated the POM Truth Web site, did you receive the content from somebody?

A. Yes.

Q. And could you describe what you would receive in relation to the POM Truth Web site.

A. Sure. There was the creation of the site because it was a new site while I was there, and then there were updates. In both cases I would receive a Word document or a text file containing all of the content that would go up onto the POM Truth Web site.

I would also receive a folder either from the agency, usually from the agency, containing any graphic elements, so all of the imagery, any type of animations,

any type of video or otherwise, all of those would come through the agency.

Q. And you mentioned updates. What did you mean by that in relation to the POM Truth Web site?

A. If there were grammatical changes, if there were copy changes, I would receive those in a document as well.

Q. And do you recall who gave you the Word documents containing the content for the POM Truth Web site?

A. They would either come from my vice president, my boss, or they would come from the agency.

Q. I'd like to show you a video of the POM Truth Web site, a portion of it, that you had previously reviewed in your deposition in this case. It's Exhibit CX 0473.

Within CX 0473 the video is in the 2009 April-May folder and is entitled pomegranatetruth.wav.

If you could focus on the monitor in front of you, please.

(Whereupon, a video was shown.)

We'll stop the video at approximately the 12-second mark, Mr. Rushton.

Do you recognize this as a Web page from the

POM Truth --

A. Yes.

Q. -- Web site?

A. Yes.

Q. And would the text in the Backed by Science section be considered part of the content you described earlier?

A. Part of the content that I received; is that what you're asking?

Q. Yes.

A. Yes.

Q. And the image to the left of the Backed by Science section, would that be part of the graphics that you received?

A. Correct.

Q. And the decision to include a link, a red link, for the type that says "read more," would that be part of the content as well?

A. Yes. I mean, that -- yeah. I don't know if the content actually said "read more" or it just provided a link. The "read more" may have been something that I put in so that there was more of an explanation instead of a hyperlink there. Hyperlinks tend to be somewhat ugly.

Q. And how about the decision to have that sentence

in the Backed by Science section in bold, in the Backed by Science section the sentence starting with "All of these"? Was that part of the content, the making of that sentence bold?

A. It was either part of the content or it could have been a request post fact. I don't recall.

Q. And your work on the POM Wonderful Web site was similar to your work on the POM Truth Web site?

A. Yes.

Q. So you received content for the POM Wonderful Web site from either the agency or your VP?

A. Correct.

Q. And you made minor updates to the POM Wonderful Web site; correct?

A. As I received the request, yes.

Q. And when you started at POM, Mr. Rushton, did you familiarize yourself with past POM Web pages?

A. Only the content that was there, the content that existed that was currently being displayed, most of it. There were some pages I probably didn't familiarize myself with because we didn't use them very often, but most of it, yes.

Q. And while at POM, do you know whether POM maintained any archive of past Web pages?

A. When I got there, there was a lot of

information on the servers. I don't know if those were archives or what they were. I went through them. I know that you guys got the CD or DVD when we sent that to you in discovery. I don't know if those were archives. I honestly didn't spend a lot of time going back to look.

Q. And similarly, when you started at POM, did you review any past online advertisements that POM had run?

A. We had an ad gallery on the Web site which displayed all previous and as much as we could current advertisements. That would be the extent of what I went back and looked at.

Q. And aside from this ad gallery on the Web site, do you know if POM maintains any archive of online advertisements?

A. I don't, no.

Q. Earlier you mentioned that you had interactions with Mr. Tupper.

Were these interactions with Mr. Tupper regarding one of the POM Web sites?

A. Yes. It was usually the POM Wonderful Web site. We may have had meetings about Pomegranate Truth. I just don't recall anything.

Q. And can you describe these interactions with Mr. Tupper regarding the POM Wonderful Web site?

A. I don't recall what all of them were.

I know we had some on the Web site content itself. He wasn't happy with the way something was phrased or the context of verbiage that was on a page. He was also very meticulous about grammar and spelling, so he would go through and change some of the -- some of the grammar or the punctuation in a page.

Those are the -- those are the meetings I remember most. I'm sure there were other meetings. I just don't recall the subject matter.

Q. Aside from updates, did Mr. Tupper ever send you any content for a POM Web site?

A. He may have. I don't recall, though. I usually got them through the VP, through my VP, or the agency. It would be very uncommon if he did.

Q. Very?

A. Very uncommon.

Q. Do you recall if Mr. Tupper would have sent you any blog posts for the Web site?

A. He did. If he saw somebody had posted a blog that he liked or that he found interesting, he would send me, you know -- I don't know if it was a kudos, but he would just say, Hey, this was a neat blog.

Q. And earlier you mentioned LRR meetings.

How frequent were these meetings?

A. I think they tried to keep them to monthly. They may have been twice a month at some times during the year, but for the most part they were monthly. She did go on -- I don't know if it was a vacation or if she took a vacation from us, but there were a couple times a year where we didn't -- we would skip a month.

Q. And do you know how long these meetings usually lasted?

A. Time-wise?

Q. Yes.

A. I don't know. I mean, the -- I didn't attend very many for the full length. They were anywhere from a couple hours to half a day maybe.

Q. And how frequent did you attend LRR meetings?

A. My first few months, two to four or maybe even six months there, I didn't. After that, I attended the vast majority of the LRR meetings until I left.

Q. So from starting around early 2008 until you left in 2010 you attended the majority of them?

A. That's probably pretty close to accurate. Yes.

Q. And did you ever make any presentations at these LRR meetings?

A. I usually wasn't -- if I did, I don't recall. I usually wasn't making presentations. I was just there to support what was being presented.

Q. But the presentations you did make, do you recall what the topics were?

A. I don't.

Q. Did Ms. Resnick ever give you any feedback regarding your presentations?

A. She would give feedback -- whether I made a presentation or whether the agency made a presentation or anybody, she would give feedback on everything, so yes.

Q. And do you recall the substance of any feedback you received from Ms. Resnick regarding these presentations?

A. Not specifically, no.

Q. And at the LRR meetings you attended, do you recall seeing any disagreements involving Ms. Resnick?

A. I would call them discussions. There were a lot of discussions where people -- either she would debate something that was presented or somebody would debate her opinion. I didn't think that they were really disagreements. They were discussions.

Q. And do you recall what those discussions or debates were about?

A. It's been too long. No, I don't recall, not specifically.

Q. I'd like to refresh your recollection.

Mr. Rushton, do you recall giving -- having your deposition taken in this case on December 21, 2010?

A. Do I recall the deposition?

Q. Yes.

A. Yes.

Q. And I'm on page 108 of Mr. Rushton's deposition.

Mr. Rushton, do you recall being asked: And do you recall seeing -- ever seeing any disagreements between Ms. Resnick and someone else who attended the meetings that you were at?

"ANSWER: Almost all of them.

"QUESTION: And what were those disagreements, Mr. Rushton?

"ANSWER: Usually it was about the creative or maintaining her brand. If she felt that someone was deviating from her brand or deviating from her creative vision, then there would be some discussion.

"QUESTION: You describe it as her brand?

"ANSWER: The brand, the POM brand, yeah."

Do you recall saying that, Mr. Rushton?

A. That sounds spot on.

Q. Okay. Thank you.

And do you recall how those debates were resolved, Mr. Rushton, the ones that occurred at LRR meetings?

A. I don't know. I don't know if some of them got resolved. I don't know.

Q. If the debate involved something that you were working on, do you recall how you would have -- how it would have been resolved?

A. It -- usually if she gave feedback on something or there was a discussion about something, we would go back to the drawing board, which means the agency would go back and redesign something or do something. And this is specific to me. I'm not sure about the other areas that had discussions or debates.

But if she didn't like something that came out of my department, we would essentially go back to the agency and go back to the drawing board.

Q. I'd like to show you a document relating to the meetings with Ms. Resnick. If we could turn to CX 0247.

And Mr. Rushton, this is an e-mail from Diane Kuyoomjian to, among others, you, dated October 20, 2008; correct?

A. Correct.

Q. And attached to this e-mail are meeting notes from an October 16, 2008 meeting with Ms. Resnick; correct?

A. I would assume so. That's what it says.

Q. And if you could turn to page 2 -- I forgot to

point out, Mr. Rushton, there's a binder in front of you. You can either look at the screen or look at the binder, whichever you prefer.

A. Okay.

Q. Then on page 2 do you see the row starting with Q4 Home Page Refresh?

A. Yes.

Q. Do you know whether this home page refresh was for the POM Wonderful Web site?

A. It appears to be. Usually when it said "home page refresh" that was the POM Wonderful site.

Q. Can you describe how the home page was being refreshed?

A. We would have to pull up the site. My memory is pretty weak on this. But in regard to these four points, these were main images or main what we called heroes that were presented on the home page, so these were the four that were selected to refresh the home page.

Q. And do you recall whether this Q4 home page refresh was approved?

A. I believe it was.

Q. And do you know who approved the home page refresh?

A. It would have been Lynda as well as the group of

people that were in the LRR meeting, which sometimes included Matt and others, Matt Tupper.

Q. And while at POM did Ms. Resnick regularly approve changes to the home page?

A. Major changes, yes. Minor changes, no.

Q. And Mr. Rushton, between April and May of 2009 and October of 2009, did Ms. Resnick request herself changes to the content of the POM Wonderful Web site?

A. I don't recall the time frames. We would have to pull them up on the screen and you'd have to show me. But at some point we did do a major change of the home page.

Q. And were these changes that Ms. Resnick requested?

A. Not specifically. She just wanted a new home page. She didn't ask for specific changes. Those came through the agency, and then she -- she as well as the group of people in the LRR meetings approved the new -- the new page.

Q. So Ms. Resnick may not have asked for each specific change, but she did ask for the home page to be changed.

A. Yes.

Q. And would these changes to the home page have been done by Fire Station or The Agency?

A. What changes?

Q. The content changes to the home page that you were discussing.

A. The design of them, yes. When we did the major shift from a static Web site to essentially a blog Web site, a lot of blog content is dynamically generated. Fire Station as well as POM really wouldn't have control over that, so it was being dynamically pulled.

Q. And do you recall between October 2009 and December 2009 some point where Ms. Resnick was unhappy with the design of the home page, of the POM Wonderful Web page?

A. I don't know if she was ever happy the whole time I was there with the design of the home page. That was a constant debate.

Q. So if Ms. Resnick was unhappy with the home page, did she frequently request changes to it?

A. Yes.

Q. And relating to Ms. Resnick and your work at POM, I would like to refer to Exhibit 261.

And that's CX 261. And if we could turn to page 3.

The second e-mail from the bottom, Mr. Rushton, there's an e-mail from you to Jon Bradley and

Andrea Scott and a carbon copy to Claire Nelson and Molly Flynn, dated December 8, 2008, and the time stamp is 5:33 p.m.

Do you see that?

A. Yes.

Q. Can you identify who Claire Nelson and Molly Flynn and Jon Brad- -- you already said Jon Bradley, but Claire Nelson and Molly Flynn?

A. Claire Nelson was a consultant who worked for POM Wonderful. She worked on our fresh product as well as other things. As a consultant she was kind of a floating object.

And then Molly Flynn was a director of marketing as well. She also kind of floated around in different roles and positions. She worked heavily on tea and a little bit on coffee while I was there.

Q. And in this e-mail are you discussing the POM juice Internet campaign?

A. I don't recall the e-mail specifically, but it appears to be that is the topic based on the subject I have here.

Q. And in the sentence that starts with "We'll do rich media if Lynda wants it," were you referring to Ms. Resnick when you said "Lynda"?

A. Yes.

Q. Do you recall having any discussions with Ms. Resnick regarding rich media?

A. All of my discussions with Lynda would have been in the LRR meetings unless it was, like I said, in passing maybe in an elevator saying hi.

Q. And you described rich media as a type of flash banner ad?

A. Yes.

Q. As one possibility?

A. Correct.

Q. And did you discuss the placement of those flash banner ads or any other type of Internet advertisement for POM at LRR meetings?

A. The agency would come with a proposal of placement as well as the creative.

Q. Are you familiar with the term "microsite," Mr. Rushton?

A. Could you say that again.

Q. Are you familiar with the term "microsite," Mr. Rushton?

A. I'm sorry.

Q. Microsite?

A. Oh, microsite. Yes, I am.

Q. And can you define what a microsite is.

A. A microsite is a small Web site that is

specifically targeted on a single topic. Similar to Pomegranate Truth, it is only a small number of pages, whereas a major Web site could have thousands.

Q. Is POM pills an example of a microsite?

A. It could be. It's fairly small, but no. I wouldn't call it a microsite because they do transact, they do take transactions. They would be their own Web site.

Q. But Pomegranate Truth was a microsite.

A. Yes, it was.

Q. And if a consumer did a search on a search engine like Google, would microsites be included in the search results? Or could they?

A. If someone typed in "microsites"?

Q. No.

If someone, say, at the time Pomegranate Truth Web site was in existence when you were there, if someone searched for "pomegranate and truth," would that microsite possibly appear on the search results?

A. That's possible, yes.

Q. I'd like to focus a little bit more now on the kind of the behind-the-scenes aspects for POM's Web sites.

We touched briefly on meta tags earlier.

Could you describe a little bit in more detail

what meta tags are.

A. Other than kind of the hidden information that the search engines use? To define the content that's on the page?

Q. Well, I guess you mentioned descriptions within your definition if I remember.

What did you mean by "descriptions"?

A. When you do a search on Google, on MSN, Bing, Yahoo, any of the major search engines, the result is usually a title that is in bold that you would click on, and then next to that title is a descriptive word, phrase or sentence. The meta description that you put on a Web page is what the search engines will use in those search results.

Q. And you also mentioned keywords.

Could you describe a little bit the work you did in terms of any keywords for POM Web sites.

A. Meta keywords -- you know, you set up meta keywords based on the content that exists on that page, so you define keywords based on information that truly exists on that page, and then you create additional ancillary keywords that are either related, semi-related or not related but associate to the keywords that exist on that page.

Q. And can you explain why you would select words

that are only semi-related or not directly related to a Web page to be a keyword?

A. Sure. When you do a -- or when the search companies set up their algorithms, they are looking for the most relevant information for a topic. When you do -- when you do a query, you're getting results based on these algorithms.

You set up your keywords so that people searching for related terms, even if they're not specifically related, may come up in the search results. It also helps strengthen your primary keyword.

For example, donut, if you use "donut" as a keyword, "a glazed donut" could be your primary keyword. If you sold no other donuts than glazed donuts, you would still put "apple fritter," you would still put "maple bar," you would still put "a chocolate glazed" as a keyword because those are things that will get people to your page because it's still a donut.

JUDGE CHAPPELL: Can you give me an estimate, how much time you think you'll need to complete your direct?

MR. WONE: Maybe around 90 minutes, Your Honor.

JUDGE CHAPPELL: Did you say 90?

MR. WONE: 90, one and a half hours, Your Honor.

JUDGE CHAPPELL: And so far, how much cross do

you anticipate?

MS. DIAZ: None, Your Honor. None.

MR. GRAUBERT: Zero.

MS. DIAZ: None.

JUDGE CHAPPELL: Thank you.

Go ahead.

MR. WONE: It may be only an hour.

JUDGE CHAPPELL: Okay. If we were to take a break, would that expand or contract your amount of direct? Because there are two kinds, as I've said earlier, there are those breaks that breed more questions and those that condense questions.

MR. WONE: I don't think it will breed more questions, but I'm not sure whether it will condense it either. I don't think it will increase the number of questions.

JUDGE CHAPPELL: Okay. Well, let's press on for now.

BY MR. WONE:

Q. So going back to your example, Mr. Rushton, about a site that sells glazed donuts, including I think you said apple fritters would help build awareness for the site because people searching for apple fritters, potentially that site selling glazed donuts would appear in the results.

A. Correct. Related but not directly related.

Q. And any changes to the meta keywords and the meta descriptions on a POM Web site would have to be made by POM; correct?

A. Correct.

Q. And did you ever propose any keywords for POM Web sites?

A. Can you say that again.

Q. Did you ever suggest or propose keywords for POM Web sites?

A. I would usually come up with a list of keywords for each of the pages, so yes, I would develop those, and then I would take those to my VP, and then she or he would edit them, make changes to them.

Q. And after they were approved by your VP, you would post them on the Web site?

A. Yes.

Q. And did you ever write any meta descriptions for POM Web sites?

A. I don't recall. Because those actually show up on search engines, I don't believe I did. I believe those were given to me in a copy document.

Q. Okay. I'd like to turn now to look at some examples of meta keywords.

Mr. Rushton, I'm going to show you what's been

marked as Exhibit CX 0419. And you may find this one easier to look at in your book.

Have you seen documents similar to Exhibit CX 419, Mr. Rushton?

A. Yes.

Q. And can you explain what the purpose of a document like CX 419 would be?

A. This is essentially defining all of the meta information on a page, the information that wouldn't necessarily show up to a layperson, so it defines the page name, the title of the page, the meta description, the keywords, and then any alt information.

"Alt information" is short for alternative information that shows up when you put your mouse over an image when searching or on a page or maybe a flash file. You can have alt information on a flash file as well.

Q. Does the alt information come up if someone was viewing a Web page through a text browser?

A. Yes.

Q. In addition to holding the mouse over the image if it was viewed -- in addition to holding the mouse over the image if viewed with a normal browser.

A. That's correct.

Q. And across the top of Exhibit CX 419, the first

column is labeled Page Name.

Do you see that column, Mr. Rushton?

A. Yes.

Q. And the fourth column is labeled Meta Keywords?

Do you see that?

A. Yes.

Q. And if you could look at the -- in the Meta Keywords column, go down to the third row where it intersects with the "buy pills" page name.

Do you see that?

A. Yes.

Q. And do you see the keyword in the second line that says "cancer fighting buy"?

A. Yes.

Q. So a keyword "cancer fighting buy" was intended to raise awareness about the "buy pills" Web page for consumers conducting searches on search engines?

A. I'm not familiar with that exact keyword, so I can't say for sure. That wasn't one that I would have come up with, so I can't say for sure.

Q. But in general that would be the purpose of a keyword as you described; correct?

A. Yes. Yes.

Q. And across the top columns, in the third column do you see the phrase "Meta Description"?

A. Yes.

Q. And if you could see in the Meta Description column, go down to the seventh row where the page name is "health prostate."

Do you see that, Mr. Rushton?

A. Yes.

Q. And do you see the meta description that says, in part, "prostate cancer and general prostate health studies from POM Wonderful"?

A. Yes.

Q. So if the health prostate Web page came up in a search engine result, the meta description that I just read would be next to the link; correct?

A. That's correct.

Q. And do you see the second column that says "Title," Mr. Rushton?

A. Yes.

Q. And what does "title" mean in the meta data context?

A. That's the title of the page. At one point Google ranked it very high as to the value of the content on the page. That has since changed. But what that does is define hopefully what is on the page.

Q. Is the title of a Web page visible to a consumer or someone who's looking at the Web page?

A. It is if you know where to look. It's up in the browser above the menu, so it's -- it's -- yes, it is available.

Q. So in the Title column in the -- and if you go down the Title column to the health prostate row, the title being used or the title in the document is POMx - Prostate cancer research page; correct?

A. Yes.

Q. So that would be a title for that -- for the health prostate page.

A. Correct.

Q. And if you could -- in the sixth column you mention A-L-T, the alt 2 row.

Where the alt 2 row intersects with the health prostate row, the text "POMx and POM Wonderful ongoing prostate cancer research" appears.

Do you see that, Mr. Rushton?

A. Yes.

Q. So if someone -- if a consumer was to hold a mouse over the POMx logo on the health prostate page, that text would appear; correct?

A. No. The prior alt tag was the POMx logo, so if somebody held their mouse over the POMx logo, it would literally say "POMx logo." That's what that column means.

Q. What is the purpose of the alt 2 tag then?

A. I would have to look at the page. I'm not sure what that image was. There would have been an image there that sat in front of that alt tag.

Q. So it would be some other image on the health prostate page that would have shown the tag that I just read.

A. Correct.

Q. And we're finished with that exhibit, Mr. Rushton.

I'd like to show you now a demonstrative. It's been marked in your notebook tab as Demonstrative (POMx Google).

Do you see that, Mr. Rushton?

A. Yes.

Q. And if we could look at the second entry, for example, the blue text with the underline, that's the link for the Web page result; correct?

A. The one -- I'm color-blind, so when you say "blue" --

Q. I'm sorry.

A. -- the one that reads "pomegranate pills - pomegranate antioxidant supplements from POM"?

Q. Yes.

A. Yes.

Q. And then the black text underneath that starting with the "pomegranate antioxidant power of a glass of POM Wonderful," that's the meta description?

A. Yes.

Q. So the meta description that I read earlier in Exhibit CX 0419 for the health prostate page would have appeared where the black text is on this demonstrative if a search had been done at that time.

A. We didn't discuss in the prior exhibit whether this actually was live or not, so I can't say yes or no.

Q. Assuming if it was live.

A. Yes.

Q. Now, Mr. Rushton, I'd like to move on to some e-mail communication involving meta descriptions. If you could look at Exhibit CX 173, please.

Do you see that exhibit, Mr. Rushton?

A. Yes.

Q. And if I could focus your attention on the e-mail at the bottom of the page, it's an e-mail from Roni Pfeffer to you, dated January 24, 2008.

Do you see that?

A. Yes.

Q. And do you see the heading Research Page?

A. Yes.

Q. And is that text after the equal sign starting with "POM Wonderful funds research," is that an example of a meta description?

A. I don't know if this is an example or if this was pulled from somewhere. I don't recall.

Q. And do you know where these meta descriptions would have been pulled from?

A. I don't know.

Q. Does this appear to be a meta description used on the POM pills Web page?

A. It could be. I -- it's been a while. I don't recall. It could be.

Q. Do you recall why Ms. Pfeffer proposed making changes to the meta description under the research heading, research page heading?

A. Not specifically.

Q. And in the next section do you see the section starting with the title of Prostate Page?

A. Yes.

Q. And is the text starting after the equal sign that reads "prostate cancer and general prostate health studies from POM Wonderful," is that an example of a meta description?

A. It appears to be.

Q. And do you recall why Ms. Pfeffer suggested,

quote, "Let's lose prostate cancer and" in the text of the meta description?

A. I don't recall.

Q. Mr. Rushton, while at POM did you monitor keyword performance?

A. As much as I could, yes.

Q. I'd like to show you what's been marked as Exhibit CX 427.

Do you see that document, Mr. Rushton?

A. Yes.

Q. And have you seen documents like Exhibit 427?

A. Yes.

Q. Could you explain what the purpose of a document like Exhibit 427 would be.

A. This looks like a Google AdWords category setup, so this would define what keywords were used for doing advertising through either Google or one of the other search firms.

Q. And you used this document to monitor keyword performance on Google?

A. I don't know if I used it to monitor keyword performance. It was something I used to export and have a look at the data in maybe a different format.

Q. But it is data of how keywords performed on Google.

A. Correct.

Q. And column D is labeled Keyword; correct?

A. Yes.

Q. And column E is labeled Keyword Type; correct?

A. Yes.

Q. And could you describe what is meant by the title or the column heading of Keyword Type.

A. I don't -- these look like pills keywords, and it looks like an export from pills. I don't believe I set those up, so the definition for what type of keywords they were, I couldn't be definitive. I mean, "broad" sounds broad, so that's what I would assume.

Q. What would it mean for a keyword to be broad?

A. Similar to what -- how I described meta keywords, a broad keyword may not be directly associated, it may not be even associated to the primary keyword, but it may be affiliated to it in some way.

Q. Okay.

A. To use my old example, like coffee would be a broad search on a glazed donut.

Q. So people searching for coffee would get the glazed donut page?

A. Ad.

Q. And if we could turn to page 7 and focus on

row 118.

And then on column D, which was under the heading of Keyword, "prostate cancer prevention" would have been a keyword that was being used in the Google search engine at that time; correct?

A. This doesn't show whether it was being used, this chart doesn't show. But it does show it was in the system. This doesn't show whether it was active or not, so I can't answer that definitively.

Q. If you could turn to the next page and look at row 118, do you see the word "active" there?

A. And there's your answer. Yes.

Q. Thank you.

And if we can go back to page 7, "prostate cancer prevention" in row 118 was a broad keyword; correct?

A. Yes.

Q. Earlier, Mr. Rushton, you mentioned paid search terms.

Do you recall what paid search terms POM purchased?

A. Well -- and all of these represent paid search terms, so these are -- I mean, the CPC, which I believe is column C, max CPC, that stands for cost per click. That is how much it would cost either theoretically or

how much we had paid for those terms to be clicked.

Q. And when you say "this," you're referring to the keywords in Exhibit 427?

A. Correct.

Q. Those were -- those keywords were paid search term keywords.

A. That's what this report appears to be.

Q. You may have answered this earlier. Were you the one who selected which paid search terms to purchase?

A. I didn't answer that earlier, but I think we started it. In this case, the pills case, it would have been Roni who started with words. She would submit them to me. I would generate some words. And then Google automatically generates words, so they generate words based on their traffic and based on an algorithm of determining similar words or associated words that may generate traffic for your primary keywords.

Does that answer your question?

Q. Uh-huh.

A. Okay.

Q. But POM would have the final decision on which keywords to use in connection with paid search.

A. But when Google gives you a list, they will give

you a listing where from a couple of suggested keywords to hundreds you do have to click "approve."

Q. Do you recall what other search engines POM purchased paid search terms on besides Google?

A. I know we tested MSN, which is now Bing. We tested Yahoo. I think we turned off MSN very shortly because it didn't perform. I think the same is true of Yahoo.

Q. And earlier you mentioned you were involved in writing creative briefs.

Do you recall or can you describe when you wrote the creative briefs?

A. If there was a online component to one of the marketing directors' initiatives, they would ask me to write a creative brief for the online component.

In addition, if there were an online initiative only that didn't involve one of the other marketing directors, then I would write an initial creative brief.

JUDGE CHAPPELL: Let's go ahead and take our afternoon break. We'll reconvene at 4:30.

(Recess)

JUDGE CHAPPELL: Back on the record Docket 9344.

Next question.

BY MR. WONE:

Q. Before the break, Mr. Rushton, we were

discussing creative briefs that you wrote for online initiatives.

What did you do after you finished writing your creative brief?

A. Well, what do you mean?

Q. Would you send them to someone? Did you discuss them? What was the process I guess. Sorry.

A. The creative brief -- I would complete a creative brief. If it was for one of the other marketing directors, I would give it to them to review, make sure it did what they wanted it to do, and then either they or I would submit it to the agency.

Q. If we could look at an example of one of these briefs, CX 200, please.

Do you see that document, Mr. Rushton?

A. Yes.

Q. And on page 1 it's an e-mail from you to Martin Shreeves, dated June 2, 2008; correct?

A. Yes.

Q. And attached to this e-mail is a creative brief for the POM health section?

A. It appears so, yes.

Q. And who is Martin Shreeves, Mr. Rushton?

A. Martin was the director of marketing for medical or research. I don't recall his exact title.

Q. And if we could turn to the page 2 of CX 200.

Is this a creative brief that you wrote, Mr. Rushton?

A. It appears to be. I may have had Martin's assistance, but it appears to be something I would have put together.

Q. And if you could look at the section titled Objective on page 2 of CX 200.

You mentioned create or -- sorry. Strike that.

The brief mentions creating an authoritative Health Benefits section.

Why did you want to create a more authoritative Health Benefits section, Mr. Rushton?

A. I don't recall.

Q. The objective also mentions later in that sentence at the beginning of the second line links to in-depth research.

Do you recall why you would have wanted to link to research?

A. We always did. I mean, if we were referencing any of our research information for any of the POM Wonderful research, we would make sure we linked to it.

Q. So someone viewing the Health Benefits section would see links on the Web page to POM's research;

correct?

A. If those changes were made, yes.

Q. And does linking to research affect search engine optimization at all?

A. Yes, it does. Google and the other search engines use linking as well as something called latent syntactical indexing to determine the value or the rank of a page.

Q. Can you describe what you mean by latent and tactical indexing, please.

A. It's latent syntactical indexing, so they're taking the syntax of a page and looking at the genealogy or hierarchy of the links that either draw in traffic to that page or are linking out of that page, so a page may increase or decrease in its search rank based on the authority of other pages linking to it or pages you were linking out to.

It's rather confusing. Does that somewhat describe it, what you're asking?

Q. Uh-huh.

So having links to research affects your -- this index; is that accurate?

A. Having links to anything could affect the page that you're linking to. It could also either adversely or, you know, have a positive impact on the page.

Q. And if you could turn to page 4 of CX 200, please.

Did you write this proposed content, Mr. Rushton?

A. I don't think so. I mean, I could have compiled it, but I don't think I wrote it. It's too much medical information, above my head.

Q. Do you know who you would have received this content from?

A. Either it could have been from Martin -- I don't know specifically. It could have been from my VP. I don't know.

Q. I'd like to show you another brief. It's Exhibit CX 0252.

And on page 1 of CX 0252 there's an e-mail from Heather Mizrahi to Diane Kuyoomjian and a carbon copy to you, dated November 12, 2008; correct?

A. Yes.

Q. And attached to this e-mail are two creative briefs, one for the online advertisements and another one for the home page refresh.

A. That's what the document shows.

Q. And who is Heather Mizrahi?

A. Heather Mizrahi was another director of marketing. She worked -- I couldn't tell you which area

of online she worked. I know she worked with tea for a little bit. She worked with products.

Q. And under the two bullet points Ms. Mizrahi states, "Obviously, we'll talk through these with the creative folks, but want to make sure that I've captured all of your feedback."

Did you ever have any discussions regarding these creative briefs with Ms. Mizrahi?

A. I don't recall this one specifically.

Usually when you would submit a creative brief, you would sit down with the agency and invite the parties that were involved and have a discussion about the creative brief. Because they were very -- the creative briefs were brief, they weren't meant to be detailed, they were very general, there would be a follow-up meeting to let the agency ask questions.

Q. And could you explain the rest of the process after you had those meetings with the agency.

A. I wish I knew it. I really don't know what happened. It kind of became a black wall. Once we would get it to the agency, we wouldn't see anything for anywhere from a few days to even a couple of months, and then it would just show up in an LRR meeting. We usually didn't know anything about the project until we saw it on the agenda for the LRR meetings.

Q. And if you could turn to page 3, please.

And do you see the section entitled Mandatories, Mr. Rushton?

A. Yes.

Q. And do you know what is meant by "mandatories" in the context of an online creative brief?

A. Not really. I mean, everybody defined it differently, so it could have been a person's personal mandatory things that they wanted to see on there. It could have been a directive. I can't say specifically.

Q. And if you could turn to page 4.

Do you see the section entitled Types of Web Sites in Which Advertising Will Run?

A. Yes.

Q. And do you see the first bullet point that says "health/nutrition related"?

A. Yes.

Q. Why did POM want to advertise on health/nutrition-related Web sites?

A. POM in general or POM online?

Q. Online.

A. Our mantra or our marching orders for online had to do with health in general, so we targeted specific sites or magazines or whatever they were online that attracted a health audience and an audience that was

interested in personal health, fitness, physical well-being, things like that.

Q. And the second line of that section says "male-targeted sites."

Why did POM want to advertise on male-targeted sites online?

A. Specific to this I think there -- I don't know if this was done intentionally. I don't recall. But you see number 1 is health and nutrition related, number 2 is male health-targeted sites. Likely the reason that number 2 is number 2 is because all of those are essentially health sites. Men's Health targets obviously a health audience, so does ESPN, people who are interested in its sports or health and well-being. Livestrong and Men's Fitness, they're all health related.

Q. Is there a reason why those focused on male-oriented sites, though?

A. We did prostate research. I don't know if that was why.

Q. And you previously discussed your work, your outreach or communication with bloggers on behalf of POM. I would like to show you Exhibit CX 0209.

And on the first page there's an e-mail from you to Mark Cregar, dated June 24, 2008; correct?

A. Yes.

Q. And the subject line says "Blogger Package"?

A. Yes.

Q. And was Mark Cregar one of the VPs of marketing while you were at POM?

A. He was.

Q. Can you explain, Mr. Rushton, what the blogger package is?

A. We had an initiative to send -- or not to send, to get bloggers to try POM Wonderful juice. We were reaching out to as many bloggers we could that had a health message or health fitness or healthy consumption message. In reaching out to them we would send a -- what we called the blogger package, which was a four-page, two pages front and back, four-page letter and then we would send them pomegranate juice.

We tried a couple of times to do some of our ancillary products, which included coffee I believe and pills. It didn't work very well, so we just stuck with the juice.

Q. And can you recall approximately how many blogger packages you sent out?

A. A lot. I mean, it was well over a thousand.

Q. And if we could turn to page 2 of CX 0209.

Is this the blog letter that went out as part of

the blogger package, Mr. Rushton?

A. Yes. It appears to be -- we made minor changes to them over time. But yes, this appears to be one of them.

Q. And if you could turn to page 3, please.

Actually if I could ask one more question on the letter.

Did you write this letter, Mr. Rushton, for the blogger package?

A. Which piece of it?

Q. Page 2.

A. I probably did, and then I had it approved by my VP.

Q. And if we could turn to page 3 of CX 0209.

Do you see the Backed by Science section, Mr. Rushton?

A. Yes.

Q. Did you write this section, Mr. Rushton?

A. No.

Q. Do you know who would have written it?

A. I'm not positive. No.

Q. Do you know where you -- did you know who you received the content from, though, to attach it to the letter?

A. It would have come from my VP. And that's true

of all of the rest of the pages in the blogger package.

Q. And did Ms. Resnick see the blogger package before you sent it to any of the bloggers?

A. I believe it was shown to her in an LRR meeting before we started the initial test. We essentially tested 100 bloggers to see if there was any response, and then we started a much heavier outreach program after the success of the 100 bloggers.

Q. And you described the types of bloggers that you -- that POM was trying to communicate with.

How did you actually identify I guess which blogs were health related -- which bloggers were health related?

A. By reading. This is what the interns were for I had mentioned when you asked about staff. I had anywhere from one to three or four interns that would work either part or full-time for us doing essentially investigative work, finding blogs. They would go to the blog. They would review the blog to see if the subject matter of the overall blog was either health related, food related, even cooking, anything that would relate to pomegranate juice. And then they would put that into our database or our tracking mechanism.

And then if it were tagged as a health-related blog, we'd obviously reach out to them and contact

them.

Q. Did you ever discuss the blogger package with Mr. Tupper?

A. I do recall discussing the -- what we were going to send, whether it was coupons or whether it was actual juice. And he was fairly passionate about sending the actual juice instead of coupons.

So yes, we did talk about it. I don't remember other than the juice versus coupons to what extent otherwise.

Q. Would Mr. Tupper have reviewed the blogger package before it was sent out?

A. I believe so. My guess is he was in the LRR meeting. If he didn't, I would assume that my VP had him review it.

Q. And if I could show you CX 340 relating to your work on POM Web sites, Mr. Rushton. Yes, CX 340.

Do you see that e-mail, Mr. Rushton?

A. Yes.

Q. And if I could focus your attention to the bottom e-mail, it's an e-mail from you, dated January 25, 2010, to Lindsay Jones and M. Dreher.

Do you see that?

A. Yes.

Q. And who is M. Dreher, Mr. Rushton?

A. Mark Dreher.

Q. And in CX 340 were you asking Mr. Dreher to write a summary for the POM Web site about an erectile dysfunction study that POM had sponsored?

A. It appears so. At this time we were more of a blog than a Web site, so we were asking third parties to generate content for us.

Q. And if I could draw your attention to the fifth bullet under the Ideal Content heading where you write, "What the results tell us or may be an indicator of without making any health claims (as you know)" and when what looks like an emoticon smiley face.

Do you see that, Mr. Rushton?

A. Yes.

Q. And Mr. Rushton, did you have a reason to think that POM could not make health claims?

A. No. I think we always joked -- Mark used to work for POM, as I'm sure you know. We just always used to joke that you can say whatever you want, just don't make health claims.

MR. WONE: No further questions, Your Honor.

JUDGE CHAPPELL: Any cross?

MR. GRAUBERT: One moment, please, Your Honor.

JUDGE CHAPPELL: Go ahead.

(Pause in the proceedings.)

MS. DIAZ: No redirect, Your Honor.

JUDGE CHAPPELL: You mean cross?

MS. DIAZ: Yes. No cross. Excuse me.

JUDGE CHAPPELL: Okay. Well, if there's no cross, there will be no redirect, so you're not actually wrong. That's one way to stop.

I noticed at the break the heat index outside was 115, and the 70.8 feels pretty good in here, so enjoy it while you can.

So I guess we're back Monday at 9:30?

MS. HIPPSLEY: Yes, Your Honor.

JUDGE CHAPPELL: Thank you, sir. You're excused. Back to Kentucky.

THE WITNESS: Thank you.

(Discussion off the record.)

JUDGE CHAPPELL: All right. Until Monday at 9:30 we're in recess.

(Whereupon, the foregoing hearing was adjourned at 4:55 p.m.)

C E R T I F I C A T I O N O F R E P O R T E R

DOCKET/FILE NUMBER: 9344

CASE TITLE: In Re POM Wonderful LLC, et al.

HEARING DATE: June 9, 2011

I HEREBY CERTIFY that the transcript contained herein is a full and accurate transcript of the notes taken by me at the hearing on the above cause before the FEDERAL TRADE COMMISSION to the best of my knowledge and belief.

DATED: JUNE 16, 2011

JOSETT F. WHALEN, RMR

C E R T I F I C A T I O N O F P R O O F R E A D E R

I HEREBY CERTIFY that I proofread the transcript for accuracy in spelling, hyphenation, punctuation and format.

ELIZABETH M. FARRELL