EXHIBIT F

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

GERRY WILLIAMS,
Plaintiff,
vs. No. C 04 2409
LT. ROSS, C/O SOTELO, C/O S. ROACH, C/O TUNTAKIT, C/O T. MAYS, AND DOES 1 THROUGH 25, INCLUSIVE,

Defendants.

DEPOSITION OF WILLIAM S. BREALL, M.D.
San Francisco, California
Tuesday, October 17, 2006

Reported by:
CLAUDIA A. BETTUCCHI
CSR No. 12214
JOB No. 3-54537

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Defendants.

Deposition of WILLIAM S. BREALL, M.D. taken on behalf of Plaintiff at 900 Hyde Street, San Francisco, California, beginning at 3:33 p.m. and ending at 7:11 p.m. on Tuesday, October 17, 2006, before CLAUDIA A. BETTUCCHI, Certified Shorthand Reporter No. 12214.

APPEARANCES:

For Plaintiff:
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For Defendants:

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INDEX

EXHIBITS

INDEX (continued):

EXHIBITS

San Francisco, California, Tuesday, October 17, 2006

3:33 p.m. - 7:11 p.m.

WILLIAM S. BREALL, M.D.

having been administered an oath, was examined and testified as follows:

EXAMINATION

MR. MCDONOUGH: Okay. Tim McDonough here, representing Defendants Tuntakit and Roach. And the expert, Dr. Breall, has produced his file. I'm just going to pass these documents to you and just read them off.

Here's a letter dated September 21st, 2006, which is essentially the report of Mr. Breall. I believe you already have that, but I pass that to you at this point anyway.

The next, a fax cover sheet which is the fax cover sheet to the other documents, the ones that I've passed along to you already, which are his 2005/2006 depo list.

Here is a letter from someone in my office to Mr. Breall dated October 4th, 2006, has to do with the contract. Here is a letter from myself, Timothy McDonough, to Dr. Breall dated September 20th, 2006.

Here is a letter dated September 20th, 2006, from myself to Dr. Breall.

Next is a two-paged document from Dr. Breall, which appears to be his notes. Next is a statement, or a bill, from Dr. Breall that was sent to the Attorney General's office.

And finally is a multi-page, standard agreement between the Department of Justice, my office, and Dr. Breall. It also contains an attachment, which is part of it, is his C.V. And then I'm passing you, which I know you already have but just to be sure, the curriculum vitae of Dr. Breall.

And then finally here is a fax cover sheet sent from me along with -- let's see -- an additional nine documents or ten-document fax, which is the notice of deposition from Plaintiff's counsel, which I faxed it to Dr. Breall.

And I believe those are the documents from Dr. Breall's file, and those are our responses to your request for production of documents. I know -- I think in one request you did ask for depo transcripts and hearing transcripts, which Dr. Breall does not have any of those, from what I understand. But obviously, you can inquire.

MR. CALABRO: So this is the totality of all

documents that you believe are responsive to the request that I --

MR. MCDONOUGH: Well, and then are documents that we've already produced, which we also have here today for you, which are the civil complaint, which I gave to Dr. Breall; the deposition of Mr. Williams, which, obviously, you have a copy of as well; and then the medical file from doctor -- the medical file from the Department of Corrections and Rehabilitations of Mr. Williams.

And that has been produced to you in its entirety. It should be Bates stamped AG00001 through -- I think it's AG01262, I believe. I believe that's correct.

So those are here for your -- if you need to ask about that and so forth. I --

MR. CALABRO: So other than that -- other than the documents that you've already produced and the documents that you just put on the record, you believe those are all responsive documents to the requests contained in the notice of deposition --

MR. MCDONOUGH: I believe so, in the notice of the deposition, in the rider, I guess is what you called it.

BY MR. CALABRO
Q Dr. Breall -- okay.
MR. MCDONOUGH: I'll have to check the Bates stamps on this, but I sent you a copy of this to -- with regards to your request for production of documents to --
MR. CALABRO: Assuming those are the same documents that you sent, I got them.
MR. MCDONOUGH: Yeah.
BY MR. CALABRO
Q Please state your name for the record.
A William S. Breall, B-R-E-A-L-L.
Q And you pronounce is Breall?
A Yes.
Q Dr. Breall, my name is Toji Calabro. I represent Gerry Williams in a case called Williams against Ross, et al.
Have you ever been deposed before?
A Yes, sir.
Q So you may be familiar with the procedures that I'm about to talk about now, but I'd like to review them with you just to make sure that we're operating on the same page.
I'm going to ask you a series of questions about your evaluation of today's case. If you do not

hear or you do not understand any of the questions that I ask you, please let me know because I will assume, if you answer the question, that you understand it.
A Fine.
Q The court reporter will be recording every word that we say. That means that we can't talk at the same time, and it means that all answers must be verbal with a yes or a no. Shrugs of the head or uh-huhs cannot properly be recorded.
Do you understand that?
A Yes, sir.
Q At various times Mr. McDonough may decide he wants to object. His objections are only for the record, and you will still be required to answer my question without regard to his objection.
Do you understand that?
A Yes, sir.
Q If you need a break throughout any time today, just let me know and we will try to accommodate that.
Are you taking any medications today that may affect your testimony?
A No, sir.
Q Did you not take any medications that a doctor prescribed today that would affect your testimony?
A I've taken no medication today. I don't take

medication.
Q Is there any other reason you cannot give your best testimony today?
A No reason at all.
Q Do you understand that it is important that you give full and complete answers to my questions?
A Yes, sir.
Q Do you understand that it's important to add all relevant information to your responses?
A I do.
Q I'd like to remind you that you're under oath and that you are subject to the same penalties of perjury as if you were to testify in court.
Do you understand that?
A Yes, sir.
Q Dr. Breall, to begin, Mr. McDonough handed me some of your notes that he feels are responsive to the requests in the deposition notice that I sent you. I'm now asking you to just go ahead and read the notes that you have written there into the record.
A All right. I'll be glad to do that, but you have to understand that my written report is based on these notes.
Q I understand. I just -- I can't read your writing, so I just want to have it anyway.

A Okay. Sure. September 21, 2006. Age 52, black male, electrocardiogram starting in 2002 showed an inferior wall myocardial infarction of indeterminate age. He had complaints of chest pain at that time. He was told that he had a silent, inferior wall infarction around the year 2000, seen on -- this was seen on electrocardiography. He has had recurring palpitations and left, anterior chest pain ever since. He has taken intermittent nitroglycerin for chest pains and palpitations. He has taken aspirin, 81 milligrams once a day, since 2003.
On 8/3/03 Mr. Williams and a cell mate had a fight. The fight was broken up by correctional officers. Pepper spray was administered. After that Mr. Williams complained of trouble breathing, chest pain and palpitations. He requested medical help. He was held in a four-by-four holding cage for 1 1/2 hours before he was sent to the medical clinic.
There is a past history of a gastric ulcer diagnosed on 10/3/01 on upper gastrointestinal x-ray and gastroesophagoscopy. He had a history of multiple illicit drug use in the early 1990's or earlier.
On November 19, 2003, his cholesterol was 171, his triglyceride level was 80, his high density lipoprotein level was 44.7 and his low density

lipoprotein level was 110. Electrocardiogram dated 8/6/03 showed an old inferior wall myocardial infarction.

On 8/8/03 electrocardiograms revealed that the inferior wall Q waves were less prominent. On eight -- they were less prominent than on 8/3/03. A treadmill test performed on 3/3/03 was within normal limits. An electrocardiogram dated 11/9/02 showed an inferior wall infarction of indeterminate age. A diagnosis of arteriosclerotic heart disease with coronary artery disease was made. An electrocardiogram dated 7/19/2000 was within normal limits.

A treadmill test dated 7/12/2000 was within normal limits. He was first seen for chest pain on June 12, 2000. He was treated with nitroglycerin. He has had recurring chest pain ever since.

He had more chest pain on 9/6/03. His blood pressure at that time was 120 over 80. His pulse was 71. His oxygen saturation of his blood was 98 percent. His temperature was 99.9. He was admitted to the medical center for this condition. An electrocardiogram revealed an old inferior wall myocardial infarction and an incomplete right bundle branch block. His electrocardiograms were stable. He was treated with nitroglycerin and released. It took between 1 1/2 hours

to get treated.

Q Does that represent the totality of your handwritten notes for this?

A Yes, sir.

MR. CALABRO: Let me mark this as Exhibit 25.

(Deposition Exhibit 25 was marked.)

MR. CALABRO: Next I'm going to hand you what we're going to mark as 26.

(Deposition Exhibit 26 was marked.)

BY MR. CALABRO:

Q This is the -- is that the bill that you sent Mr. McDonough?

A It was a bill that I sent to Mr. McDonough for work done up to September 21, 2006.

Q So you've done work subsequent to that?

A Yes, sir.

Q Have you billed Mr. McDonough yet for that?

A No, sir.

Q Do you have any records of how much time you spent on the case since September 21st?

A Yes. The time that I spent was time that I spent going over these records again and time that I spent with Mr. McDonough.

Q Where are those records?

A Pardon me?

Q Where are those records of the time that you spent going over these documents and the time you spent since October 21st?

A I just made a note: 4 1/2 hours of record review and then I spent a half hour with Mr. McDonough.

Q So you just referred to another document?

A Yes. That's my work computer sheet.

Q Was that among the documents that were just --

MR. MCDONOUGH: I don't think we gave you that one.

MR. CALABRO: I'm sorry. You didn't --

MR. MCDONOUGH: Did we give him that one?

THE WITNESS: No. I just generated that today.

BY MR. CALABRO

Q So you did not give me that?

A No. I generated that as part of my work product that I give to my bookkeeper after things are all said and done.

Q So the total amount of time that you spent since September 21st was four hours going over these documents -- is that right? -- since that bill, the total --

A 4 1/2 hours.

Q 4 1/2 hours?

A Yes.

Q Going over the documents that you've already produced in this case?

A Yes. And a half hour with Mr. McDonough.

Q When did you spend that half hour with Mr. McDonough?

A Just prior to this deposition.

Q What did you talk about?

A We talked about this case specifically as represented by my report.

Q What did Mr. McDonough say to you?

A Really, nothing. He just listened, and I told him essentially the same thing that I set forth in my report.

Q Did he ask you any questions?

A I'm not sure that he did; no, sir.

Q When did this meeting take place?

A Between 3:00 and 3:30 today.

Q That was less than an hour ago; is that right?

A Yes.

Q And you don't remember if he asked any questions?

A All right. I can say that he didn't ask me any questions.

Q So he did not ask any questions?

A No.
Q Did he make any statements to you?
A Yes. He made a statement regarding the fact that he noticed I graduated from Reed College. And I asked him where he graduated from, and he told me Holy Cross and Villanova. But other than just talking about this case, there was really nothing in the way of questions that he asked or any other statements that he made.
Q He made no statements about this case to you?
A I can't really think of anything specific; no, sir.
Q For a half an hour all you talked about was -- you talked to Mr. McDonough?
A I did most of the talking; yes, sir.
Q He asked you no questions?
A That's correct.
Q And he made no statement, other than where you went to college?
A I think that's what I said.
Q I'm just asking if that's what the truth -- I just want to make sure I hear it correctly.
A Well, let's see. We discussed my kids. One of my daughters is a judge and three other kids are attorneys and two are doctors. And he was interested

about that. And I asked him if he was married, and he said no. But maybe he should -- oh, yes. He did ask me a question about diet for himself.
Q That's it?
A That's it.
Q Okay. Have you talked to any other attorneys in preparation for your deposition today?
A No, sir.
Q Have you talked to any of the defendants in this case?
A No, sir.
Q Have you reviewed any documents from the defendants in this case?
A Everything I've reviewed is right here on this desk.
Q Sorry. My question was, Have you reviewed any cor- -- documents from the defendants in this case?
A Other than what's on this case, no -- other than what's on this table, no.
Q Have you reviewed any correspondence from the defendants in this case?
A Unless it was in these records that are sitting in front of me. But I don't -- I don't believe so. I don't recall specific correspondence.
Q Did you talk to Mr. Williams at all with

respect to this case?
A I -- well, you mean aside from the half hour before this deposition?
Q I'm sorry. I'm talking about Mr. Williams --
A Oh, Mr. Williams; not Mr. McDonough. No, I've never spoken to Mr. Williams.
Q You didn't perform any kind of examination of Mr. Williams?
A No, sir.
Q Would you agree that you could do a more accurate diagnosis of Mr. Williams if you had seen him in person?
A Yes, sir.
Q Did you order any tests or any medical tests in relation to Mr. Williams' case?
A No, sir.
Q Were there any tests or medical tests that you would have liked to have ordered or performed to help your diagnosis in this case?
A Yes.
Q What tests would those be?
A I think those are set forth in my report. I would have liked to have a stress nuclear scan of the heart and perhaps a cardiac catheterization and coronary angiographic study.

Q Anything else?
A That's it.
Q Did you talk to any other medical personnel at the prison with respect to this case?
A No, sir.
Q And by the prison I mean Salinas Valley State Prison.
A No, sir.
Q Have you talked to any medical personnel at any prison with respect to Mr. Williams' medical condition?
A No, sir.
Q Have you talked to any other personnel at all at the prisons with respect to Mr. Williams in this case?
A No, sir.
Q Have you spoken with any other inmates at any of the prisons with respect to Mr. Williams?
A No, sir.
Q Turning to the medical documents in particular, I'd like to focus on September the 6th, 2003, for just a moment. What documents do you recall reviewing regarding September the 6th, 2003?
A Well, I reviewed records from the -- from the state prison system and -- I reviewed all of the medical

records from state prison system.
Q There were -- well, wait a second. Withdrawn.
Can you name any well-respected treatises or authoritative texts in the cardiology field?
A Sure.
Q What are they?
A Braunwald's "Heart Disease, A Textbook of Cardiovascular Medicine," Seventh Edition.
Q This is the book sitting right on your shelf in your office?
A Yes, sir. That's the bible. By Zipes, Libby, Bonow and Braunwald.
Q Are there any others that you can name?
A There are some others in another room, but I can't recall the titles of them right off. This is the one that I use almost exclusively.
Q Have you referred to any other authoritative texts in this field, other than Braunwald, in the last two months?
A As far as a textbook is concerned?
Q Or any authoritative texts?
A No, no other authoritative texts. I keep up on the literature every single day.
Q But no other authoritative texts?
A No other authoritative text.

Q Did you refer to Braunwald's in coming to your conclusions in this case?
A No, sir.
Q You did not?
A No, sir.
Q Did you refer to any authoritative text in preparing your testimony in today's deposition?
A No, sir. I didn't have to.
Can I explain why?
Q No.
A Okay.
Q Have you ever heard of Hurst's "The Heart"?
A Oh, sure Willis Hurst. I believe we have that in the next room.
Q Is that considered an authoritative text?
A Yes. Willis Hurst is a very well-respected cardiologist. He was chairman of the Board of Internal Medicine when I was one of the examiners back in the 1970's, I believe. It's in my C.V.
Q And I'm sorry. I was rude earlier. Please explain to me why you didn't need to consult Braunwald's.
A This is a very straightforward case consisting of coronary artery disease, and I deal with this maybe a dozen times a day in various forms. I deal with this

all the time.
Q So it wasn't new to you?
A No.
Q Have you received any payment from the defendants in this case for your time?
MR. MCDONOUGH: Object as vague and ambiguous.
THE WITNESS: You mean in accordance with that bill that was sent out?
BY MR. CALABRO
Q That's right.
A I don't know whether I have or not. That bypasses me. If it's -- if this is the up-to-date bill, then the answer is no, nothing has been paid.
Q Do you have an agreement with the defendants themselves or do you have an agreement with the Attorney General's office regarding your services for this case?
A With the defendants? No, with the Attorney General's office.
Q So it's your understanding that you are being paid by the Attorney General's office?
A Yes, sir.
Q Who first contacted you with respect to your participation in this case?
A Mr. McDonough.
Q What did he say to you when he first called?

A It was a telephone call, and he asked me whether I'd be available to review some documents and act as an expert witness. And I told him I would, and that was really the sum and substance of our discussion. It was very short. And then he sent me records to review.
Q Did he tell you what side he represented?
A At that point -- I don't recall whether he did or not. I'm not sure that he did.
Q Did he tell you what result he was looking for in the case?
A No, sir.
Q Did he ask you to find a certain result in this case?
A No, sir.
Q Did he imply or make known to you what kind of result he would like in this case?
A No, sir. As far as I can recall, he was just interested in information.
Q Did you, personally, prepare all drafts of the report which you have submitted in this case?
A Yes, sir.
Q When was the first draft of the report completed?
A It was completed as of the -- as of the date

of this report: September 21, 2006.
Q Did you send a copy of this draft to Mr. McDonough?
A Yes, sir.
Q Do you know if Mr. McDonough reviewed it?
MR. MCDONOUGH: Objection; vague and ambiguous, not within his personal knowledge.
THE WITNESS: I don't know if he did or not. It's addressed to him.
BY MR. CALABRO
Q Did he tell you whether he reviewed it?
A He didn't tell me in so many words; no, sir.
Q Did he make known to you that he had looked at it?
A Yes.
Q Did he have any comments about the report?
A No, sir.
Q Nothing at all?
A No, sir.
Q Did he ask you to make any revisions?
A No, he didn't.
Q Has anyone asked you to make any revisions to that report?
A No, sir.
Q Have any revisions been made to that report?

A No, sir.
Q Is it your testimony today that the testimony you give today is objective?
A I believe it is; yes, sir.
Q That you objectively weighed the evidence and you're rendering an objective opinion based on that evidence?
A Yes, sir.
MR. CALABRO: I'd like to turn to page 3 of the report. We'll mark it as Exhibit 27.
(Deposition Exhibit 27 was marked.)
MR. CALABRO: Here you go.
THE WITNESS: I've got my own copy.
MR. CALABRO: Well, we should use this one, since it's the one that's marked with the exhibit number.
THE WITNESS: Okay.
BY MR. CALABRO:
Q At page 3 at very bottom of that report it says:
"Thank you very much, Mr. McDonough, for allowing me the privilege of reviewing this case for you. I hope this information will be of interest and value to you."
Did you write that sentence?

A Yes, I did.
Q What did you mean by that?
A Exactly what I said. I thanked him for allowing me to help him with this case. This is a standard thing that I say to everybody who sends me a case like this.
Q Did you state the opinions in any way so that they would be more valuable to the defendants in this case?
A I don't believe so; no, sir.
Q Are you comfortable with the idea of having your professional reputation as a cardiologist judged by the testimony you gave in this deposition?
A I'm not sure what you mean by that, sir. Am I comfortable having my professional reputation what? Judged?
Q Judged --
A I am --
Q -- by the accuracy of the testimony you give in this deposition.
A I'm always cognisant about my professional reputation no matter what I do, whether it's giving a professional opinion for medical/legal matters or whether it's giving a professional opinion for private patient matters or consultative matters. And I try to

act accordingly and with the highest standards of professional ethics and scientific acumen.
Q Is it your testimony, then, that you are bringing the same degree of objective and professional evaluation to this testimony that you would give to any of your patients?
A Absolutely.
Q Are you comfortable with the idea of having your character and integrity judged by the truthfulness and objectiveness of the testimony you give in this deposition?
A You bet.
Q What I'd like to do now is go over some of the documents that have been produced in this case by the Attorney Generals. The first one I want to look at --
MR. CALABRO: We'll mark this as 28.
(Deposition Exhibit 28 was marked.)
BY MR. CALABRO
Q Do you recall if you've seen this document before?
A Yes, sir.
Q You have seen this document before?
A If it's part of this big compendium of medical records, I've seen it. I know that I've seen records dating back to the year 2000.

Q This one appears to be dated June 10, 2000.
A Well, June 10 and June 12; yes, sir.
Q June 10 and June 12, 2000.
Is this the kind of document that you would normally rely on in your occupation as a cardiologist?
A Well, these are just progress notes, and these are notes that I would see and take into consideration when it comes to patients. These are progress notes that are ordinarily written in hospital records or clinic records. And yes, I would rely on these notes with respect to symptomatology and physical findings.
Q In the June 10, 2000, entry you'll note it says in the first line halfway through "shoulder pain radiating to middle of chest intermittently" and then it says "X 5 days."
Do you see that?
A Yes, I see it.
Q Does that mean anything to you, "X 5 days"?
A Well, it means -- the "X" means times, and it means just what it says. He had right shoulder pain and pain in the middle of his chest.
Q And he says --
A If I saw this for the first time without knowing what went on subsequently or any of the tests that were taken on him or electrocardiograms that were

taken on him, I would have immediately -- most doctors immediately come up with a differential diagnosis.
Is this musculoskeletal pain in the shoulder and in the chest? Or is this heart pain? Or is it lung pain? Or is it gastrointestinal pain? These are the things that would cross a doctor's mind.
Q The next line says:
States pressure in mid chest when inhaling.
A Yes, sir.
Q Is that consistent with musculoskeletal pain?
A It could be.
Q Is it consistent with heart pain?
A Pressure is consistent with chest pain, but accentuation of the pressure with inhaling is not consistent with heart pain.
Q Okay. And it also says that his blood pressure there is 140 over 89.
A Yes, sir.
Q Is that high?
A It's the upper elements of normal. It's what they call prehypertension.
Q In the June 12, 2000, there is -- it looks like an S. And then it says, "Constant mid chest pain."
Do you see that area?

A I do.
Q Can you make out any of that?
A I can.
Q What does it say?
A Constant mid chest pain. Difficulty breathing. Something on the right.
Q Congested feeling?
A I think that's what it says, congested feeling, non-tender.
Q That's fine.
Is any of that consistent with having a heart condition?
MR. MCDONOUGH: Objection; vague and ambiguous.
THE WITNESS: Any time there is chest pain, this could be heart pain. But any time there is shortness of breath, this could be symptoms of a heart. Congestion could be something different, like a bronchitis or a pneumonia.
He had a morning -- it says a.m. productive cough. So he could be coughing from a pneumonia or a bronchitis. He smokes one pack of cigarettes per day. The doctor put that down, or whoever it was who wrote that put that down. So maybe he's got a smoker's bronchitis.

But the answer is yes and no. Whenever there is chest pain, that could be heart.
MR. CALABRO: Very good. Thank you.
We'll mark this next one as 29.
(Deposition Exhibit 29 was marked.)
BY MR. CALABRO
Q This one appears to be dated June 15th, is it?
A I think so; yes, sir.
Q First line there says:
Persistent chest pain, EKG, question mark, old infarct.
A Yes, sir.
Q Do you read it the same way?
A I do, yes.
Q What does that mean to you?
A Well, it doesn't mean anything to me. I base my opinion on what the electrocardiogram shows by looking at the actual electrocardiographic tracings.
For many years I taught electrocardiography at the University of California. And what somebody scribbles down on a piece of paper, as far as a diagnosis is concerned, is often meaningless. I've got to take a look at the actual tracing.
And I will tell you without equivocation that the first time that I saw definite evidence for a

myocardial infarction was in December of 2001.
Q Well, let's talk a little bit about electrocardiogram. An electrocardiogram is what's commonly referred to as an EKG?
A Yes, sir.
Q Is it the same thing as an ECG?
A Yes, sir.
Q Why is there a difference in nomenclature?
A The original, old-time cardiologists in the middle or the early part of the 20th century came from Germany. A fellow named Einthoven invented electrocardiography, and he was a German professor. And in Germany they call it electrocardiogram with a K, and so that persisted. And over in this country electrocardiogram is with a C, so we call it ECG.
Q What does an ECG measure?
A The ECG inscribes the electrical impulse as it travels through the heart.
Q What kinds of things can we learn from an EKG or an ECG?
Do you prefer EKG or ECG?
A Either one.
Q What kinds of things can we learn from the record of an EKG?
A Well, you can first of all learn about the

rhythm of the heart, whether the heart is a normal sinus rhythm or whether it is some type of an abnormal rhythm, with the rhythm abnormality starting in the atria or starting in the ventricles.
You can learn about the integrity of the atria, the two minor chambers of the heart, how big they are, how small they are. You can learn about the ventricles, the two major chambers of the heart, and whether there is an enlargement of the left ventricle, whether there is an enlargement of the right ventricle.
You can often see evidence for pulmonary heart disease, a heart condition associated with chronic lung disease. You can see evidence for damage to the heart that occurs in the presence of a prior or an acute heart attack or myocardial infarction. You can see congenital heart problems in the electrocardiogram.
Those are just a very few of the things that you can see.
Q Can you measure pain through an EKG?
A No.
Q Would you agree that good technique is essential in acquiring an accurate EKG?
A Yes. There is a certain amount of standard technique that is essential in acquiring an electrocardiogram.

Q What are those standard techniques that are essential?
A Well, you have to place the electrodes on certain portions of the chest in the appropriate manner. There are four limb leads and six chest leads, and this will give you a view of the heart electrically through various portholes of the body.
Q Is there anything else that's important?
A From the standpoint of performing an electrocardiogram?
Q From the standpoint of obtaining accurate EKG results.
MR. MCDONOUGH: Object; vague and ambiguous.
THE WITNESS: No. Just it has to be applied properly and, the most important thing, it has to be read by a person who knows what they are doing when they read it.
BY MR. CALABRO
Q Is it important that a patient be reclined and relaxed, as relaxed as possible?
A It's generally -- the patient generally is in the -- is in the reclining position, in the supine position, lying on the back. Occasionally, patients who are short of breath have to be propped up just a little bit. But as close to lying on their back is standard.

Q My question was, Is it important that they be relaxed for an accurate EKG?
A Only from the standpoint of not getting any muscle tremor artifact in the electrocardiogram.
Q Is it important that the skin be cleaned and lightly abraded where the electrodes are attached?
A Yes, sir.
Q Is it important that the electrode pads be placed firmly on the skin in correct positions of the chest?
A Yes, sir.
Q Should you ensure that the limb leads are not transposed?
A Well, you don't have to worry about that because, as soon as an electrocardiogram is taken and the technician brings it over to electrocardiographer, he'll see in a minute whether the limb leads are transposed and he will say to the technician, Hey, switch your right and left arm leads and do it again.
Q You reviewed many EKGs throughout the course of your evaluation of this case; is that correct?
A Throughout the -- my course of the evaluation of this case?
Q Correct.
A Yes, sir.

Q Did you administer any of these EKGs yourself?
A To Mr. Williams?
Q Right.
A No. I just reviewed the electrocardiograms that were already taken.
Q So were you there when any of these EKGs were administered to Mr. Williams?
A No, sir.
Q Did you have any way of knowing whether the patient was as reclined and relaxed as possible?
A No, sir.
Q Do you have any way of knowing whether the skin was cleansed and lightly abraded as appropriate?
A No, sir. All I can tell is the electrocardiograms looked fine when I saw the actual tracing.
Q Do you have any knowledge of whether the electrodes were placed firmly on the skin as they were supposed to be?
A According to the electrocardiograms that I reviewed, they looked like they were; yes, sir.
Q But you have no idea whether they were actually done, independent knowledge of whether they were actually done?
A No. I would be very surprised if they weren't

done in the appropriate manner.
Q How probable is it that a patient will have serious chest pain that does not show up on an EKG?
MR. MCDONOUGH: Objection; calls for speculation.
THE WITNESS: Can you repeat that question again.
BY MR. CALABRO
Q Sure. How probable is it that a patient will have chest pain that does not show up on an EKG?
A That happens frequently.
Q Does it frequently happen that a patient will have serious chest pain that does not show up on an EKG?
MR. MCDONOUGH: Objection; vague and ambiguous.
THE WITNESS: I wouldn't say frequent, but let me use the term "not infrequent."
BY MR. CALABRO
Q It is not -- it is possible that serious chest pain -- a patient -- let me start again.
It's possible that a patient will have serious chest pain that does not show up on an EKG?
A Sure. Or a person can have a massive heart attack and have no chest pain at all.
Q And you say that it's not infrequent that

patients will have serious chest pain that does not show up on an EKG?
A Yes, sir.
Q How probable is it that a patient that does not have a heart condition will have an EKG result that appears to show that he does have a heart condition? In other words, how probable is it that you will have a false positive?
MR. MCDONOUGH: Objection; vague and ambiguous.
THE WITNESS: Very, very, very improbable.
BY MR. CALABRO
Q I'd like to go back to Exhibit 29 that you have there in front of you. We already talked about how that note has noted that there is an old infarct in the EKG.
A Question mark, old infarct.
Q Question mark, old infarct on the EKG?
A Yes, sir.
Q And then under "A" it says, No. 1, question mark, angina; is that right?
A Yes, sir.
Q "A" means assessment, typically?
A Yes, sir.
MR. CALABRO: Okay. I'm finished with that

exhibit. I'll take that back from you. And then let's look at the next one, which will be 30.
(Deposition Exhibit 30 was marked.)
BY MR. CALABRO
Q These are notes dated June 17th, 2000.
A Yes, sir.
Q If we look at the "S" about halfway down, let's see if we can make this out together. Well, let's just start at the "S." Episodes of -- can you help me out there? Midsternal chest pain?
A Midsternal chest pain.
Q During the past two months.
A Right.
Q "This a.m." -- it looks like a "C" equals nine something. Do you see what that -- can you make that out?
MR. MCDONOUGH: Objection; calls for speculation.
THE WITNESS: I guess it must mean around 9:00 a.m.
BY MR. CALABRO
Q Oh, those look like parentheses, then.
Developed midsternal chest pain that has increased and decreased over a four- to five-hour period. Max of five on a scale of

zero to ten.
A Yes.
Q "Currently EKG shows at 3:49 NSR."
Do you know what NSR could mean?
A Normal sinus rhythm.
Q "With no acute ST changes."
A Correct.
Q "ST" then would be referred to the ST segment of the EKG.
A Right.
Q If we look at "A," again the assessment, that says, Midsternal chest pain times four hours.
A Correct.
Q Meaning that it's been going on for four hours?
A Right.
Q Then underlined it says "most likely unstable angina"?
A Right.
Q "But need to R/O MI." Do you know what "R/O" stands for?
A Rule out.
Q Rule out. And "MI" means myocardial infarction?
A Correct.

Q That's another name for a heart attack; is that right?
A Correct.
Q And then it says enzymes?
A No. It says, But need to rule out myocardial infarction by enzymes.
Q Oh, I see. And then can you make out the rest of that?
"Dr. Steinberg does not want this done in infirmary."
A Correct.
Q Do you have any idea why a doctor would not want this done in an infirmary?
A I have no idea.
MR. MCDONOUGH: Objection; calls for speculation.
BY MR. CALABRO
Q The end of "P," the very end, we see "John Parsons, M.D."
A Right.
Q Does it appear that John Parsons wrote this record?
MR. MCDONOUGH: Objection; calls for speculation.
THE WITNESS: It appears that way; yes, sir.

BY MR. CALABRO
Q Is that the conclusion that you would draw if you were relying on this during your medical evaluation?
A Yes, sir.
MR. CALABRO: I'll take that back from you, please.
This will be 31.
(Deposition Exhibit 31 was marked.)
BY MR. CALABRO
Q Now, this is a medical report of injury dated June 17th, it looks like.
A Right.
Q It looks like John Parsons again filled this out?
MR. MCDONOUGH: Objection; calls for speculation.
BY MR. CALABRO
Q Or at least signed it.
A Yes, sir.
Q Again, he's noted at the bottom there:
Unstable angina but need to rule out myocardial infarction.
A Correct.
Q Does it appear that he's made a diagnosis of unstable angina?

MR. MCDONOUGH: Objection; calls for speculation.
THE WITNESS: Well, it doesn't say --
BY MR. CALABRO
Q If you see right above his name at the very bottom, right-hand corner it says "Prognosis" and then it says:
Unstable angina but need to rule out myocardial infarction.
A I'm not sure that I'm looking at the same thing you are.
Q Sure. If you look at "Prognosis" --
A Yes.
Q -- and then it says over here --
A Oh, I see. Okay.
Q Unstable angina but need to rule out myocardial infarction.
A Yes, he wrote it down there.
Q Does that appear to be his diagnosis?
A It appears to be. Although, under "Diagnostic Impression" above he just left that blank. But it seems that that's what he stated.
Q If we look up at top of the record, it says "Mode of Arrival, ambulatory to clinic." Do you see that, ambulatory to clinic?

A Oh, yes.
Q And then when he talks -- under the sort of description of the problem it says that:
Inmate states he was first seen for chest pain June 12, 2000.
And is that, Received NTG?
A Nitroglycerin.
Q So he received nitroglycerin on June 12, right?
A Yes, sir.
Q Had delay trying nitroglycerin due to fear. Had some mild to moderate chest pain through the night last night, worsening around 9:00 o'clock and further at 1:00 o'clock in the afternoon. Approached MTA at 1420 hours and was persuaded to take first nitroglycerin tablet. Although allowing greater than five M --
Do you know what that means? More than five minute intervals between pills?
A Yes.
Q Left chest pain decreased only from five out of a ten scale to two out of a ten scale after three doses.
Does that appear right?

A Yes, correct.
Q Also --
I can't make out the next one. Complains of?
A Complains of.
Q -- dull substernal pressure and left arm fatigue ache.
Is that right?
A Correct.
Q Denies shortness of breath, nausea or neck/jaw pain.
A Right.
Q No other significant personal health --
And is that "HX" history? Health history?
A Right.
Q Mother developed cardio irregularities around age 69 and died of same at age 76.
A Right.
Q Now, having a slight decrease in pain after three doses of nitroglycerin, is that consistent with the diagnosis of unstable angina?
A It might be consistent with a lot of things.
Q It's certainly not inconsistent with the diagnosis.
A It's not inconsistent with it. It might be consistent with reducing the chest pain of angina, or he could be having chest pain from some other completely different cause that just coincidentally got better. There are other causes of chest pain, as I told you before: Gastrointestinal and pulmonary and musculoskeletal.

Q This dull substernal pressure and left arm fatigue, is that consistent with a diagnosis of unstable angina?
A Certainly could be; yes, sir.
Q That his mother developed cardial irregularities around 69 and died of a heart problem at 76, would this reference indicate some degree of family history with heart disease?
A Yes.
Q What impact would that have on Mr. Williams' heart condition, if any?
A Well, that would be a risk factor for the development of heart disease. If it's in your parents and grandparents and brothers and sisters, you have a better chance of getting it yourself.
MR. CALABRO: Next one, I believe, is 32.
(Deposition Exhibit 32 was marked.)
BY MR. CALABRO
Q This appears to be a physician's order; is that right?

A Yes, sir.
Q Looks like on June 17th he's admitting him to the infirmary?
MR. MCDONOUGH: Objection; calls for speculation.
THE WITNESS: I don't know where he's admitting him, but this is a physician's order.
BY MR. CALABRO
Q If you look at Line 1 there it says, "Admit to infirmary."
A Yes.
Q Do you agree with me that it looks like he's being admitted to the infirmary?
A Yes, sir.
Q No. 2 there, it says, "Unstable angina."
A Yes, sir.
Q And if you had diagnosed somebody with unstable angina, would you admit them to the infirmary or to see a doctor?
MR. MCDONOUGH: Objection; calls for speculation.
THE WITNESS: No.
BY MR. CALABRO
Q No?
A I would admit them to the hospital.

Q You would admit them to the hospital. Okay.
A Unless you call an infirmary and a hospital the same thing. To me, it's different.
Q What's the difference between an infirmary and a hospital?
A Well, an infirmary sounds to me more like an out-patient type of treatment center. If I had a patient that I knew had unstable angina, I would immediately admit them to a hospital for specific cardiac tests, such as a cardiac catheterization and coronary angiogram.
MR. CALABRO: This is going to be the next exhibit. I think it's 33.
(Deposition Exhibit 33 was marked.)
BY MR. CALABRO
Q If we look at this, it says, "Admission Diagnosis" on the front page, "Midsternal chest pain; unstable angina; gastritis; status post recent tooth extraction." Right?
A Yes, sir.
Q Chief complaint, he talks about a male who smokes.
A Yes, sir.
Q Has a cholesterol in the range of a normal at 170.

A Yes, sir.
Q Complaining of intermittent midsternal chest pain for the last two months.
A Uh-huh. Yes, sir.
Q "These chest pains are not clearly associated with exercise."
A Right.
Q ". . . he hasn't been doing any strenuous exercise."
A Correct.
MR. MCDONOUGH: Objection; mischaracterization of the document.
BY MR. CALABRO
Q ". . . had about four to five hours of moderate midsternal chest pains."
A Right.
Q "This was helped by sublingual nitroglycerin."
A Right.
Q He was sent to the emergency room where he was ruled out for a myocardial infarction by enzymes.
A Right.
Q Came back to the infirmary, and there he appeared to be comfortable.
A Correct.

Q That's the doctor's description of the complaint?
A Correct.
Q If you go to the next page under "Cardiac," it says "Cardiovascular: S1, S2 present" at the very top of the page.
A I see that.
Q What does that mean, "S1, S2 present"?
A His first and second heart sounds.
Q So is that normal, "S1, S2 present"?
A If you don't have a first and second heart sound, you're in big trouble.
Q Does that just mean that your heart's beating?
A It means that your heart is not beating. S1 and S2 means the heart is beating.
Q So we look at the diagnosis there, and it says, "midsternal chest pain" and then "unstable angina" again.
A Right.
Q Would you -- based on this -- based on this doctor's description of the complaint, would you have any reason to doubt or call into question his diagnosis of unstable angina?
MR. MCDONOUGH: Objection; calls for speculation.

THE WITNESS: Well, no. If he wrote it down there, I'd have no basis for saying it wasn't unstable angina. I --
BY MR. CALABRO
Q Does the description of his -- of Mr. Williams' complaint, is that consistent with the diagnosis of unstable angina?
A It's consistent with unstable angina, but his treatment plan is not consistent with unstable angina.
MR. CALABRO: Okay. That's it. Let's go to the next one.
(Deposition Exhibit 34 was marked.)
BY MR. CALABRO
Q Take a minute to look at that. That looks like a -- if you look at the top, left-hand corner, it looks like a form that says "request for services."
A Yes, sir.
Q At the bottom it's signed by John Parsons, M.D.
A Yes, sir.
Q If you look up there, it says, "Principal Diagnosis: Chest pains, unstable angina."
A I see it.
Q It says, "Requested Service(s): Cardiology consult and exercise stress test."

A Right.
Q Looks like -- and then it looks like he's marked the box that says "Urgent" there.
A Right.
Q Would you agree that a cardiology consult would be urgent for somebody who has an unstable angina?
A You bet.
Q In fact, he even marks over here to the right, "Please expedite."
A Right.
Q And in the next page it says -- it looks like a form that the State makes him fill out. It says:
Does request document that service meets CDC definition of, quote, Medical Necessity as stated above.
He states yes. Would you agree with him that this would be a medical necessity?
A Yes, sir.
Q Would you also agree with him that it would prevent a loss of life -- that it's a necessity to prevent a loss of life?
A Yes. If it turns out that this was truly unstable angina, it could prevent loss of life.
MR. CALABRO: Okay. Finished with that.
(Deposition Exhibit 35 was marked.)

BY MR. CALABRO
Q This appears to be dated June 23rd or 27th of 2000.
A Yes, sir.
Q We can agree that it's sometime in June of 2000, it looks like?
A Right.
Q Again, complaining of chest pain on occasion since Jan- -- I guess that's --
A Since infirmary.
Q Since infirmary, unchanged with --
A Nitroglycerin.
Q That symbol there, is it with? Does that mean with?
A With; that's right.
Q With nitroglycerin.
And if you look at the assessment, past angina, rule out --
A Possible. Possible angina.
Q Oh, possible angina?
A Yes.
Q Rule out -- what is that?
A CAD, coronary artery disease.
Q Okay. Old EKG shows inferior relic. What's an inferior relic?

A I have no idea.
Q Keep appointment with cardiology.
All right. That's it for that one.
Do you have any other comment on this?
A Nope.
(Deposition Exhibit 36 was marked.)
BY MR. CALABRO
Q This I'm just asking for your help in seeing if I'm missing some medical terminology. The very first entry, it looks like it's July 26th, 2000, from John Parsons, the doctor.
A Right.
Q Not seen today. June 22nd lab review.
Can you make out what the next line says?
A Mild anemia.
Q And then what does he say?
A Consider bowl for occult blood.
Q What does that mean?
A Well, if he wants to -- if Mr. Williams is mildly anemic, he wants to know if he's losing blood from someplace. And the intestinal track is one of the first places that one looks for.
Q So this says, Consider vile, did you say?
A I think it's bowl, B-O-W-L.
Q For occult --

A For occult blood.
Q What is that?
How do you spell occult? O-c-c --
A O-C-C-U-L-T. If they can't see it in the stool, then they will take a little specimen and put it on some special paper and a chemical and they'll be able to bring out microscopic amounts of blood. That's called occult blood testing.
Q The occult being the microscopic part? Or what is occult?
A The occult is where you can see it with chemical application but you can't see gross bleeding with the visual eye.
MR. CALABRO: Very good. That's it for that one. I just couldn't read it.
MR. MCDONOUGH: What number was that, 36?
MR. CALABRO: That one was 36.
THE WITNESS: Before you leave this one, I want to call your attention to July 11, 2000. Lab shows positive for H pylori.
BY MR. CALABRO
Q Where is this?
A This is 7/11/2000 on Exhibit No. 36.
This man had known gastric ulcers, and he's had known upper gastrointestinal problems. And they did

tests which show H pylori bacteria, so he's had some sort of infection in his upper gastrointestinal tract. And that also can cause chest pain.

Q And that went into your report? Did you consider that when you were looking at your report?

A I made mention of something like that about his upper gastrointestinal tract causing chest pain; yes, sir.

MR. CALABRO: Exhibit 37, I guess this is.

(Deposition Exhibit 37 was marked.)

BY MR. CALABRO

Q Exhibit 37 appears to be an EKG taken on July 19th, 2000; is that right?

A Yes, sir.

Q By looking at this EKG, does there appear to be anything suspect in the way that it was performed? That is to say, we talked about various things that need to be done to make sure that you get an accurate recording. Is there anything that looks facially wrong?

A No, sir.

Q If you look at the top, it says that there's "sinus rhythm with signs arrhythmia."

A Right.

Q What does that mean?

A That means that the rate goes a little faster

at times and a little slower at times. That's a normal variant.

Q It also says "early repolarization."

A Yes, sir.

Q What does that mean?

A That means that the ST junction, the first part of the ST segment, is slightly elevated. And that's a normal variant.

Q What results when the ST segment is slightly elevated with regard to early repolarization?

A What results? When the -- when the ST is slightly elevated, that is early repolarization.

Q What does that mean?

A Repolarization means that the electrical consistency of the heart is chemically re-established. When you look at the small, initial impulse, the P wave --

Q Which number are we looking at here?

A Any one of these.

Q Okay.

A Any one of these beats, you can see an initial --

Q Right. P wave?

A P wave.

Q Sure.

A That's electrical activation of the atria, the smaller chambers of the heart. Then this spike that you see in every single one of these beats, that's electrical activity of the ventricles.

Q Uh-huh.

A And then the T wave is electrical repolarization of the heart. That's reconstitution electrochemically of the heart after the beat has transpired. And if the ST segment is slightly elevated, that means early repolarization. That's a term that describes that.

Q I understand that. I guess I'm not being clear. My question is, What does that mean to a person in everyday life if they have early repolarization?

A It doesn't mean a thing.

Q No extra pain?

A No.

Q No more likelihood of having any kind of disease?

A No, sir. Sometimes you will see markedly elevated ST segments when a person is having an acute heart attack. But in that case the ST segment is straightened; it's not humpback in configuration.

Or sometimes you will see early repolarization in a person who is having a pericarditis, an

inflammation of the outside lining of the heart. But that wouldn't be here because that's usually associated with a rapid heartbeat of a hundred beats per minute or greater. And here, this is beating at the rate of 67 beats per minute, too slow to be a pericarditis.

This is something that you see in many, many, many normal people.

Q What I find interesting looking at some of these EKGs is that the QRS complex, I guess is what it's referred to --

A Yes.

Q -- sometimes looks like it goes up and sometimes it looks like to goes down. Right? If you look at this one, it looks like it's going up; and this one, it looks like it's going down.

A Sure.

Q Why is it that sometimes it goes up and sometimes it goes down?

A It's the same heart and the same electrical transmission throughout the heart. But all of these are leads. There's a series of 12 leads in this electrocardiogram, and these leads give you different views of the heart.

Q I see.

A And sometimes, when you have a view of the

heart, say, in V2, which is right here, the electrical -- the sum total of the electrical impulses go away from this lead; and therefore, the spikes go down. When you go out to V6 or V5, the view of the heart is such that the electrical impulses go toward that lead; and therefore, the electrical impulses are upright.

Q So it all has to do with the relative position on the body?

A It has to do with the --

Q The electrode's relative position on the body?

A That's right.

Q So when we read this, it looks like time passes and there is some sort of electrical indication as time passes.

A That's right.

Well, what do you mean "as time passes"?

Q So each one of these boxes is, like, .2 seconds or something, right?

A That's right.

Q So by that I mean time is passing and there's an electrical current that is making this line.

A That's right.

Q Does that mean that V1 is being read before V4 is being read?

A No. They are all being read at the same time. They are all being produced at the same time.

Q Why does V1 appear here -- at least appear to be temporally before V4?

Do you understand my question?

A It's just mounted that way. But in all actuality, all of these beats are occurring at exactly the same time.

Q I see.

A Now, you may not be able to take them on identically -- well, let's see. Can we on our new electrocardiograms? You'll be able to take the entire electrocardiogram within a matter of a second or two. But I will guarantee you that this configuration of the QRS in V1 is going on at the same time that this configuration in V5 is going on. And the same thing in Leads I, II, III, aVR, aVL, aVF.

Q So it's inaccurate to read this as, This happened before this, which happened before this, which happened before this, which happened before this, which happened before this?

A That's correct.

Q That's an incorrect way to read this?

A That's totally incorrect. They are all happening at the same time. If there is any temporal

difference between one lead to another, that's just due to the mechanics of taking the electrocardiogram. And that's only a matter of a second or two.

Q I'd like to look at -- if we look at V2 to V3 --

A Yes.

Q -- it looks like the ST segment in V2 is more elevated than the ST segment in V3.

A Right.

Q Should that be any cause for concern?

A I don't think so. What is the date? This is 7/19/2000. I don't think so. This is an early repolarization that you will see in a lot of people, a lot of normal people. But every now and then -- say, 1 percent of the time -- you'll get fooled and this might mean an acute current of injury.

Q In your opinion, why was this labeled a borderline ECG?

A Probably on the basis of early repolarization. Dr. Avina was not quite sure if that was normal or not normal. The term "borderline" -- the term "borderline" among electrocardiographers means, I see something here and I'm not quite sure whether it's normal or abnormal. Okay? If I were reading this, I would have called it normal.

MR. CALABRO: Okay. All right. Next exhibit will be 38.

(Deposition Exhibit 38 was marked.)

BY MR. CALABRO

Q This is Exhibit 38. On November 22nd -- or excuse me -- November 26th, the second entry, it says, "Old inferior MI unchanged EKG." Do you see that?

A I see that; yes, sir.

Q Looks like it's from Dr. Brasell?

A I'm not sure who the doctor is. But if you say that's who it is, then I'll accept that.

MR. MCDONOUGH: Objection; calls for speculation.

BY MR. CALABRO

Q What inferior MI is he referring to in this case?

A I don't know because I didn't see any electrocardiographic evidence for a myocardial infarction until December of 2001. So I can't help you there.

Q Is it possible that he was referring to the unstable angina that we saw earlier with Dr. Parsons?

MR. MCDONOUGH: Objection; calls for speculation.

THE WITNESS: I don't think so because

unstable angina and a myocardial infarction are two different things. But he says "old inferior MI unchanged EKG." So it's obvious that he's referring to some type of electrocardiogram. And I didn't see one in the records that demonstrated a myocardial infarction.
BY MR. CALABRO
Q Do you know if you reviewed an EKG from November 2000?
A I reviewed electrocardiograms -- I reviewed every single electrocardiogram in this collection of medical records. And I don't recall that specifically; no, sir.
MR. CALABRO: That's it for this one.
THE WITNESS: Before we go on, can I ask you a question? I know you're supposed to be asking the questions, but in order --
MR. CALABRO: If we go off the record, you can ask me whatever you want.
THE WITNESS: Well, no, I think it should be on the record. This is very important. This isn't going to detract from anything. If you don't want me to, then I won't.
MR. CALABRO: I'm happy to go off the record and talk about it, then.
THE WITNESS: No. I thought I would be

helpful to you on the record. But if you don't want me to be helpful, then I won't.
MR. CALABRO: This will be 39.
(Deposition Exhibit 39 was marked.)
BY MR. CALABRO
Q This again appears to be progress notes.
A Yes, sir.
Q If we look at the second entry -- so the second half of the page --
A Yes, sir.
Q -- it says 46-year-old male --
A Yes, sir.
Q -- complaints of chest pains.
A Yes, sir.
Q EKG, possible old infarct?
A Yes, sir.
Q History of cocaine use.
A Yes, sir.
Q What effect would a history of cocaine use have on a heart?
A That's exactly what I was going to ask you: Is he taking any illicit drugs during his incarceration? Because cocaine can cause coronary artery spasm, which can cause angina, and it can cause myocardial infarction.

Dextroamphetamine, or speed, can cause coronary artery spasm, which in some people can cause angina and a myocardial infarction. Marijuana in some sensitive people can cause coronary artery spasm and a myocardial infarction.
And if you look up in the initial entry, medications, Cafergot, among other things. He was given Cafergot for his migraine headaches. Cafergot is a medication that many of us cardiologists eschew because it will cause spasm of arterials all over the body. And more than one person has had a myocardial infarction due to Cafergot therapy.
Q If it appears that Mr. Williams' medical history had substantial use of Cafergot, would that affect your opinion in this case today, your evaluation of Mr. Williams?
A I don't think so, no.
Q When we just talked about --
A Let's go back on that: My opinion that I'm giving you in this deposition is including Cafergot --
Q Okay.
A -- from the standpoint of coronary artery spasm.
Q Okay.
A When I rendered an opinion in my report, I

talked about coronary artery disease. But the one thing that I didn't talk about in this report is a possibility that other things can cause infarcts and angina. And those other things are items that will cause coronary artery spasm: Cafergot being one; cocaine being one; dextroamphetamines, or speed, being another.
Q Okay. Well, we'll get to that in -- a little bit later.
A Okay.
Q But when we were talking about cocaine, when you just said that cocaine can cause these spasms --
A Yes, sir.
Q -- is that when the cocaine is being used at the time or immediately thereafter only?
A When it's being used at the time or immediately thereafter. That's why I asked you whether he was possibly -- after all, you're his counsel. You would know whether he was on or receiving somehow illicit medications or drugs while incarcerated.
Q Would chronic use of cocaine affect coronary artery disease?
A Chronic use of cocaine can cause chronic, recurring angina. Chronic use of cocaine can cause myocardial infarctions.
Q Does chronic use of cocaine have any effect on

the lining of arteries and vessels within the body?
A I'm not sure that it has any lasting effect on the lining of the body -- of the arteries of a body. It just causes spasm. And then as soon as that medication wears off -- if the patient hasn't died from a cardiac arrhythmia, a ventricular fibrillation or a massive myocardial infarction -- then the effects and the pain and everything will go away.
Q Or if a person was a chronic user of cocaine, would the effects of that chronic use accumulate within the patient?
A No. He would just have recurrent hits from the standpoint of his heart.
Q Would there be any hardening of the vessels or arteries as a result of chronic use of cocaine?
A Not that I'm aware of; no, sir.
Q I understand that there is a lot of research into the cocaine effect on coronary artery disease in the literature; is that right? Or do you not know?
A Yeah, there is a lot of discussion.
Q What does some of that discussion say with respect to those arteries and vessels?
A Well, I haven't seen anything that indicates deterioration of the vessels themselves. Just as I told you, cocaine can cause coronary artery spasm. This will

produce angina, can produce a myocardial infarction. It can produce sudden death from a cardiac arrhythmia or ventricular fibrillation.
Q Does it at all affect long-term blockage of arteries and vessels in the body?
A Generally not; no, sir.
MR. CALABRO: All right. This will be 40.
(Deposition Exhibit 40 was marked.)
BY MR. CALABRO
Q This again appears to be a medical report of injury.
MR. MCDONOUGH: Do you have three documents there?
MR. CALABRO: Three pages in this exhibit.
THE WITNESS: Yes, sir.
BY MR. CALABRO
Q If we look at the nurse's history of occurrence, it says -- I can't really make this out. It says:
Assessed inmate in cell. Complaining of chest pain. Grabbing on left chest. Complains of dizziness.
A Correct.
Q Nondiaphorotic?
A Nondiaphoretic.

Q Phoretic.
A Yes.
Q What does that mean, nondiaphoretic?
A He's not sweating. We doctors have to put in these fancy terms to confuse everybody. It would have been easier if we just put, Wasn't sweating.
Q Right. No res -- no respiration distress?
A No, respiratory distress. Again, they could have just put down, No SOB, no shortness of breath.
Q But then in the next line it says, But voiced episodes of SOB, which is shortness of breath, during chest pain.
A That's what it says.
Q Are you skeptical of that claim?
A No. Whatever she put down, I'll accept. I --
Q What does shortness of breath --
A Pardon me. Let me just answer that further. What I gather from that, he didn't look like he was in any respiratory difficulty but he must have told her that, when he had the chest pain, he would also have associated trouble breathing. So it would be intermittent.
Q When we look down at treatment, it says -- it looks like, Transport to the CH -- or does that initial mean anything medically? -- for further eval.

A "CH" could be county hospital. I don't know what it could be.
Q All right.
A They must be a little confused because then they are giving him Prilosec, which is a stomach pill, as well as nitroglycerin. So they are covering all the bases.
Q The next page, it says March 21, '02. It says, EKG viewed -- I'm sorry. EKG reviewed, showed NSR rate 78.
A Normal sinus rhythm rate's 70/78.
Q And that's normal?
A Correct.
Q With old inferior infarct Q's III and VI. Is that Quadrants 3 and 6?
A No. Q is three and V1.
Q Three and V1.
A V1.
Q So I thought I had attached --
A There's an electrocardiogram attached.
Q But it doesn't look like it's the right one because the date is off.
A Yes, but this is an important electrocardiogram.
MR. CALABRO: Let's go ahead and make this a

different exhibit, then. Let's make the electrocardiogram Exhibit 41.

(Deposition Exhibit 41 was marked.)

THE WITNESS: Did you want this Exhibit 40 back, then? Are we all through with 40?

MR. CALABRO: Yes. Let's stop one second. No, we're okay. Let's stop with that. Let's look at 41.

THE WITNESS: Okay.

BY MR. CALABRO

Q Now, here we have -- we'll just look again. This is another EKG taken on December 20th of 2001?

A Correct.

Q Does there appear to be anything that would indicate to you that the EKG was not taken properly?

A No, sir.

Q It looks like there is a sinus rhythm, it says at the top.

A That's correct.

Q And what is a sinus rhythm?

A It means that the electrical impulse starts in the atria and they go down to the ventricles and then they are repolarized, as evidenced by the T wave. And this happens over and over and over again in the sequential manner. That's called a sinus rhythm because

the electrical impulse starts in the sinus node in the right atrium.

Q Why would a doctor put "sinus rhythm" at the top of this report? Is there any medical reason for doing so?

A Just to let the reader know that it's a regular rhythm without any arrhythmias.

Q I got it.

Then it says, Probable inferior infarct?

A That's correct.

Q What does it mean by "inferior infarct"?

A The inferior leads are Leads Roman II, Roman III and aVF. And if you --

Q So Roman II, Roman III and aVF.

A And those are the inferior leads of the heart that indicate the bottom of the heart, hence inferior.

Q We're using "inferior" meaning bottom?

A Inferior means bottom. And in this case there are QS waves in Leads III and aVF. And these represent an inferior wall myocardial infarction of indeterminate age. If I were reading that, I would have left off the word "probable." I would have put down, Inferior wall myocardial infarction of indeterminate age.

Q Can you show me what the waves would look like?

A These downward deflexions, waves, there and there. Any upward deflection is called an R wave.

Q Right.

A Any initial downward deflexion is called a Q wave. And then if you have an R wave -- if you have -- if you have an R wave and then a downward deflexion following a little R wave, then that's an S wave. But if the downward deflexion comes before any R wave, it's called a Q wave. Or if that's all you have is a downward deflexion without any upward or R waves, then it's called a QS wave. And this is highly abnormal.

And when you see this in III and aVF, the two inferior leads -- two out of the three inferior leads, that means inferior wall myocardial infarction. And in fact, this is the very first time in all of the electrocardiograms that I saw there is a representation of a prior myocardial infarction.

Now, I see the information that we went over in the previous exhibits where they discussed inferior wall infarction. I don't recall seeing those. Maybe those electrocardiograms are stuck away in some room over there at the clinic and they didn't make it into the records.

What I did just prior to meeting with Mr. McDonough was I went over every single one of these

electrocardiograms only to see when the first time was that I could find evidence for an inferior wall infarction, and this was the date.

Q Can you tell -- I know that this is age undetermined. Does that mean that they don't know when this infarct occurred?

A They don't know when this infarct occurred. But as I stated in my report, I saw other electrocardiograms taken in the year 2000 that failed to reveal a myocardial infarction. So it occurred sometime between July of 2000 and December of 2001.

Q Okay. If we look at V4 and V5 --

A Yes, sir.

Q -- again it looks like a slight ST depression.

A No.

Q No?

A There's no ST depression. There's --

Q It looks like the ST in V5 does not go as high as the ST in V4.

A What are you looking at?

Q If you look at this right here, that doesn't look like -- that looks like a higher slope, I guess, than this one here.

A If you take a look at the ST junction -- that's the beginning of the T wave -- you'll see that

that is exactly the same in -- with respect to the QRS complex.
Q So the critical inquiry is the junction?
A It's the junction. And the junction will set the tone for ST elevation or depression. And there is neither ST elevation nor depression in this electrocardiogram.
Because of the lack of ST elevation or depression, that's why this electrocardiogram, from a standpoint of a myocardial infarction, looks old, looks like an old myocardial infarction. If there was any ST elevation or any ST depression, then perhaps you would think maybe it's more recent, like in a matter of hours or days. Could it be a week old or two weeks old? Could be. Or it could be a year old.
(Deposition Exhibit 42 was marked.)
BY MR. CALABRO
Q Looks like another physician's order dated -- well, it looks like they are all dated March 21, '02. At least the top part is.
A Right.
Q I'm interested in the second entry. This says, Cardiac enzymes, CKMB, chem 25.
A Right.
Q Now, right before it says cardiac enzymes, do

you see that word that's sort of written diagonally?
A Yes.
Q Do you have any idea what that means?
A I think that's the nurse's name, or whoever it was that acknowledged this order and made sure that it was done.
Q So this is a --
MR. MCDONOUGH: Is there a confusion here? There seem to be two lines there.
MR. CALABRO: Oh, you're right.
MR. MCDONOUGH: I don't know if you're talking about --
MR. CALABRO: This one here.
THE WITNESS: Right.
BY MR. CALABRO
Q The one above cardiac enzyme.
A That's right. That's the one I'm looking at.
Q You believe that's somebody's name?
A I believe so.
Q What does this appear to be, this entry? Does it look like they are ordering --
A That's right. It was phoned in by a Dr. Naz. They ordered cardiac enzymes, consisting of CKMB enzymes, and they -- they ordered a chemical panel, Chemical Panel 25.

Q CK, is that -- that's creatine kinase?
A Yes, creatine kinase.
Q And what's the "MB" stand for?
A That's the part of the creatine kinase enzyme that demonstrates heart injury.
Q The Chem 25, is that the chemical panel that you referred to earlier?
A Yes.
Q Would that include a screening for tropenin?
A No. No, you have to order the troponin separately.
Q Troponin. Excuse me.
A Yes, the chem panel has electrolytes, sodium, potassium, chloride, protein in the blood, kidney tests, liver tests. I'm sure I'm leaving a whole bunch of things out.
Q We can agree that troponin is not one of the enzymes that would be screened under a chemical panel Chem 25?
A That's correct.
Q Do you feel like a troponin screening would have been helpful in this case?
A If you're ordering cardiac enzymes, troponins are always helpful.
Q And that's because troponins are probably the

most sensitive of the enzymes to detect?
A The most sensitive; yes, sir.
Q That means that there could have been an angina or some other acute cardiac event. No CKMB would have been found, but troponin could have been found?
A It could have been. But I don't know what cardiac enzymes would mean. Usually when they order a test, they would order CKMB. If they are ordering cardiac enzymes, maybe that all encompasses other things, including troponins. Do you see what I'm talking about?
Q I do. I see that.
Later on down it says that 3/21/02, cancel discharge. Do you see that?
A Yes, sir.
Q Is there any indication on this page why they would cancel the discharge?
A No, sir.
Q So we have no idea why that is?
A Correct.
MR. CALABRO: Okay. Finished with that exhibit.
(Discussion off the record.)
(Recess.)
(Deposition Exhibit 43 was marked.)

BY MR. CALABRO
Q This appears to be a refusal of examination on March 22nd of '02.
A Right.
Q It says:
"Inmate leaving against medical advice. Dr. Naz spoke to inmate. Inmate's refusing housing in outpatient housing units. Refusing medical treatment and medications. Explained to inmate that refusing treatments and medications can lead to heart attack, stroke, or even the possibility of death. Inmate assumes full responsibility of consequences."
A That's what it says.
Q Do you know of what was happening around March of 2002 that would require Mr. Williams to be in the hospital or risk heart attack, stroke or the possibility of death?
MR. MCDONOUGH: Objection; assumes facts not in evidence.
THE WITNESS: I don't know, other than the fact that he had been having ongoing chest pain.
BY MR. CALABRO
Q And that chest pain could have led to a heart

attack?
MR. MCDONOUGH: Objection; calls for speculation.
THE WITNESS: If this proved to be angina, then -- especially unstable angina, this could lead to a heart attack and even lead to death.
MR. CALABRO: Okay. This will be Exhibit 44.
(Deposition Exhibit 44 was marked.)
BY MR. CALABRO
Q This appears to be EKGs performed on November 9th, 2002.
A Yes, sir.
Q It says, "Normal sinus rhythm."
A Right.
Q "Left anterior fascicular block." What does that mean?
A Well, that is a diagnosis that is not present here.
Q Can you explain what a left anterior fascicular block is?
A Fascicular block.
Q Fascicular block.
A There are two fascicles or electrical conduits that go down the septum and supply electrical activity to both the right and the left ventricle. And if there

is a block of the electrical activity going to the left ventricle, then there will be more electrical activity going to the right ventricle.
And this will cause what is called a left axis deviation, with a QRS in Leads II and III and aVF pointing more downward than they should. That's called a left axis deviation.
But the reason this has a left axis deviation is not because of a left fascicular or a left anterior fascicular block; it's because of an old inferior wall myocardial infarction.
Once again, you have QS waves in Leads Roman III and aVF and even a little, almost microscopic Q wave in Lead Roman II. So that's why you have a left axis deviation. If I were reading this, I would have never read it as left anterior fascicular block.
Q So this --
A And I would have also not put in "cannot rule out." I would have just put down, Old inferior wall myocardial infarction.
Q If it's still showing up in an EKG, the inferior infarct, does that mean that there is still damage to the heart?
A There is permanent damage to the heart in that area, in the inferior wall; yes, sir.

Q Does that lead him to have a greater proclivity to having a heart attack or some other heart condition in the future?
A The thing that caused the inferior wall infarction leads him to have a greater chance of having another heart attack in the future.
Q Is there any harm to having this permanent damage that was a result -- that we call this inferior infarct? Let me start again:
This inferior infarct is damaged muscle tissue in the heart?
A In the inferior portion of the heart; yes, sir.
Q The lower portion of the heart?
A Yes, sir.
Q How does that affect the cardiovascular system?
A You really can't tell by looking at the electrocardiogram. You would have to get an echocardiogram to see what the contractility of the left ventricle looks like and how much of the total of the left ventricle has been injured or damaged.
And you would do that by looking at the inferior wall and seeing how it moves, and you would do that also by looking at the ejection fraction. And you

could only get the ejection fraction by looking at an echocardiogram or by doing a cardiac catheterization.

The ejection fraction is that percentage of blood that is ejected with each contraction of the left ventricle. And you can see that in a doctor's office, in a cardiologist's office, such as this, by doing an echocardiogram.

The lower limbs of normal at rest is 55 percent in a cardiologist's office. If there was massive, massive destruction of heart muscle, it would be lower than 55 percent. It may get as low as 30 or 20 or 15 percent. And that doesn't augur well for longevity.

But many people will have heart attacks and will end up with a normal ejection fraction because other portions of the heart muscle will take over and maintain a normal ejection fraction. And with a normal ejection fraction, the circulation throughout the rest of the body will be relatively normal, at least at rest.

Now, he had treadmill tests, and they were also normal. So in his case everything seems to be normal.

Q Also on here it's indicated "Poor R wave progression."

A Yes.

Q What does that mean?

A That means the R wave, or the initial upward spike on the QRS complex, does not develope well in the first three leads. It --

Q Especially two, I guess?

A Yeah V2 and V3 -- V1, V2 and V3. It could mean nothing. It could mean a slight alteration in electrode placement of the heart -- of the electrodes on the chest wall. Or it could mean that he might have had a small heart attack in that -- in that area of the heart. But there is not enough evidence on the electrocardiogram to state this.

Q A small heart attack in addition to the inferior infarct that we've already noted?

A Yes, a small anterior wall infarction. That's a possibility. Not a probability, but a possibility.

Q Is there anything else of note on this EKG?

A No.

MR. MCDONOUGH: Are you done with just the first page or --

THE WITNESS: I have three pages in this exhibit. No, four pages.

BY MR. CALABRO

Q You have four pages? Oh, yes. Four pages.

A And they are all dated the same, and they --

the first three pages are really unchanged one from the other, and the fourth page looks like a rhythm strip. You can hardly see it. And it just shows the sinus rhythm, nothing more.

MR. CALABRO: We're finished with that one, then. This is 45.

(Deposition Exhibit 45 was marked.)

BY MR. CALABRO

Q This appears to be another physician requesting services.

A Yes, sir.

Q Principal diagnosis, coronary artery disease and ASHD.

A That's shorthand for arteriosclerotic heart disease.

Q Is that different than what you diagnose as atherosclerotic coronary artery disease? Well, I guess that wasn't your direct -- let me start again.

You said ASHD was atherosclerotic heart disease?

A Yeah, ASHD is arteriosclerotic heart disease.

Q Arteriosclerotic.

A But the more proper term is atherosclerotic coronary artery occlusive disease.

Q Are arteriosclerotic and atherosclerotic --

I'm sorry. How do you pronounce it again?

A Atherosclerotic.

Q Atherosclerotic. Are those two terms synonymous?

A No, not exactly. A lot of people will use them interchangeably nonetheless. Arteriosclerotic heart disease -- arteriosclerosis is disease of all of the layers of the artery. Atherosclerosis is when there is an accumulation of disease on the inner lining of the artery. That's atherosclerosis.

Q So he notes that the requested service is cardiology. He says that it's an urgent, and again, he cannot rule out inferior infarct, has chest pain on nitroglycerin.

A Right.

Q Why does he want to rule out inferior infarct?

MR. MCDONOUGH: Objection; calls for speculation.

THE WITNESS: I don't know. I think you can rule it in by just taking a look at the electrocardiogram. What you can't rule -- what he should have said is, Cannot rule out unstable angina.

You can rule out the fact that he had a heart attack, an inferior wall infarction, just as I have done by looking at those electrocardiograms. But what you

want to know is, Is he having ongoing unstable angina? That might be detrimental to him if not treated appropriately.

MR. CALABRO: All right. Now we're getting a little bit closer to the end of exhibits.

This is 46.

(Deposition Exhibit 46 was marked.)

BY MR. CALABRO

Q This appears to be the physician's progress notes from August 3rd, 2003.

A All right.

Q This was the night of Mr. Williams' -- or the morning of Mr. Williams' cell fight.

A All right.

Q It looks like here inmate was complaining of chest pains again. His blood pressure was 160 over 101.

A Right.

Q Is that high?

A That's high. Anything over 140 and anything over 90 is high.

Q Pulse at 100. Is that high?

A That's the upper limits of normal.

Q RESP 24.

A That's the respiratory rate.

Q Is that normal?

A That's high. Normal is about 10 to 12.

Q What does that indicate if it's high, the respiratory rate?

A It could be that he was sick, or it could be that he was tense and nervous and under stress.

Q All of which would seem to be consistent after having a fight?

A Absolutely. Same thing with the elevated blood pressure. That will occur with acute emotional distress or acute physical stress.

Q One of the allegations that occurred -- well, not the allegations. One of the facts that happened in this case was that Mr. Williams was sprayed with OC pepper spray during the cell fight. Would that have any effect that you know of on his breathing?

A It could.

Q What could it -- what effect could it have?

A It could irritate the bronchial lining. The linings of his bronchial tubes, they could swell and he would have trouble breathing.

Q Could it have any effect on his cardiovascular system?

MR. MCDONOUGH: Objection; calls for speculation.

THE WITNESS: Any type of acute emotional

stress can affect a sick heart. Anything that would cause a heart to work harder and require more oxygen in order to keep it functioning at a higher pace would result in more angina chest pain if the heart -- or if the arteries were clogged and they could not get adequate oxygenated blood to the heart muscle.

BY MR. CALABRO

Q My question was whether the OC spray could affect the heart.

A Yes. If he was having trouble breathing, he would become more stressed out and that would cause a greater work of the heart, which would require more oxygenation.

If he had a limited amount of oxygen going into his lungs because of the pepper spray, then he would be deprived of oxygen that he needed. I'm not saying "he" but people, patients or felons or people who get sprayed.

Q Is it consistent with the facts that you evaluated in this case that the OC pepper spray caused Mr. Williams to have a hard time breathing?

MR. MCDONOUGH: Objection; calls for speculation.

THE WITNESS: Shortness of breath can come from two reasons: Either the pepper spray or due to his

heart condition. The heart condition itself can cause shortness of breath.

BY MR. CALABRO

Q If you look at the next entry -- the page is cut off, but we can probably assume that that's August 4th, 2003.

A Okay. Sure.

MR. MCDONOUGH: Objection; lacks foundation.

BY MR. CALABRO

Q Inmate Williams was brought over by correctional officers with complaints of chest pain left side running down left --

A Arm.

Q -- arm.

What would this indicate to you?

A Well, it could indicate the heart. That would be the first thing that one has to think about. It could indicate musculoskeletal pain. But of course, the heart would be right up there on top.

Q Especially because of the pain radiating down his left side?

A Radiating into the left arm; yes, sir.

MR. CALABRO: Done with that one. Next one would be 47.

(Deposition Exhibit 47 was marked.)

BY MR. CALABRO
Q This is another EKG for you to review. Looks like it's from August 3rd, the same day.
A Right.
Q First indication is a sinus tachycardia?
A Sinus tachycardia. That's about 104 per minute. Anything that's over 100 would be tachycardia.
Q And what is tachycardia?
A Rapid. Rapid heart rate.
Q What would that indicate to you?
A It could indicate a lot of things. It could indicate that he was under stress. It could indicate that he was sick. It's nonspecific.
Q Just a high heart rate?
A Fast heart rate; yes, sir.
Q Then it again notes the inferior infarct. Is this the same inferior infarct that --
A That's right. It's an old inferior wall myocardial infarction. It's still there.
Q Is that what caused this abnormal ECG, or is there something else?
A No, that's the only thing that's abnormal.
Q And he notes that the left anterior fascicular block is no longer present?
A That's what he says, but it was never present

in the first place.
(Deposition Exhibit 48 was marked.)
BY MR. CALABRO
Q This appears to be an EKG from August 6th, three days later than the one we just reviewed. The second thing it notes is that there is a left atrial enlargement. Do you agree with that diagnosis?
A I see what he's calling, but I think that's a little bit of an overread. I don't think I would have called that; no, sir.
Q Where do you see what you think he was referring to as the left atrial enlargement?
A The P waves in V2 are a little more prominent, and the P waves in V1 are biphasic with a downward tendency.
Q Would you mind circling on the exhibit where you're talking about?
A P wave in V2 are a little more prominent. And many electrocardiographers think that, if you have a biphasic or downward element to the P wave in V1, that also signifies an enlargement of the left atrium.
Q Why do you think that this is an incorrect diagnosis?
A I don't say that it's incorrect, but I'm saying that it may be a little bit of an overread. I've

seen thousands of similar tracings. And half the time it turns out to be enlargement, and half the time you put them under the echocardiogram machine and the left atrium is perfectly normal.
Q What cause for concern would an enlargement of the left atrial -- is it the valve, atrial valve?
A No, left atrium.
Q Oh, the left atrium?
A The left atrium is the left smaller chamber of the heart.
Q What cause for concern would we have if it was an enlargement of the left atrium?
A Well, if you do have a truly enlarged atrium, a markedly enlarged atrium, that you can demonstrate on the echocardiogram, then these people are more vulnerable to going into a cardiac arrhythmia, like atrial fibrillation.
Q The next thing it notes is incomplete right bundle branch block.
A Yes.
Q What is the right bundle branch block?
A Well, there is a little R wave going up in V1. You see that R wave? That wasn't there before. An upward spike, and that wasn't there before.
Q So that's the one right after this thing right

here?
A Right after the S wave. Right after the downward complex, or right after the Q wave. And that is a normal variant that you'll see sometimes and you won't see sometimes in some patients. It means nothing.
Q What is it -- the incomplete right bundle branch block means nothing?
A It means nothing in this case.
Q What would it mean in other cases?
A It never means anything, unless you have a widening of the QRS complex. In this case there is no widening of the QRS complex. The QRS complex is still a 0.06 seconds. Unless you get a widening, you don't have an intraventricular delay, electrical delay of any sort. So it's meaningless.
Q What would happen if there was the widening?
A If there was widening, then that means you would have disease in the conducting system of the heart causing a delay in electrical conductivity throughout the heart. And that could mean scaring of these bundles. It could mean atherosclerotic involvement causing lack of oxygenation to the electrical conduits. But in this particular case with a narrow QRS, it doesn't mean a thing.
Q And also the V3 is now defective, which

apparently --
A The V3 is not really there.
Q What happened there, do you think?
A The electrode must have slipped while the electrocardiogram was being taken.
Q So you would disagree with his conclusion that incomplete right bundle branch block is now present?
A No, I wouldn't disagree with it, but it's meaningless.
(Deposition Exhibit 49 was marked.)
BY MR. CALABRO
Q This is an EKG from August 8th, two days later. Again notes the right atrial enlargement. Do you still disagree that there is --
A Wait a second. They called this a left atrial enlargement the last time. Left atrial enlargement. Now they are calling it a right atrial enlargement? Yes. No, this isn't a right atrial enlargement because a right atrial enlargement doesn't look anything like this at all.
Q And then it says "Incomplete right bundle branch is no longer present."
A Right.
Q And it also says "Criteria for inferior infarct no longer present."

A That's right. You don't see it on this electrocardiogram. And sometimes it will happen. It will wax and wane. Sometimes you'll see it very profoundly, and other times it will tend to become modified.
You see little Q waves in Leads III and aVF. But if you were reading this without knowing the prior electrocardiograms, you would be hard pressed to see the old inferior wall myocardial infarction.
Q Does that mean that the damage has been abated?
A No.
Q It's just not reading on the EKG?
A That's right. It just isn't picking it up, for some reason or another.
Well, let me put it this way: If you get a whole series of electrocardiograms that hereafter don't show the inferior wall infarction, then the answer is yes, it can heal to the point where it won't be seen anymore.
Q Is that what happened in this case?
A I don't remember. I don't think so. I think it -- I think it came back. I think you could see it again in subsequent electrocardiograms.
MR. CALABRO: This is No. 50.

(Deposition Exhibit 50 was marked.)
BY MR. CALABRO
Q This appears to be a physician's progress notes from September 6th, 2003. This would be the day in question in this lawsuit.
A Right.
Q It says, Inmate Williams was brought over by a correctional officer, probably escort. Complaint of -- or maybe let's stop. I'm sorry. Let's back up.
It says Inmate Williams was brought over by C, slash, O, and then that symbol. Do you have any idea what that reading means?
A Yes. Brought over by correctional officer with complaint of chest pain --
Q Very good.
A -- on left side.
Q Stated that pain was running down his left arm.
A Right.
Q He kept clutching at his chest.
A Correct.
Vital signs taken were the following:
Blood pressure 120 over 80.
Q Which is normal?
A Right.

Q Saturation -- that would be oxygen saturation of 98 percent?
A Oxygen saturation of the blood, 98 percent.
Q P 71?
A Pulse of 71.
Q And temperature 99.9.
A Correct.
Q Is that about normal?
A Yeah. It's a little high normal.
Q 49-year-old black male. ER nurse notified. Was taken to ER to obtain an EKG.
A Right.
Q If we look at 9/12 it looks like follow-up EKG. And then 187, do you have any idea what that would refer to?
A That's his weight.
Q His weight?
A And I wouldn't know otherwise, except that I've seen this before in the records that his weight was around 185-187.
Q 107 over 76. Now, is that low?
A It is a little on the low side, but it could be normal for many people.
Pulse is 90. Respirations are 16. It's interesting: They always give the weight, but they

don't give the height. If he was 5 feet 2, 187 would make him markedly obese. But if he's 6 feet 2, that would be a good weight.

MR. CALABRO: Okay. We'll hold onto that one because it refers to the 9/6/03 -- or 9/12/03 EKG.

The next one is 51, I believe.

(Deposition Exhibit 51 was marked.)

BY MR. CALABRO

Q This appears to be the emergency care flow sheet from that same night. It looks like he arrived at 9:50 and left at 10:50 in the evening.

A Correct.

Q If we look at the vitals, at 9:50 it looks like his blood pressure was 135 over 80?

A Correct.

Q Would you say this is normal range.

A Yes, sir.

Q And then after that it looks like it's 144 over 82.

A Or 140 over 82. Could be 144. To me it looks like 140.

Q If it was a 140, that's borderline high, you said?

A Yes, it's the upper limits of normal.

Q If it were 144, that would be --

A That would be slightly over the limits of normal.

Q I'm going to ask you to read the box where it says treatments, notes and orders because I'm having a hard time making that out.

A You mean the thing at the bottom?

Q Right where it says "called by" I think "MTA. Inmate complaining of chest pain."

A To B medical.

Maybe that's the area that he was taken to.

Inmate holding left pectoral region. No shortness of breath. Vital signs within normal limits, stating that he has had this symptom before.

I don't know what the next is. I'm something.

Q Probably inmate. And then given --

A Given aspirin times one, nitroglycerin. No reduction of discomfort. Continued to have the pain in the left chest.

And then they said they took an electrocardiogram, which was normal.

Q What was before that? What's on that same line but before that?

A I haven't got any idea what all those initials are.

Q It looks like CTC would be Correctional Treatment Center. Went to the Correctional Treatment Center ER?

A Could be.

Q V -- something about environment?

A Don't have any idea.

Q That was -- okay.

A Now, down below:

Complaints of discomfort now more gastric. Dr. Wong called.

Q Now, did you review the EKG for September 6th, 2003?

A Well, I reviewed every electrocardiogram there. If it was in there, then I reviewed it.

Q My question is, I haven't seen one, so I want to know if you've seen one.

A I saw subsequent ones, but I didn't see -- let's me see what my note reflects.

I indicate that the electrocardiogram was unchanged. And I may have gotten that from the notes rather than looking at the actual tracing, so I just don't remember. There's a certain number of these electrocardiograms in reference to your exhibits that just weren't there.

Q So you don't remember if you looked at the

September 6th, 2003, EKG?

A Not specifically.

Q And when you said in the notes in your report here that:

"His electrocardiogram at that time and subsequently remained essentially stable and unchanged from previous electrocardiograms showing the old inferior wall myocardial infarction and an incomplete right bundle branch block,"

You were really referring to subsequent EKGs, not the September 6th EKG?

A The subsequent ones and the electrocardiogram -- or the statement that said the electrocardiogram was normal. Well, I doubt that it was normal. I would just say that it was probably -- a better way of putting it, it was stable.

Q When you wrote this, "His electrocardiogram at that time," what was the basis for you writing that in that report?

A I just don't remember now. Let me take a look at my notes, see if that will give me a clue.

What date was that?

Q September 6th, 2002.

A No, I've got written down here -- I must have

seen an electrocardiogram of 9/6/03. I have written down here, Electrocardiogram old inferior wall infarction and incomplete right bundle branch block stable.

Q I'm going to have to ask you to look through those documents to find it, then, because I don't have it.

A How much time do you have? I'll be glad to do it.

Q Can we agree that you will send it to me as soon as you -- within two days, or something like that? Is that fair?

A Sure.

Q I don't like to keep everybody here.

MR. CALABRO: Is that okay with you, Tim?

MR. MCDONOUGH: Yeah. If you could take the time to look through and at least pull the number.

MR. CALABRO: If you've got the number, that will work. The AG whatever number will work.

THE WITNESS: The Bates stamp. Sure.

MR. CALABRO: 52, two pages.

(Deposition Exhibit 52 was marked.)

BY MR. CALABRO

Q 52. There are two pages. I don't know which one is clipped to yours first. The one I'm looking at

first is the one that says "Unconfirmed."

A Okay.

Q In big capital letters it says:

"Previous ECG has different patient name, manual comparison required."

Do you see that?

A Yes.

Q Maybe what happened was that on September 6th, 2003, the EKG that was done was not filed under Mr. Williams' name and it was in a different file, maybe.

A Maybe.

Q And that's why we don't have it here. But if you find it, that would be great if you could send it on.

A I will try to find it.

Q Let's look at the November 20th, 2003, EKG. What does it mean when it says "unconfirmed"?

A That means it was read by the computer but it was not overread by a cardiologist. But then --

Q Which one of these do you feel -- the data is the same.

A They are both identically the same.

Q With regard to the data, correct?

A That's right.

Q One thing that's different is that in the confirmed one by Dr. Grove he says that he "Cannot rule out inferior infarct" and in the computerized one it says "Inferior infarct."

A Right.

Q Which one of those would be closer to your diagnosis?

A Well, there is a definite old inferior wall myocardial infarction.

Q So you would agree more with the unconfirmed, computer-generated, computer-read EKG than the one that --

A Right. Correct.

Q Is there anything else remarkable about this EKG?

A No. But let me make one statement about this alleged incomplete right bundle branch block. Electrical activity on one side of the heart will cause electrical activity on another side of the heart. And when there are downward deflections on one side of the heart, there can be upward deflections on another side of the heart.

The waxing and waning of this R wave in V1 that they call an incomplete right bundle branch block may not even be an incomplete right bundle branch block

but may represent the waxing and waning of the downward deflections in III and aVF because of the myocardial infarction.

Q When you say "waxing and waning," what does that mean?

A That means sometimes you see it better than other times, depending on the day. There are changes in electrical positions of the heart, depending on the height of the diaphragm.

The diaphragm is changed depending on how much he's had in his stomach from a previous meal or how much carbonated water he has, how much gas he's got in his stomach that could lift his diaphragm up and lift his heart up so that you'll get a little different view of the heart.

And that will cause a waxing and waning of this inferior wall infarction pattern. And with that will come a waxing and waning of this R wave in V1. That is really just an opposite wall effect of the infarct and not really a bundle branch block, whether complete or incomplete.

You can't really call it an incomplete right bundle branch block unless you have some abnormal widening of the QRS complex, and indeed there is none. So I think that's the best explanation I can give you.

MR. CALABRO: Very good. We're finished with those two exhibits, I believe.
THE WITNESS: Okay.
MR. CALABRO: 53.
(Deposition Exhibit 53 was marked.)
BY MR. CALABRO
Q This appears to be an EKG from a few months later, February 8th, 2004. "Left axis deviation," the computer notes. Do you agree with that?
A It's a left axis deviation because of the downward deflexions in the III and aVF. And here is what I want to point out to you: There's less of a Q wave in aVF. And with less of a Q wave in aVF, he's lost his R wave in V1.
He's lost that incomplete right bundle branch block pattern that they were calling. And this could be just due to a different position, electrical position of the heart, based on a lot of circumstances. I mentioned the gas in the stomach, the food in the stomach. Maybe he had his belt on too tight. All kinds of things can happen like that.
Q But you are noting the left axis deviation?
A Yes.
Q Is that due to the infarct?
A That's due to the infarct; yes, sir.

Q We're still seeing the infarct in February 2004?
A Yes. The infarct is harder to see at this time. You know it was there because of previous electrocardiograms. You know that Lead III is abnormal because, before he ever had his infarct, he never had those downward deflections.
So that by itself is an abnormal appearing lead. But you wouldn't dare call it if this were the first and only electrocardiogram you ever saw in this man.
Q Anything else remarkable about this EKG?
A The only thing remarkable is that they no longer called it a left atrial enlargement.
(Deposition Exhibit 54 was marked.)
BY MR. CALABRO
Q This is an EKG from May 24, 2004, a few more months afterward.
A Yes, sir.
Q Normal sinus rhythm; left atrial enlargement has returned.
A Yes, sir.
Q What is your opinion on that?
A It could be a left atrial enlargement. It looks a little full in V2. I wouldn't argue with that.

If I were teaching electrocardiography up at UCSF and the cardiology fellow wrote that down, I'd let that pass.
Q RSR or -- or I'm sorry. We decided what was -- what is the impact of having a large left atrium again?
A If it's large enough, then that could predispose an individual to atrial arrhythmia, such as atrial fibrillation, a rapid and irregular heart rhythm.
Q Is it large enough in this EKG to have cause for concern of that happening with Mr. Williams?
A You can't quantify it on electrocardiogram. You have to do the next step and take an echocardiogram, and then you can measure it.
Q Would this EKG cause you to do an echocardiogram for Mr. Williams for this left atrial enlargement?
A I would do an echocardiogram but not because of the atrium. I would do an echocardiogram to assess his ventricular contractility or function and see what his left ventricular ejection fraction was. That would be infinitely more important.
Q Is that due to the possible inferior infarct we have been talking about?
A Yes, sir.

Q The RSR -- it says up there in line 3:
"The RSR or QR pattern in V1 suggests right ventricular conduction delay."
A Yes.
Q Is this again related to the inferior infarct?
A Yes. There is no conduction delay because the measurement of the QRS complex is within normal limits. And there is no RSR. There is no initial R. There is an S and then a subsequent R. And I believe the subsequent R is because of the more prominent downward Q waves in the inferior leads.
Q Is there anything else remarkable about this EKG?
A No, sir.
Q I'd like to talk more about your report now.
A Okay.
Q In November of 2002 you noted that Mr. Williams was diagnosed with arteriosclerotic heart disease.
A Yes, sir.
Q Is that the same thing as coronary artery disease?
A Yes.
Q Is coronary artery disease a serious medical condition?

A Yes, sir.
Q Do you agree with that diagnosis of arteriosclerotic heart disease?
A I'm not sure. I think that's way up on my differential diagnosis list. As I told you earlier in this deposition, he either has this or he has coronary artery spasm due to taking of illicit drugs.
Q But you mentioned that he would have to be taking these illicit drugs while he was in --
A While he was incarcerated.
Q -- incarcerated?
A Correct.
Q If Mr. Williams was not taking illicit drugs while he was incarcerated, does that lead you to conclude that Mr. Williams likely had arteriosclerotic heart disease?
A If somehow you could confine him in such a way that he wouldn't get illicit drugs in a penitentiary and you could be certain about that, then he definitely has arteriosclerotic heart disease or atherosclerotic coronary artery occlusive disease, or otherwise shorthand known as coronary artery disease.
Q On March 3, 2002, you noted that there was a treadmill test performed?
A Yes, sir.

Q What is a treadmill test?
A An individual is hooked up with electrodes on his chest, six electrodes on the chest itself and, instead of putting them on the arms and legs, they put them -- they put two electrodes on the lower portion of the chest and then two other electrodes on the upper portion of the chest to be close to the arms and legs.
And that individual is then put on a treadmill, and various stages of activity or exercise are performed by the patient during which time an electrocardiogram -- an ongoing, continuous electrocardiogram -- is being visualized on the cardiac monitor. And every three minutes a printout, 12-lead electrocardiogram, comes out of the machine.
This is an attempt to see if exercise will bring out ischemia or impairment of blood flow to the heart muscle when the heart is made to work hard and beyond the capability of being able to transmit oxygenated blood to itself through narrow coronary arteries.
Q Is this the most accurate way to diagnose ischemia?
A No.
Q Is it the most accurate way to diagnose any other kind of heart conditions?

A No. This is one way to diagnose ischemia. But a more -- a better way is to do a treadmill test with a stress echocardiogram. That way you can see if the heart muscle is moving in an abnormal way during the height of exercise. Sometimes it doesn't show up on the electrocardiographic printouts but it does show up on the stress echocardiogram. Or another way is to do it with a nuclear scan of the heart.
The treadmill test by itself is about 60 percent accurate. The stress echocardiogram or the nuclear scan of the heart is 90-plus percent accurate. Of course, it's 100 percent accurate if you do an angiogram.
Q Why would somebody choose -- why would a doctor choose to do an electrocardiogram treadmill test as opposed to these others if it's not as effective or accurate?
MR. MCDONOUGH: Objection; calls for speculation.
THE WITNESS: I don't know. We don't do them anymore.
Well, let's see. Sometimes you will do just a plain treadmill test to -- in a patient that you know has heart disease because you want to assess his degree of functional capability. You already know the

diagnosis, and what you want to do is assess his functional capability.
But if you're looking for ischemia, then the only thing to do is either stress echocardiogram or a nuclear stress test.
And there would certainly be nothing wrong with taking the patient right to the cardiac catheterization laboratory because you have electrocardiograms that show that he has a heart attack. So you have to assume that at one time or another he's had blockages.
And so whether you see ischemia on the plain treadmill or the stress echocardiogram or on a nuclear stress test or not, you still have to -- you are still faced with the fact that you have an abnormal electrocardiogram showing an old inferior wall infarction.
So why not? Why not forget about those tests and take him right to the cath lab and do the gold-standard test and find out where these obstructions are, how many they are, how severe they are, and if they need correcting either by coronary angioplasty and stenting or if he needs bypass surgery?
BY MR. CALABRO
Q Is it cheaper to do an EKG test than an

echocardiogram or a cardiac catheterization?
A Sure.
Q It is cheaper?
A Yes.
Q How much cheaper? I mean, half the cost? A tenth of the cost?
A Well, a nuclear scan of the heart -- no, I say a nuclear scan of the heart costs about the same as an angiogram.
But it's a lot more fuss to do an angiogram. You've got to put the patient in the hospital. They have got to be there either overnight or at least go in the morning and stay there all day. It's an invasive test. You have to stick tubes and pipes into his heart, into the arteries of his heart. It's much more of a hassle.
It's easier to do these other tests. Obviously, if these other tests show that there is ischemia, then you have to go the next step and do the angiogram.
Q Did any of the tests show that Mr. Williams suffered from ischemia?
A None. His plain treadmill test was normal and did not show any ischemia.
Q But we just said that that's 60 percent

accurate?
A That's right.
Q It's possible that it was just a false negative?
A That's correct.
Q 40 percent chance, in fact, that it was a false negative?
A 40 percent chance that he could still have ischemia.
I will tell you, in all probability there is 100 percent chance that he's got ischemia, from the description of his ongoing, recurring chest pain in the face of unknown, seen, visible inferior wall myocardial infarction.
Q And would you characterize that as a serious medical condition, this ischemia?
A It certainly could be.
Q In your opinion, is it more serious a condition than nausea?
A Yes.
Q Is it a more serious condition than headache?
A You bet.
Q Is it a more serious condition than having the shakes?
A Yes, sir.

Q In your opinion, is it a more serious condition than depression?
MR. MCDONOUGH: Objection; calls for speculation.
THE WITNESS: Well, it can be. But I've seen some awful severe depressions. You know, if a person gets markedly depressed and they jump off the Golden Gate Bridge, then there is nothing more serious than that.
BY MR. CALABRO
Q In terms of harm to one's self that isn't done on purpose, is it a more serious condition than depression?
MR. MCDONOUGH: Objection; vague and ambiguous.
THE WITNESS: Same answer I gave you before.
BY MR. CALABRO
Q In your opinion, is ischemia more serious than the discomfort one would typically experience as a result of incarceration?
MR. MCDONOUGH: Objection; calls for speculation, over broad and vague.
THE WITNESS: Well, ischemia means -- the symptoms of ischemia can be chest pain and shortness of breath. I'm not sure what the symptoms of incarceration

can be. I'm sure there are a multitude of symptoms, including boredom and depression and fear and sorrow and all kinds of other symptoms.
BY MR. CALABRO
Q Do you think that the ischemia was caused by his incarceration?
MR. MCDONOUGH: Objection; calls for speculation.
THE WITNESS: I don't know.
BY MR. CALABRO
Q Is there any evident that the ischemia was caused by his incarceration?
A No. If a person has this much chest pain on an ongoing basis, there is a good probability that he will continue to have this much chest pain on an ongoing basis even if he was not incarcerated, especially when you see demonstrated an old inferior wall myocardial infarction.
Q If one of your patients had the ischemia that Mr. Williams had, would you consider it important to comment to this patient about it, to tell him about it?
A Sure.
Q If one of your patients had this condition, would you consider it important to treat it?
A You bet.

Q Could the failure to treat this condition result in further significant injury?
A It could in the future. I don't believe that it has up to now, but it certainly could. And I think I alluded to that in my report.
Q Could the failure to treat this condition result in chronic or substantial pain?
MR. MCDONOUGH: Objection; calls for speculation.
THE WITNESS: He has a chronic pain.
BY MR. CALABRO
Q Because of this ischemia?
A Yes. Ischemia -- the pain is a manifestation of ischemia.
Q Is it your opinion that this condition significantly affects his daily life?
MR. MCDONOUGH: Objection; calls for speculation.
THE WITNESS: It could, yes.
BY MR. CALABRO
Q It could or it does?
MR. MCDONOUGH: Objection; calls for speculation.
THE WITNESS: I'm not quite sure that I know. But all I could say is, It could.

BY MR. CALABRO
Q Does it affect the way that he would exercise?
A Yes, it could.
Q Does it affect his dietary restrictions?
A Well, he should be on dietary restrictions; yes, sir.
Q Does it affect whether he should smoke or not?
A Yes, sir.
Q In your opinion, wouldn't those affect someone's daily life?
A I'm sorry?
Q In your medical opinion, wouldn't those be conditions that affect somebody's daily life?
MR. MCDONOUGH: Objection; calls for speculation.
THE WITNESS: Anybody who has recurring chest pain due to myocardial ischemia, whether they are incarcerated or not, will have an effect on their daily life; yes, sir.
BY MR. CALABRO
Q And this ischemia -- the pain that he was experiencing on September 6th of 2003 was this ischemia, was related to this ischemia?
MR. MCDONOUGH: Objection; calls for speculation.

THE WITNESS: I would say that that's either a possibility or a probability. I'm not 100 percent certain because there are other factors in him that could cause chest pain.
BY MR. CALABRO
Q Can you name any specific facts that would contradict your opinion -- can you name any specific facts that would indicate that Mr. Williams was not suffering from ischemia on September 6th -- the pain that he was -- let me start again.
Can you name any specific facts that would indicate that on September 6th, 2003, Mr. Williams was not suffering from ischemia?
A No, sir.
Q In the report you say that you conclude that Mr. Williams was suffering from atherosclerotic coronary artery occlusive disease.
A Yes, sir.
Q We already talked about what atherosclerotic means. What does "occlusive" mean?
A Atherosclerosis in the inside of the coronary arteries causing occlusion of the coronary arteries.
Q "Occlusion" means?
A Closure of the coronary arteries. Or marked closure, either 70 percent or greater, of a coronary

artery.
Q So it's your medical opinion that Mr. Williams' arteries are blocked by at least 70 percent?
A It's my opinion that that's the No. 1 diagnosis on the differential. Perhaps I should have put an asterisk after that because of the -- of my knowledge that he was an illicit drug user.
And since I'm a big watcher of CSI and these other things on television, I know that these type of drugs are found in places of incarceration. So if he's still taking them, then he could be getting his ischemia, not from atherosclerosis, but from coronary artery spasm.
But still, the No. 1 item on the differential is atherosclerotic coronary artery occlusive disease that has to be addressed sometime in the future, probably sooner than later.
Q He was suffering from this on September 6th, 2003?
A I believe so; yes, sir.
Q Let's clarify that. If he wasn't taking any illicit drugs, it's your medical opinion that he was suffering from atherosclerotic coronary artery occlusive disease on September 6th, 2003?

A Yes. If somehow you could state with a 100,000 percent certainty that he wasn't, then he has the No. 1 diagnosis: Atherosclerotic coronary artery occlusive disease.
Q And even if he was taking drugs, illicit drugs, which is cocaine or marijuana, there is still a good probability that he's suffering from atherosclerotic coronary artery occlusive disease?
A Are you asking me even if he was on --
Q Even if he was on these drugs.
A On an ongoing basis?
Q Correct.
A No. Then all bets are off. It could be just due to the drugs.
Q Okay. What kind of regularity would there have to be to assume that the atherosclerotic coronary artery occlusive disease diagnosis is invalid?
A If he were shown to be taking cocaine or dextroamphetamine and then had pain immediately thereafter, then that would be proof positive.
Q My question was, How often would he have to be taking these drugs for this diagnosis to be inaccurate?
A Well, if he took it on an ongoing basis and he had chest pain on an ongoing basis while he was taking it, then it would be due to the drugs.

If he took it on an ongoing basis and sometimes he had chest pain and sometimes he didn't, well, you wouldn't know because sometimes people will have it and sometimes people will not have it, depending on the batch and the purity of the illicit drug that he's taking.
Q Is it a fair characterization of your testimony that in order for this No. 1 diagnosis, the atherosclerotic coronary artery occlusive disease, to be invalid, each time Mr. Williams was suffering from pain, chest pain that would otherwise be attributable to atherosclerotic coronary artery occlusive disease, he would have received that pain immediately after taking one of these illicit drugs?
Tell me if that was too confusing.
A That was a little confusing.
MR. MCDONOUGH: Objection; vague and ambiguous.
MR. CALABRO: Timely.
THE WITNESS: I think I can help you out, though.
BY MR. CALABRO
Q Please do.
A We have a man with a known old inferior wall myocardial infarction. No. 1 on the differential

diagnosis is atherosclerotic coronary artery occlusive disease because that's what happens to people with -- at his age. He's in the right age range.
But he's never had definitive tests of his coronary arteries to see whether he has these cholesterol plaques, so you don't know with 100 percent certainty whether that's the cause of his old infarct or not.
It could be that he took a powerful dose of a coronary constricting drug that caused him to have a heart attack. It could be that at times in the subsequent months and years he would take illicit drugs that were watered down and he didn't have any chest pain. And it could be that he took illicit drugs at times and he did have chest pains.
Or it could be that he had true atherosclerotic coronary artery occlusive disease with an old inferior wall myocardial infarction due to an atherosclerotic obstruction of one of his coronary arteries, presumably the right coronary artery, because that's what supplies the inferior portion of the heart, and a lot of the chest pain could be due to continued obstruction of his coronary arteries.
But here's the kicker: He could still have chest -- recurring chest pain from taking illicit drugs

at the same time. He could have those two conditions simultaneously.
Q They are not mutually exclusive?
A They are not mutually exclusive.
Q But for the purpose of this report, your conclusion is that Mr. Williams has atherosclerotic coronary artery occlusive disease?
A Most likely.
Q And that that disease is a serious medical condition?
A Yes.
Q It is a condition which you believe is more serious than nausea?
A Yes, unless the nausea is caused by unstable angina.
Q You believe that this atherosclerotic coronary artery occlusive disease is more serious than a headache?
A Yes, sir.
Q It's more serious than having the shakes?
A Yes, sir.
Q It's more serious than depression?
A I didn't say that. I never said that. I'm very respectful for depression. I've had a couple of depressed patients that took their own lives.

So it's -- if it's a mild depression, I would say yes, it's more serious than a mild depression. All of us get depressed every now and then, you know, about something. But a severe depression can be the worst disease in the world, worst than cancer.

Q In your opinion, is atherosclerotic coronary artery occlusive disease more serious than a discomfort -- everyday discomfort from prison incarceration?

MR. MCDONOUGH: Objection; calls for speculation.

THE WITNESS: They are two different things, and I just don't think I can answer that.

BY MR. CALABRO

Q Do you have any specific facts that would contradict that conclusion?

MR. MCDONOUGH: Objection; vague and ambiguous.

THE WITNESS: Let me rephrase the question, then.

Q Do you know of any specific facts that would contradict the conclusion that atherosclerotic coronary artery occlusive disease is more serious than the everyday discomfort one would typically experience as a result of incarceration?

MR. MCDONOUGH: Objection; calls for speculation.

THE WITNESS: I don't have any facts, but I think that this probably depends on the individual. It probably depends on the individual.

BY MR. CALABRO

Q The answer is that you don't know of any specific facts that would contradict that?

A That's correct.

Q If one of your patients had this condition, would you find it important to tell him about it?

A Yes, sir.

Q If one of your patients had this condition, would you consider it important to treat it?

A Yes, sir.

Q If one of your patients had this condition -- I'm sorry. Let me start again.

Could the failure to treat this condition result in further physical injury?

A The failure to treat this condition how?

Q At all. Could the failure to treat atherosclerotic coronary artery occlusive disease result in further significant injury?

A It could.

Q Could the failure to treat this condition

result in chronic or substantial pain?

A Well, treatment of this condition will, if successful, eliminate the pain.

Q So if you fail to treat it, the pain will still be there?

A In some instances, yes.

Q In Mr. Williams' instance?

MR. MCDONOUGH: Objection; vague and ambiguous.

BY MR. CALABRO

Q Do you understand the question?

A Yes, I understand the question.

He is being treated, to a certain extent. He's being given nitroglycerin.

Q If he weren't being treated for this condition, he would -- that would result in pain, chronic or substantial pain?

A Even being treated with nitroglycerin without any definitive treatment of his coronary arteries, if they are occluded, by means of angioplasty or stent or bypass surgery, even though he's being continuously treated with nitroglycerin, he would still have recurring pain, which he has had.

Q Sir, my question is: If he was receiving no treatment for this condition, would he experience

chronic or substantial pain?

A He is receiving chronic and substantial pain even with the treatment that he's getting.

MR. CALABRO: Let me just strike the answer as nonresponsive.

Q My question is: If Mr. Williams receives no treatment for this pain or for this condition, the atherosclerotic coronary artery occlusive disease condition, would the failure to treat this condition result in chronic or substantial pain?

MR. MCDONOUGH: Objection; vague as to time and length.

THE WITNESS: No more chronic than he already is receiving with his degree of treatment.

BY MR. CALABRO

Q Let me ask the question in a different way.

If Mr. Williams did not receive treatment for atherosclerotic coronary artery occlusive disease, would he experience pain that results from this disease?

MR. MCDONOUGH: Objection; incomplete hypothetical.

THE WITNESS: If he has -- which I think he has -- atherosclerotic coronary artery occlusive disease, then he would have pain as a result of ischemia.

BY MR. CALABRO
Q If he were not treated?
A If he were not treated. And if he were just treated intermittently, as he is being done with nitroglycerin, he would still have pain.
Q Would the pain be more severe or less severe in those situations?
A Same.
Q The same pain?
A Yes. It's just that with nitroglycerin the pain would be ameliorated intermittently.
Q So he would have less pain when treated than without being treated?
A He would have a shorter duration of pain. The pain may still be just as intense.
Q But it would be shorter duration of pain?
A Yes.
Q That would be less pain?
A Yes.
Q Let's talk about the second impression that you had, old inferior wall myocardial infarction, secondary to No. 1.
A Yes, sir.
Q What do you mean by secondary to No. 1?
A Secondary to his atherosclerotic coronary

artery occlusive disease. If there is a significant obstruction of a coronary artery causing a total occlusion of that coronary artery, then there would be impairment of blood flow to the heart muscle causing that muscle to die and become injured and result in a heart attack or a myocardial infarction.
Q I guess my question is, I am not understanding what you mean by "secondary." Is it less important than --
A No, no. I don't mean less important; I mean it's due to.
Q I understand.
A It's due to.
Q The myocardial infarction in fact is due to the atherosclerotic coronary artery occlusive disease.
A That's right.
Q Can you describe the pain that's normally associated with myocardial infarction?
A I'll describe the classic pain, but seldom is there a classic pain. A classic pain is a severe, pressing, squeezing, constricting pain in the substernal area in the front center of the chest, which is often associated with shortness of breath, profound sweating, at times nausea, at times weakness and lightheadedness.
And the pain classically will radiate up into

the left shoulder and down the left arm and up into the jaw. This pain will persist, despite bedrest and despite administration of nitroglycerin. This is classic pain for a myocardial infarction.
But as I told you earlier, there is no "classic." I've seen massive myocardial infarctions with no pain whatsoever. I've seen myocardial infarction where there's been only a transient pain that looked like just another angina attack. I've seen classic myocardial infarction with an overriding symptom of shortness of breath and weakness.
I saw one patient who had a severe heart attack where his pain -- no, this was a lady -- where her pain was in the left wrist, severe crushing pain in the left wrist, without any tenderness to palpation. This was not an orthopedic problem that one could discern right away.
So there is no "classic." But what I gave you initially was the classic thing that will happen which is described in textbooks. Sometimes the pain will radiate into the upper abdomen; sometimes the pain will radiate between the shoulder blades and the back. Sometimes the pain will be in the right chest and go down the right arm as opposed to the left. So they are all variations.

Q If a patient is suspected of having a myocardial infarction, should he be admitted as soon as possible to the emergency room?
A If he's suspected of having a myocardial infarction, he should be admitted to an emergency room as soon as possible and certain tests should be taken; yes, sir.
Q Is the pain that Mr. Williams described on September 6th, 2003, inconsistent with having a myocardial infarction?
A What date did you say?
Q September 6th, 2003.
A No. Any chest pain is consistent with a myocardial infarction, whether it's classic or not classic.
Q That Mr. Williams had had a previous heart attack or myocardial infarction, does that increase the risk factor that Mr. Williams was suffering another myocardial infarction?
A It increases the probability that he might be having another myocardial infarction; yes, sir.
Q Does the fact that he's over 35 -- or does Mr. Williams' age create another risk factor that he was -- or increase the probability -- let me start again.

Does Mr. Williams' age create another factor that would increase the probability that Mr. Williams was suffering from a myocardial infarction?
A Yes, sir.
Q If Mr. Williams was your patient and you knew his past history and had heard the complaints that he complained of on September 6th, 2003 --
A Yes, sir.
Q -- and he said that he wanted to be seen by a doctor, what would you recommend that he do?
A I would have -- well, I'd see him.
Q As soon as possible?
A As soon as possible, yes.
Q Would you wait 45 minutes before seeing him?
A It all depends on how long it would take to get him down to see me. Sometimes it takes patients a while to get down to see their doctor.
Q If you were minutes away from Mr. Williams, would you tell him to wait 45 minutes before he came to see you?
A No. When patients call me up on the phone, I say, You'd better come and see me right away. And they will see me within a half hour to two hours sometimes.
I had a patient who called me from the south of France two weeks ago. His wife -- he didn't call me;

his wife called me.
And she said, "Andre is having an upset stomach. He's got to severe pain in his chest, and it's going down his left arm. I want to forewarn you: I'm getting him on an airplane and taking him to see you."
I said, "Gretchen, don't do that. Have him see a cardiologist right away." Which he did, and he had a myocardial infarction.
Q If a patient such as Mr. Williams -- if a patient with Mr. Williams' history and his complaints had called you, would you think that failure to treat Mr. Williams could result in further, significant injury on September 6th, 2003?
MR. MCDONOUGH: Objection; vague and ambiguous.
THE WITNESS: It could.
BY MR. CALABRO
Q Could the failure to treat his condition result in chronic or substantial pain?
A Well, he already is having chronic and substantial pain. And so failure to treat wouldn't increase his likelihood of having it; he already had it.
Q Could it prolong his chronic or substantial pain?
A It could, yes.

Q Could it lead to death?
A If he was having truly a severe enough ischemia, it could lead to death.
Q Knowing Mr. Williams' history and what he would be complaining of on September 6th, 2003, it's possible that those factors, without being treated, could have led to death?
A Whenever a patient has a known old myocardial infarction and they complain of ongoing chest pain, one always worries that the chest pain may be cardiac and may be ischemic and may lead to death; yes, sir, that would concern me.
Q So on September 6th, 2003, you would have considered Mr. Williams' request for medical assistance to be -- his condition at the time to be a serious medical condition?
A Potentially serious, yes.
Q I'd like to talk about the third impression, which is recurring angina pectoris. Could you describe what that is?
A Angina pectoris is recurring heart pain due to impairment of oxygenated blood flow to the heart muscle. And this impairment of blood flow to the heart muscle is only temporary so that it doesn't result in a myocardial infarction. It's heart pain without infarction.

Q So the pain that you feel with a myocardial infarction is the same as angina; it just doesn't -- let's start again.
Angina is basically a heart attack light?
A No, it's not a heart attack light. It's just heart pain without a heart attack. And the only real difference, if you want to quantify it from the pain standpoint, is a heart attack has much more pain. The pain is more intensive; it's more prolonged. And the nitroglycerin generally does not help it.
Q Does angina lead to myocardial ischemia?
A Angina is myocardial ischemia. Angina is a symptomatic manifestation of ischemia. The definition of ischemia is impairment of blood flow to the heart muscle. And when a person has angina, that means cardiac chest pain due to diminished oxygenated blood flow to the heart muscle on a temporary basis.
Q Is angina normally induced by exercise?
A It can. Anything that will increase the work of the heart beyond the heart's capability of pumping adequate oxygenated blood to itself through narrow coronary arteries will result in angina.
Q But exercise is one of those things that can lead to angina?
A Exercise is one thing, and acute emotional

distress is another thing.
Q And the pain of angina can range from sort of a vague ache or discomfort up to an intense crushing, painful sensation?
A Yes, sir.
Q I've read in some of the literature that pain has a crescendo pattern at onset and builds up. Do you know what this refers to?
A Well, I'm not sure that that's true. The pain will just happen. Sometimes a person will have a mild pain.
I saw a person earlier today, prior to this deposition, who has chronic, stable angina. He's had several angiograms with angioplasty and stents to open up his coronary arteries, and they are all open. His coronary arteries are all open. But he must have some smaller arteries that aren't open because every time he gets his pulse rate up beyond 100 per minute, either by exercise or emotional stress, he has a little burning in his neck consistent with angina.
Q So you would say that angina pain doesn't normally build throughout an angina attack?
A I'm not impressed by that, no.
Q I'm sorry. I don't understand what you mean.
A I'm not impressed that that's true. Maybe it

is in some people, but for the most part, they just develope angina.
Q And the pain would be constant throughout the entire episode of angina?
A Yes, unless they're nitroglycerine hone and they get an angina attack and they don't have any way of stopping it and then they get tense and upset because they can't stop it, and then I can see where the angina attack can get more severe and be more crescendo.
Q The pain of angina is usually felt to the left of the chest midline?
A Usually, it's right in the center, substernal. It can be to the left. If it's going to be on one side or the other, it's more commonly on the left. Most commonly, it's on the front center. It can be on the left. More rarely, it's on the right side; and occasionally, it's in the top of the abdomen.
Q Does it have the characteristic of radiating to the left arm or the back and the throat and the jaws, as the pain of a myocardial infarction?
A Less so than a myocardial infarction, but it can happen.
Q Is it fair to say that, if somebody complains to you of having chest pain that radiates to the back or down the left arm, it's more consistent with myocardial

infarction than angina?
A No, it's not more consistent. One has to certainly rule out a myocardial infarction whenever this is prolonged or whenever this happens.
Q How long does the pain of angina usually last?
A Until you make it stop with nitroglycerin.
Q Without being treated with nitroglycerin, it would go on indefinitely?
A Without being treated with nitroglycerin, it can last anywheres from seconds to 15 or 20 minutes. If it's more prolonged than 20 minutes or a half hour, then one would strongly suspect the presence of a myocardial infarction.
Q Do you characterize angina as a serious medical condition?
A Somehow you're asking me the same questions over and over.
The answer is yes.
Q In your opinion, is it more serious than nausea?
A Unless the nausea is associated with the angina.
Q Is angina more serious than a headache?
A Yes, sir.
Q Is angina more serious than having the shakes?

A Yes, sir.
And it's not more serious than depression.
Q Is angina more serious -- in your opinion, is it more serious than the discomfort one would normally associate with the discomfort of being incarcerated?
MR. MCDONOUGH: Objection; calls for speculation.
THE WITNESS: That's a very individual thing. It depends on the individual. It depends on the individual.
BY MR. CALABRO
Q What does it depend on?
A I would say that during the time a person is having angina, whether a person's incarcerated or not, there is nothing more serious. This is a problem. The person feels it, and they want to get rid of it right away. And then once it's gone, then if they are incarcerated, they still suffer the travails of incarceration.
Q If one of your patients was suffering from recurring angina, would it be important to treat him?
A I think you asked me that before, and the answer is yes.
Q Could the failure to treat the angina result in further prolonged pain?

A Yes.
Q Would the condition of recurring angina pectoris affect the life -- significantly affect the life of somebody who had it?
A Recurring angina pectoris itself would not affect the life. It's the underlying cause of the angina that might affect the life expectancy of the individual. And that cause can be atherosclerotic coronary artery occlusive disease or it could be coronary artery spasm.
Q Is it often the case that patients with coronary artery disease, like Mr. Williams, will have angina at rest?
A "Angina at rest" means unstable angina, and that's the most serious type of angina. That's called unstable, and that could lead to myocardial infarction or sudden death. That has to be taken more seriously than recurring exercise-induced angina.
Q Is it fair to say that myocardial ischemic pain at rest is more likely to result from an acute reduction in coronary blood flow than an increase in oxygen demand?
A Say that again.
Q Sure. Is it fair to say that myocardial ischemic pain at rest more likely results from an acute

reduction in coronary blood flow -- so some sort of blockage or something -- rather than an increase in myocardial oxygen demand?
A It's a combination. It is a combination. One can't say one over the other. The reason there is angina in the first place is because of the oxygen demand of the heart muscle and that demand is being impaired by the narrow coronary arteries, resulting in obstruction.
Q Presumably, though, if you were at rest, your oxygen demand hadn't changed from the time before the pain until the time that you were having the pain, which would lead to the conclusion that it was more likely some sort of blockage that was causing the pain?
MR. MCDONOUGH: Objection; incomplete hypothetical.
THE WITNESS: Yes, but what is "rest"? A person can ostensibly be at rest and have a bad dream. I've seen that in patients cause myocardial infarctions.
A person cannot like the way his spouse or his cell mate combs their hair. It makes them figuratively "climb a wall." That will cause emotional distress such that it will cause angina and the person would look like they are at rest.
They may get bad news from the outside; that

will cause angina. Emotional stress will cause angina. They may smoke a cigarette. Tobacco will cause a certain amount of coronary artery spasm in a person who already has an atherosclerotic occlusion that may cause angina.
So a person could be at rest, lying in bed and decide to have one last smoke before going to sleep. Bingo; there is angina. So there's a lot of factors there.
BY MR. CALABRO
Q With your review of the record and especially Mr. Williams' deposition testimony, what facts point you to conclude -- or let's start again.
With your review of the record, including the medical documentation and Mr. Williams' deposition testimony, what factors do you think would lead to the conclusion that Mr. Williams was not at rest when this angina began on September 6th, 2003?
MR. MCDONOUGH: Objection; calls for speculation, vague and ambiguous.
THE WITNESS: I don't have any factors. I don't have any factors to tell me whether he was or was not at rest. A person can look like they are at rest but not be at rest. Or maybe he was doing something. I have not idea.

BY MR. CALABRO
Q If the testimony in this case were that Mr. Williams was standing at his cell, all indications he was very calm tone of voice and he asked to see a medical technician because of his angina pain, would that lead one to the conclusion in most cases that he was at rest?
A It would certainly --
MR. MCDONOUGH: Objection; calls for speculation.
THE WITNESS: It would certainly lead one to conclude that he was inactive from the physical standpoint. How inactive he was from the emotional standpoint, I wouldn't know.
BY MR. CALABRO
Q Is the severity of pain with rest angina similar to the severity of pain of exertional angina?
A It can be, or they can be quite equivalent.
Q Is the more often the case that the discomfort associated with unstable angina, rest angina, is more severe than the pain associated with exertional angina?
A No. But it's more dangerous, if this turns out to be true angina. That means, with little -- that means with little or no provocation he gets ischemia, causing angina.

Q Is it more likely that the duration of the angina with respect to unstable angina would be longer than the duration of the angina that was exertional angina?

MR. MCDONOUGH: Objection; vague and ambiguous.

THE WITNESS: It may or may not be. If a person has exertional angina and stops exerting and takes the nitroglycerin, the pain may go away immediately. By the same token, this may happen with a person with rest angina.

BY MR. CALABRO

Q If the pain lasts longer than 20 minutes, is it more likely the case that that individual is suffering from unstable angina than exertional angina?

A No. If a patient has angina at rest or what appears to be relative inactivity, that's unstable angina. I mean, a person is sitting or standing or watching television or smoking a cigarette and they have angina with minimal physical effort, that's unstable angina.

Q Is it your opinion in this case that Mr. Williams was suffering from unstable angina on September 6th, 2003?

A It looks like he was. It looks like he could

have been. It looks like that had to be ruled out. It has never been completely ruled out.

But what you haven't asked me are, What are the factors opposing unstable angina in this?

Q What specific facts do you know of in this case that would rule out unstable angina?

A Well, the only real thing that would rule it out is by taking him to the cardiac catheterization laboratory and doing an angiogram. But there are other things that are noteworthy in the record.

The noteworthy things is that, for the most part, his blood pressures are entirely normal. For the most part, his cholesterol levels are entirely normal. His bad cholesterol, his low density lipoproteins, are normal. His good cholesterol, his high density lipoproteins, are normal. His triglycerides are normal.

It's rather unusual for a person with severe coronary artery disease to have that condition in the face of these very potent risk factors. He's not a diabetic. People with -- who are diabetics and have high cholesterol and have high triglycerides and high levels of low density lipoproteins, these are the people who usually have unstable angina. He didn't have that.

And that's why one can't completely exclude the possibility of illicit drug use. I'm not saying

that that's what he has. No. 1 is still coronary artery disease. That has to be the No. 1 diagnosis.

He, on the other hand, has risk factors. He has a positive family history, and he has the male gender. He has the aging process, and he's a smoker. Those are all positive risk factors. So he's not without risk factors for the development of coronary artery disease.

So what I'm saying is, in fact, I'm agreeing with all of your inferences. He has the possibility, if not the probability, of real severe coronary artery disease. He has a possibility, if not the probability, of real, true, ongoing unstable angina.

Any physician who treats him has to think that, Here's a man who is at risk every time he has a chest pain with minimal or no excursion because this represents unstable angina.

And carrying this one step further, a proper treatment, then, would be to put him in a hospital and do an angiogram on him and know for certain whether his arteries are clean or arteries are plugged up and then treat them accordingly.

Treatment with nitroglycerin is just like scratching an itch. It will make the symptom go away temporarily, but it won't do anything to modify the

underlying disease process.

Q Mr. Williams had testified in his deposition that he took two or three nitroglycerin on September 6th, 2003, and that the pain continued to increase.

A Well, then I would believe him.

Q Is that more or less likely -- does that counsel towards a diagnosis of anginal pain or unstable anginal pain, that isolated factor?

A Unstable angina.

Q That Mr. Williams' pain lasted upwards of 45 minutes to an hour, as an isolated factor, does that counsel more towards unstable angina or exertional angina?

A Well, if this was angina pain, then it would certainly be severe angina pain. Don't forget, he's had other reasons for chest pain. No. 1, he's had a gastric ulcer, which can cause chest pain; and No. 2, he's had an infection in his stomach, called Helicobacter infection, which produced that ulcer.

And that combination of Helicobacter infection and gastric ulcer -- and I think somebody in there said gastroesophageal regurgitation -- GERD, capital G, capital E, capital R, capital D -- that can cause chest pain.

So whether this 45 minutes was in part or in whole angina or whether it was in part or in whole upper gastrointestinal, I don't know. But you're absolutely right in your inferences. The thing that will kill you is not the ulcer; the thing that will kill you is the heart. So one has to bend over backwards to rule out a heart condition.

It's highly unusual -- highly unusual for a man to have chest pain for 45 minutes and have no change in the electrocardiogram and have no change in enzymes. Very unusual.

Q Did you observe any readings of enzymes in this from September 6th, 2003?

A I didn't see any. I didn't see any taken.

Q Is there any indication from September 6, 2003, of the ulcer that you were talking about earlier?

A Well, no, not at that time; but there was in the past. And ulcers can be insidious and chronic.

Q My question was, Are there any indication on September 6th, 2003, of this ulcer?

A How would one know? No. Nobody did an endoscopy, stick a tube down there and take a look.

Q So the answer is no?

A The answer is no. But one would certainly, once you've ruled out a myocardial infarction, while the

patient was in the hospital you would look for other areas that would cause chest pain and do these specific studies.

Q But as an isolated factor, that Mr. Williams' pain lasted longer than 20 minutes, does that counsel more towards unstable angina or exertional angina?

A Well, unstable angina can be any length of time. It could be two minutes if it came at rest.

Q My question is, Since it lasted longer than 20 minutes, is that more characteristic of unstable angina or exertional angina?

MR. MCDONOUGH: Objection; states facts not yet in evidence.

THE WITNESS: Neither one. Both could last long, if the condition is severe enough.

BY MR. CALABRO

Q That Mr. Williams appeared to be at rest when his pain began, does that counsel more towards unstable angina or exertional?

A Yes, unstable angina is made by three factors: No. 1, new onset angina, which is not him. He's had it for years. No. 2, unstable -- crescendo angina from the standpoint of the fact that, as days go on, it gets worse and worse and worse. And No. 3, angina at rest, irrespective of how long it is. Any one of those three

will constitute the diagnosis of unstable angina.

Q I want to show you an exhibit -- well, I'll just ask you, I guess. Is it the case that, if someone is suspected of suffering from unstable angina, that they should not have an exercise stress test?

A If you don't know it's unstable angina, you might be forced into doing a treadmill test. If a person has had a known myocardial infarction, you can still do a treadmill test.

Treadmill tests are the safest things in the world to do because you're doing them in a laboratory where there is a defibrillator and emergency medicines and everything else that you need to offset any of the bad things that will happen with unstable angina.

But often, when you have a person with an abnormal electrocardiogram showing an old myocardial infarction and a person has what sounds like unstable angina, you don't need a treadmill test. You don't need a nuclear test or stress echo. You put them in the hospital, and you do an angiogram. That would be the most expeditious thing to do.

Q And we may have --

A If it turns out that there is nothing there, so be it. Then you've got to go back to the drawing board and say to yourself, Well, what else will cause

this abnormality in the electrocardiogram showing an old inferior wall infarction? How much illicit medicines is being shipped into this guy?

Q I wanted to talk about another opinion you express in this report. You say Mr. Williams needed acute medical intervention or evaluation on August 3rd, 2003, and September 6th, 2003.

A Yes. And before that and after that.

Q And you said:

"One to one and one-half hours after the onset of symptoms or after requesting to be seen is a reasonably short period of time to be seen."

A Yes.

Q What did you mean by that?

A What I mean by that is, if you catch a person in the throws of an acute myocardial infarction before three hours have elapsed from the onset of the chest pain and you intervene by means of thrombolytic intravenous medication or by means of sticking in a catheter and opening up a blocked artery, you'll either abort a myocardial infarction or markedly diminish a myocardial infarction.

An hour to an hour and a half is not long at all. In fact, we have given instructions at St. Mary's

and University of California that, when patients call up with chest pain and they are known cardiac patients, we want to get them into the cath lab in 90 minutes. That's our goal: 90 minutes.

Q But if Mr. Williams is only minutes away from seeing a medical professional, you think it's reasonable for him to have to wait for 45 minutes to an hour before he goes to see that medical professional, given his past history?

A If he's right next door to a medical professional, perhaps not, no. Try to get him in as quickly as possible. In this particular case, however, the time laps of 45 minutes or an hour or an hour and a quarter or an hour and a half certainly didn't do any harm to him.

Q You noted also that, when he was seen, he was treated promptly with oxygen and nitroglycerin and his pain disappeared.

A Yes.

Q Is it your opinion that this treatment was what made his pain disappear?

A It sounds that way.

Q Isn't it the logical extension of that that, if he had been treated earlier, he would have had less pain?

A Probably.

Q Probably or -- isn't that the logical conclusion to that?

A It sounds that way.

Q So if Mr. Williams had had this treatment earlier, he would have had less pain than he experienced?

A I think that's what I just got through saying. He probably would have had less pain than he experienced. But in the long run, no damage.

Q Other than the pain he experienced?

A Other than the pain.

Q I'm going to show you a page from the book called Hurst's "The Heart" that we talked about earlier.

MR. MCDONOUGH: Are you going to mark this as an exhibit.

MR. CALABRO: Yes.

Well, actually, no, I'm not going to.

Q On page 1215 of "The Heart," the exhibit that I just handed to you --

A Okay.

Q -- there's a heading called "Acute Coronary Syndromes."

A Right.

Q And you would agree with me that acute

coronary syndromes would be unstable angina?

A Acute coronary syndrome can be unstable angina; yes, sir.

Q About halfway into that paragraph it says.

An ECG should be able to be obtained and accurately interpreted within 10 minutes.

Maybe we should back up so we get some context. If we read the paragraph it says:

ACS is actually a unifying term representing a common end result, acute myocardial ischemia. Acute ischemia is usually, but not always, caused by atherosclerotic coronary artery disease and is associated with an increased risk of cardiac death and myonecrosis. It encompasses acute MI and unstable angina. The importance of recognizing a cardiac patient with ACS concerns both triage and management. Those deemed to have an ACS in the emergency department should be triaged immediately to an area with continuous electrocardiogram monitoring and defibrillation capability. An ECG should be able to be obtained and accurately interpreted within ten minutes.

Isn't that inconsistent with the 45-minute to an hour delay that you thought was reasonable?

A What I'm interpreting that is within ten minutes of the time that he hits the emergency room. You know, obviously, if patients are across town and they start having the pain, they can't have an electrocardiogram within ten minutes. That's not reasonable.

They hit the emergency room. They call the ECG technician, and the tech comes down with a machine. It rolls down. They take an electrocardiogram, and then the technician runs around and finds a doctor who will interpret it. Ten minutes. That's reasonable.

And I agree with everything else that was said there.

Q Do you agree that the prompt and accurate diagnosis of ACS permits the timely initiation of appropriate therapy for ACS?

A Yes.

Q And so, the sooner that that determination can be made, the more accurate the treatment would be?

A Sure. Should have been made in the year 2000 or 2001 or 2003 or 2002. He's been having unstable angina all these years, if his chest pain in total turns out to be due to the heart.

Q If one of the defendants, the guards in this case, had called you and told of Mr. Williams' condition, would you have told them to wait for 45 minutes to an hour before sending him to the medical clinic?

MR. MCDONOUGH: Objection; incomplete hypothetical based on facts not yet in evidence.

THE WITNESS: If I was the doctor in the medical clinic and I was told that here is a man who had chest pain by one of these officers and I knew that he had had an old inferior wall myocardial infarction, obviously I would have said, Get him down here as soon as possible.

BY MR. CALABRO

Q And in such case, waiting 45 minutes probably wouldn't have been reasonable?

A I don't know what the circumstances were in an area of incarceration. I can't answer that.

Q If there is no reason preventing these guards from sending Mr. Williams immediately, would it have been unreasonable to wait 45 minutes to an hour before sending him to the medical clinic?

MR. MCDONOUGH: Objection; incomplete hypothetical.

THE WITNESS: If there was no reason, then

perhaps it would be unreasonable. Nonetheless, no fault, no blame. It turns out that there was no new acute myocardial infarction that could be ascertained and whatever condition he has was aborted by means of oxygen and nitroglycerin.

BY MR. CALABRO

Q But nobody knew that at the time that he was complaining of the pains?

MR. MCDONOUGH: Objection; calls for speculation.

BY MR. CALABRO

Q Is that right?

A That's correct.

MR. CALABRO: Okay. I don't have any further questions.

MR. MCDONOUGH: Okay. I have no questions.

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I, WILLIAM S. BREALL, M.D., do hereby declare under penalty of perjury that I have read the foregoing transcript; that I have made any corrections as appear noted, in ink, initialed by me, or attached hereto; that my testimony as contained herein, as corrected, is true and correct.

EXECUTED this _____ day of _____, 200___, at _____, _____.
(City) (State)

_____
WILLIAM S. BREALL, M.D.

I, the undersigned, a Certified Shorthand Reporter of the State of California, do hereby certify:

That the foregoing proceedings were taken before me at the time and place herein set forth; that any witnesses in the foregoing proceedings, prior to testifying, were placed under oath; that a verbatim record of the proceedings was made by me using machine shorthand which was thereafter transcribed under my direction; further, that the foregoing is an accurate transcription thereof.

I further certify that I am neither financially interested in the action nor a relative or employee of any attorney of any of the parties.

IN WITNESS WHEREOF, I have this date subscribe my name.

Dated: _____

_____
CLAUDIA A. BETTUCCHI
CSR NO: 12214