

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF LOUISIANA

JOYCE BARROIS, ET AL	)	CIVIL ACTION NO:
PLAINTIFFS,	)	09-380
	)	
VS.	)	SECTION: R
	)	
FIREMAN'S FUND INS. CO.,	)	JUDGE: VANCE
ET AL	)	
DEFENDANTS.	)	MAGISTRATE: KNOWLES

ORAL AND VIDEOTAPED DEPOSITION
OF
ETHAN A. NATELSON, M.D.
FEBRUARY 10, 2010
Volume 1 of 1 Volume

ORAL AND VIDEOTAPED DEPOSITION OF ETHAN A. NATELSON, M.D., produced as a witness at the instance of the Plaintiff, and duly sworn, was taken in the above-styled and numbered cause on the 10th of February, 2010, from 1:38 p.m. to 3:09 p.m., before Minnie Cadena, CSR, RPR, RMR, in and for the State of Texas, reported by stenographic method, at the Marriott Hotel, 6580 Fannin Street, Houston, Texas, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the record or attached hereto.

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(Exhibit A-E were marked.)

THE COURT REPORTER: Will the witness read
and sign his deposition?

THE WITNESS: Read and sign.

THE VIDEOGRAPHER: We're on the record. 01:38
The time now is 1:38, Wednesday, February 10, 2010.

ETHAN A. NATELSON, M.D.,
having been first duly sworn, testified as follows:

EXAMINATION

BY MR. WILLIAMS: 01:39

Q. Good evening, Dr. Natelson. Would you please
state your full name and address for the record?

A. Yes, Ethan A. Natelson, N-A-T-E-L-S-O-N; and my
address is 6550 Fannin Street, Suite 1001, Houston, Texas
77030. 01:39

Q. And, Doctor, I'm going to show you a subpoena;
and I want you to tell me whether or not you received a
subpoena to appear here today.

A. Yes, I did.

Q. Okay. And earlier we had an opportunity to go 01:39
over some of the documents, and I'll get to that in a
minute.

Can you briefly tell us your educational
background?

A. Yes, I went to college at Haverford College 01:39

1 which is outside Philadelphia and had a bachelor of
2 science degree; and then in 1962, came to Baylor College
3 of Medicine in Houston where I graduated in 1966 from
4 medical school, getting an M.D. degree. And then I did
5 an internship at the Methodist Hospital from '66 to '67 01:40
6 and then a residency in internal medicine in what were
7 then called Baylor affiliated hospitals, which are the
8 Ben Taub Hospital, the Veterans Hospital and the
9 Methodist Hospital, to a slight extent, St. Luke's
10 Hospital. 01:40

11 Following that, I did a fellowship in
12 hematology at Baylor College of Medicine for one year;
13 and then I was in the service and assigned under what's
14 called the Barry plan to the Wilford Hall Hospital in
15 San Antonio, which is the referral hospital for 01:40
16 hematology for the Air Force or was at that time. And
17 so, I did purely hematology for two years in the service
18 and then came back to join the faculty at Baylor College
19 of Medicine.

20 Q. And you are a hematologist? 01:41

21 A. Yes.

22 Q. Doctor, do you do expert witness work?

23 A. Yes.

24 Q. Earlier you provided me with a list --

25 MR. WILLIAMS: And we're going to have to 01:41

1 mark this as B.

2 Q. (By Mr. Williams) And if you could, tell us
3 how many cases you've identified that you've served as an
4 expert witness.

5 A. This is a record of the cases I've given 01:41
6 testimony in since 1992 to the present, and there are a
7 total of 74 cases.

8 Q. And can you tell me how many of those cases
9 involved myelodysplastic syndrome?

10 A. Yes, ten of those cases did. 01:41

11 Q. And can you tell me how many involved
12 refractory anemia with ringed sideroblast?

13 A. Five of the 10 cases that have to do with MDS.

14 Q. And can you go through the list and identify
15 the name of the case and tell us who you worked for and 01:42
16 tell us what the disease -- as far as the ten we just
17 discussed?

18 A. Yes.

19 MR. SCOTT: Have you marked this as an
20 exhibit? 01:42

21 MR. WILLIAMS: B.

22 A. The first one is No. 22 on this list, which is
23 Donald Ward v. Atlantic Richfield Company; and that was
24 an RARS case.

25 Q. (By Mr. Williams) What date was that? 01:42

1 A. That would be January 18, 2002.

2 Q. Could you tell us the next case?

3 A. The next case is No. 24, which is Howard
4 Collins v. American Petrofina; and that case was in May
5 of 2002. 01:42

6 Q. Okay. Could you tell us the next case?

7 A. The next case was No. 35, which is Federico
8 Tagle v. Citgo Refining & Marketing; and that was in
9 October of 2004.

10 Q. And, Doctor, did you work on 30 and 31? Were 01:43
11 they myelodysplastic syndrome cases, too?

12 A. Yes, I thought you were asking me about RARS in
13 particular.

14 Q. I'm asking you about all of them.

15 A. I'm sorry. Yeah, I was looking at them as just 01:43
16 RARS cases. I have them marked here in yellow if they
17 are MDS.

18 So, I mentioned the Ward case; the Collins
19 case. No. 30 is the James Cowey v. Radiator Speciality
20 Company. That was in 2003. 01:43

21 No. 31 was the Ronald Awalt, A-W-A-L-T, v.
22 Applied Energy Services & Company Incorporated; and that
23 was in December of 2003.

24 Then the Tagle case, which I mentioned; and
25 that's in October of 2004. 01:43

1 And then Guy Hamman v. American Oil
2 Company, and that was in July of 2007. That's No. 52 on
3 my list.

4 And then No. 54, Charles Wilson v.
5 Rycoline Products Incorporated. That was in 2007, 01:44
6 9-17-2007.

7 And then No. 62, Connie Lea Gibson Andrews
8 v. United States Steel Company; and that was in August of
9 2008.

10 Then the Bonnie L. Mallory case. That's 01:44
11 No. 68. Bonnie L. Mallory v. The GoodYear Tire & Rubber
12 Company. That was in June of 2009.

13 And then Mary Ellen Hall v. Radiator
14 Specialty Company, which was in January of 2010.

15 Q. And, Doctor, in all ten of those cases, did you 01:45
16 work for the defendants?

17 A. Yes.

18 Q. And in all ten of those cases, did you find
19 that the benzene exposure caused the person's
20 myelodysplastic syndrome? 01:45

21 MR. SCOTT: Object to the form of the
22 question.

23 Q. (By Mr. Williams) Did you find that the benzene
24 exposure caused anyone's myelodysplastic syndrome in
25 those ten cases? 01:45

1 A. I don't know that they all had to do with
2 benzene. There may be optional chemicals. Some may have
3 been butadiene. I don't know if they were specifically
4 noted as benzene, but I didn't find that the alleged
5 chemical exposure caused the disease. 01:45

6 Q. Okay. In the case identified as No. 22, Donald
7 Ward v. Atlantic Richfield and Howard Collins v.
8 American Petrofina, in either of those RARS, we can call
9 them, cases, did you find -- did you opine that benzene
10 does not cause RARS in either of those two cases? 01:46

11 A. I don't recall in detail, but I'm sure that
12 that was correct. I don't believe benzene causes RARS;
13 so, that's what I would have said.

14 Q. And when did you formulate that opinion?

15 A. I can't tell you exactly. Probably many years 01:46
16 ago because the original work by Dr. Wintrobe on that,
17 which I've referenced in that article you have,
18 Dr. Wintrobe considered benzene as a cause of RARS and
19 rejected it. So, I think the literature for many years
20 has not suggested RARS can be caused by benzene. 01:46

21 Q. Doctor, would you say that the majority of your
22 cases in the 74 that you have provided were blood
23 malignancy cases?

24 A. I would think the majority are. Some are
25 malpractice cases. Some have to do with residency 01:47

1 training programs and other things, but the majority
2 probably are to do with blood diseases.

3 Q. Were you paid as an expert witness in all of
4 these cases?

5 A. Not all of them because some of them, for 01:47
6 example, residency training programs, I wouldn't have
7 been paid; but if they had to do with either testifying
8 in malpractice or testifying in, let's say, a
9 benzene-related issue, yes.

10 Q. And how much do you charge an hour, Doctor? 01:47

11 A. To review records, \$250 an hour; and to testify
12 at trial or deposition, \$400 an hour.

13 Q. Have you ever opined that a plaintiff's blood
14 malignancy or blood cancer was caused by benzene?

15 A. No. 01:48

16 Q. Have you ever opined or testified that benzene
17 can cause myelodysplastic syndrome?

18 A. Yes.

19 Q. Is myelodysplastic syndrome the same thing as
20 myelodysplasia? 01:48

21 A. Yes.

22 Q. Would you say myelodysplasia, myelodysplastic
23 syndrome, myelodysplastic disorder are all the same
24 thing?

25 A. Well, they are a classification of a group of 01:48

1 illnesses.

2 Q. Okay. What level and part per million years is
3 required for benzene to cause myelodysplastic syndrome?

4 MR. SCOTT: Objection, form.

5 A. I don't know that it's known with absolute 01:48
6 certainty. It's very, very high levels. I think in one
7 article I wrote I said, I'd like to see at least higher
8 than 40-part per million years as accumulated dose
9 recognizing that in many instances the levels are not
10 accurately measured. In many other areas of literature, 01:49
11 the 200-part-per-million year accumulated dose is used;
12 but I simply say it's very, very high doses.

13 Q. You think 370-part-per-million year dose is a
14 high dose?

15 A. Yes. 01:49

16 Q. Doctor, I'm going to direct you to an article
17 which is in Exhibit A, if you would flip the pages,
18 please, entitled Benzene Exposure.

19 A. Yes, you have a copy of that.

20 Q. And it's attached to your subpoena. Benzene 01:49
21 Exposure and Refractory Sideroblastic Erythropoiesis.

22 Did you write this article?

23 A. Yes.

24 Q. And can you tell us what journal this is
25 published in? 01:49

1 A. This is in the AMERICAN JOURNAL OF THE MEDICAL
2 SCIENCES.

3 Q. And is there a citation for this article?

4 A. Yes, it was published. It's Volume 334, Year
5 2007, Page 356 to Page 360. 01:50

6 Q. And, Doctor, when did you start working on this
7 article?

8 A. Probably -- let's see. I submitted this,
9 according to the paper, in January of '07. Probably
10 several months prior to that submission date. 01:50

11 Q. Several months prior to January of '07?

12 A. Yes. In other words, it's marked -- on the
13 paper it says, submitted January 16, 2007. And so,
14 therefore, I would likely have worked on it for, perhaps,
15 three, four months or so, at least, before submitting it. 01:50

16 Q. Okay. What process did you go through in
17 submitting this article to the journal?

18 A. Well, I've been interested in sideroblastic
19 anemia for many years, actually, since my training
20 because two of my professors were heavily involved in 01:51
21 studying sideroblastic anemia; and I frequently did bone
22 marrows on those patients and saw them clinically. So,
23 I've been interested in the disease for many years.

24 As I -- as I began to give testimony in
25 benzene-related cases and actually was asked to review 01:51

1 certain allegations of causation, I realized that this
2 would be an interesting article to write because, No. 1,
3 I had a lot of background with this illness. I enjoy
4 this illness. I've always wanted to write a paper on the
5 illness, and I have access to a lot of references that 01:51
6 would bear on this question. And so, I thought it would
7 be a good paper to write.

8 Q. Were there any rules for submitting this
9 article to the journal?

10 A. I don't know of exactly what you mean by that. 01:52
11 Most journals -- and today, things have changed.
12 Everything is submitted electronically. But at this
13 point in time, you would type up a manuscript. You would
14 put a cover letter to the editor; and you would say, Dear
15 Editor, this is a manuscript. I'd like to seek 01:52
16 publication in your journal. Here it is, and you would
17 mail it in.

18 And then after some period of time, you
19 would hear something back from the Journal about whether
20 they were interested in publishing it, whether they had 01:52
21 corrections they would like you to make, whether they
22 rejected it and so on.

23 Q. Does this journal, the AMERICAN JOURNAL OF
24 MEDICAL SCIENCES, require disclosing potential conflict
25 of interest at the time you submit the article? 01:52

A. Yes, I think all journals would say that, disclose a conflict of interest to that form.

Q. At the time you submitted this article, Doctor, were you serving as an expert witness in any benzene cases?

01:53

A. I don't know, probably so.

Q. At the time you submitted this article, were you serving as an expert witness on any Benzene cases that involved myelodysplastic syndrome?

A. I don't know; but possibly so, depending on what those lists of cases are that we went through.

01:53

Q. And at the time that you submitted this article in the journal, were you involved in any cases where your opinion was that RARS was not caused by Benzene in the case?

01:53

A. Well, I -- as we went through those cases, some of those cases, I think, dated back to 2002 or earlier, long before I wrote this article; and that was my opinion that RARS was not a benzene-related illness.

Q. Doctor, I want to show you a petition -- we have this marked as C-1 to a case, and I believe -- could you read the caption to that case?

01:53

A. It says: Now comes Charles Wilson and Laura Wilson, hereinafter referred to as Plaintiffs, complaining of Rycoline Products, Inc., Rogersol, Inc. 01:54

01:54

1 Q. I'm sorry, Doctor, the top, the caption,
2 Charles Wilson v. Rycoline Products. I apologize.

3 A. Charles Wilson and Laura Wilson, Plaintiffs v.
4 Rycoline Products, Inc., Rogersol, Inc.,
5 Hostman-Steinberg, Inc., IC Compound Company, Ashland, 01:54
6 Inc., Company Individually, Ashland Oil & Refining
7 Company and Ashland Oil, Inc., Allied Photo Offset Supply
8 Corporation, Day International, Inc., Individually and
9 d/b/a Varn Products, Allied Photo Offsets Supply
10 Corporation; and Lastra American Corporation. 01:54

11 Q. Okay. And, Doctor, can you tell me the date on
12 the top of that petition that it was filed?

13 A. Filed 7-13-2006.

14 MR. WILLIAMS: Okay. We're going to mark
15 that as C-1, Ms. Reporter. 01:54

16 Q. (By Mr. Williams) And that's the case you have
17 listed as No. 54 on your expert summary?

18 A. Yes.

19 Q. Doctor, I'm going to next show you a witness
20 list to the case of Charles Wilson v. Rycoline Products, 01:55
21 and can you tell me if your name is listed as a witness
22 on that case?

23 A. Yes, it is.

24 Q. Okay. And could you tell me what date is on
25 the top of that witness list that it was filed? 01:55

1 A. It says filed 7-17-2007.

2 Q. Okay. Do you recall being a witness in this
3 case?

4 A. Vaguely.

5 Q. Okay. And that's marked as C-2. 01:55

6 Next, I'm going to show you a report from
7 that case, Doctor. Can you tell me if you recognize that
8 report?

9 A. Yes, this is a report on my letterhead.

10 Q. Can you tell me the date of that report, 01:55
11 Doctor?

12 A. June 22, 2007.

13 Q. Okay. And, Doctor, on the first page, it is
14 your opinion, the highlighted portion, that there are
15 several names for what we talked about earlier, ringed 01:56
16 sideroblast or RARS? Can you tell me what your opinion
17 is?

18 A. Yes, as I have written here: It is alleged
19 that his hemologic illness of refractory anemia with
20 ringed sideroblast, also known as acquired idiopathic 01:56
21 sideroblastic anemia, sideroachrestic anemia and by the
22 initials RARS and AISA has occurred subsequent to his
23 exposure in the workplace to benzene-containing solvents.

24 Q. And, Doctor, I want to return to Page 4 of the
25 report, you have a highlighted bolded portion. Can you 01:56

1 read that out loud, please?

2 A. Yes. In fact, I am not aware of a single
3 epidemiologic study or even an isolated case report in
4 the world's medical literature that shows RARS/AISA to be
5 a consequence of benzene exposure. 01:57

6 Q. And there was a reference number that you have
7 there?

8 A. Yes, No. 14.

9 Q. Can you tell us what No. 14 is?

10 A. That's the article that we've talked about 01:57
11 Benzene Exposure and Refractory Sideroblastic
12 Erythropoiesis: Is There an Association. And that was
13 the AMERICAN JOURNAL OF MEDICAL SCIENCE. At that time,
14 it was in press, in 2007.

15 Q. And "press" means that it's not published yet; 01:57
16 is that correct?

17 A. Well, it often is published on -- E-published.
18 In other words, you can see the article; but the journal
19 hasn't made the streets yet.

20 Q. Okay. Thank you. 01:57

21 Were you paid for preparing that report
22 there, Doctor?

23 A. I'm sure I was.

24 MR. SCOTT: Which exhibit is that?

25 MR. WILLIAMS: That's C-3. 01:58

1 Q. (By Mr. Williams) Were you paid to be an
2 expert in that case, Wilson v. Rycoline Products?

3 A. Yes.

4 Q. Do you remember how much money you were paid in
5 the Wilson case?

01:58

6 A. No.

7 Q. How long does it usually take you to review
8 records and write a report in a case like that?

9 A. It's variable from case to case because some
10 cases have a small amount of information, other cases 01:58
11 have a staggering amount of information. And once I have
12 all of the information together and then I sum up what
13 references I'd like to put into the letter and by the
14 time I go through revisions to the letter and
15 modifications of it, it might be from, starting a letter 01:58
16 to finishing a letter, easily seven or eight, ten hours.

17 Q. Okay. Doctor, I want to show you the next
18 exhibit, Exhibit D, a deposition from the Wilson v.
19 Rycoline Oil Products case; and if you turn the page to
20 the tabbed page. In the deposition are you offering 01:59
21 opinions that benzene does not cause RARS?

22 A. Yes, that's correct.

23 Q. Okay. And if you flip the page, in that
24 deposition, do you also testify that your journal article
25 will be published in November of 2007? 01:59

1 A. Yes.

2 Q. And what's the date of that deposition, Doctor?

3 A. 9-17-2007.

4 Q. Were you paid for that deposition in that case,
5 Doctor?

01:59

6 A. I'm sure I was, yes.

7 Q. Okay. Thank you, Doctor.

8 Doctor, I'm now going to show you a
9 subpoena that was issued to the -- David Ploth, the
10 editor of the AMERICAN JOURNAL OF MEDICAL SCIENCES, along 02:00
11 with a copy of your published paper.

12 Have you ever seen that subpoena before?

13 A. No.

14 Q. Do you know who David Ploth is?

15 A. Is his name written? 02:00

16 Q. Ploth, I think I'm mispronouncing, on the front
17 page. David Ploth, I apologize.

18 A. According to this thing, he is the current
19 editor of the AMERICAN JOURNAL OF MEDICAL SCIENCES.

20 Q. Doctor, I'm going to provide you with a copy of 02:01
21 the response that we received.

22 It's a copy of the response that we
23 received from the journal; and if you flip the page,
24 there is a document -- the second page right there. Is
25 that your handwriting, Doctor?

02:01

1 A. It is.

2 Q. And can you identify the title of this
3 document?

4 A. It says: Authorship responsibility, financial
5 disclosure and copyright transfer form. 02:01

6 Q. And, Doctor, you filled out this form and
7 submitted it to the AMERICAN JOURNAL OF THE MEDICAL
8 SCIENCES; is that correct?

9 A. Yes.

10 Q. Okay. Doctor, if you go down to Section 2 02:01
11 under financial disclosures, the highlighted section, and
12 read that into the record for us?

13 A. I certify that any affiliations with or
14 involvement, either competitive or amiable, in any
15 organization or entity with a direct financial interest 02:02
16 in the subject matter or materials discussed in the
17 manuscript, for example, employment, consultancies, stock
18 ownership, honoraria and expert testimony, are noted
19 below. Otherwise, my signature indicates that I have no
20 such financial interest. All financial research or 02:02
21 project support is identified in an acknowledgment in the
22 manuscript.

23 Q. Okay. And my question to you is, Doctor, I
24 don't see where you disclosed that you had any expert
25 testimony relating to the subject matter in that 02:02

1 document?

2 MR. SCOTT: Object to the form of the
3 question.

4 A. That would be true.

5 Q. (By Mr. Williams) Okay. And I don't believe 02:02
6 the article identifies that you were serving as an expert
7 witness in RARS cases; is that correct?

8 MR. SCOTT: Objection, form.

9 A. That's correct.

10 Q. (By Mr. Williams) And am I correct that you 02:02
11 were serving as an expert witness in benzene, RARS cases
12 prior to starting the article?

13 A. Yes.

14 Q. As we have just evidenced through the
15 depositions and the reports, while the article was under 02:03
16 publication; is that correct?

17 A. Possibly. Look at those dates. As I say, we
18 have the date I submitted it, yes.

19 Q. And you were serving as an expert witness in
20 benzene, RARS cases after the article was published; is 02:03
21 that correct?

22 A. Yes.

23 Q. If you flip the page please, Doctor --

24 A. (Witness complies.)

25 Q. -- and let me ask you one more question. What 02:03

1 did you understand "certifying" to mean, under oath, or
2 do you know what certifying means?

3 MR. SCOTT: Object to the form.

4 A. I'm not sure I know what it means. In other
5 words, this article was a review. It was not original 02:03
6 work. It's a review of literature and I'm just putting
7 it together and I don't see that that offers any conflict
8 of interest to anybody. And it's a common practice in
9 writing articles that one reviews other people's work and
10 puts it in there and that, to me, is not considered a 02:03
11 conflict of interest.

12 Q. (By Mr. Williams) And you don't agree that the
13 Journal required you to identify any potential conflict
14 of interest?

15 MR. SCOTT: Object to the form. 02:04

16 A. Well, I look at that as, was that article being
17 written about information in a particular case that I'm
18 testifying in? This is a general subject matter, and I
19 don't see that it has anything to do with a conflict of
20 interest. 02:04

21 Q. (By Mr. Williams) Doctor, do you know a
22 gentleman by the name of David Pyatt?

23 A. I've actually never met him but I've
24 corresponded with him and I've spoken with him on the
25 phone once or twice. 02:04

1 Q. Did you speak to him relating to this article
2 that you published?

3 A. I don't know that. I mean, at the time I wrote
4 it, I think that would be doubtful; but I couldn't say
5 "yes" or "no." 02:04

6 Q. Do you know if you've ever served as an expert
7 witness on a benzene myelodysplastic syndrome case with
8 David Pyatt who is a toxicologist?

9 A. Yes.

10 MR. SCOTT: Objection, form. 02:05

11 Q. (By Mr. Williams) Can you tell me which ones
12 you've served on? If you'd like to look at your list,
13 that would be fine.

14 A. I wouldn't be able to tell you that from this
15 list. 02:05

16 MR. SCOTT: Eric, I'm sorry. I've got some
17 objections to these questions.

18 And, Doctor, if you will let me --

19 THE WITNESS: I'm sorry.

20 MR. SCOTT: No, that's all right. If 02:05
21 you'll just pause for a second after his question is
22 done, I'll get my objection in and then I won't be
23 prancing all over your words; but I object to the form of
24 the last question.

25 Q. (By Mr. Williams) Doctor, have you ever told 02:05

1 the AMERICAN JOURNAL OF MEDICAL SCIENCES up until today
2 that you do work involving benzene RARS cases?

3 A. No.

4 MR. SCOTT: Object to the form.

5 Q. (By Mr. Williams) Can you tell me how many 02:05
6 benzene myelodysplastic syndrome cases you worked on with
7 Dr. Pyatt?

8 A. I couldn't.

9 Q. Can you tell me how many benzene cases you've
10 worked on with Dr. Pyatt? 02:06

11 A. I don't know.

12 Q. Can you tell me if it's more than ten?

13 A. I can't tell you that. I don't know. He's
14 been an expert witness on several cases; and, in fact,
15 I've written a paper with him, but I actually have never 02:06
16 met the man.

17 There are two papers. One is a paper that
18 he was the primary author that has to do with
19 formaldehyde, and it's in my CV. And the other is a
20 paper that was recently accepted for publication that has 02:06
21 to do with chemotherapy induced myelodysplasia.

22 Q. Doctor, do you know who the peer reviewers were
23 for the article that we're here for today, the Madison
24 2007?

25 A. No. 02:06

1 Q. Were you ever told -- or did you ever
2 correspond with the peer reviewers?

3 A. Well, no, you're not told that. In other
4 words, you are given -- typically, the way the Journal
5 operates is that you may recommend -- they typically ask 02:07
6 you to recommend some people in the field; but then what
7 happens is that you get a blank paragraph back from each
8 of the reviewers or simply a letter saying the Journal
9 isn't interested. And you don't know which reviewer
10 wrote what, or if they used any of the people you 02:07
11 suggested; but they simply ask you to suggest some names.

12 Q. Do you know if you worked on any benzene cases
13 with Dr. Pyatt in 2007?

14 A. I think it's very doubtful.

15 Q. Okay. If you turn to a few pages where it says 02:07
16 to review letter --

17 MR. SCOTT: What's your exhibit number?
18 I'm sorry, Eric, so we can keep track of what we're
19 talking about --

20 MR. WILLIAMS: I apologize. All of this is 02:08
21 in Exhibit F. I need to change that number.

22 MR. SCOTT: F.

23 (Exhibit F was marked.)

24 Q. (By Mr. Williams) Doctor, have you seen this
25 page before? 02:08

1 A. No.

2 Q. Can you tell me what peer reviewer is
3 identified on this sheet?

4 A. David Pyatt, M.D.

5 Q. Okay. And if you turn the page, were you -- to 02:08
6 the highlighted section -- were you informed that David
7 Pyatt viewed your article as acceptable with minor
8 revisions and said that related issues and toxic tort
9 litigation are on the rise and MDS is frequently at
10 issue. Were you told that? 02:09

11 A. If I was given -- I certainly wouldn't be told
12 who reviewed it. I might have been given this paragraph
13 -- or a section of it, depending on what the editor
14 supplied me with.

15 Q. And did you recommend David Pyatt as a reviewer 02:09
16 of this article?

17 A. I probably did. I don't know that for a fact.
18 I gave them several names, and his name could have been
19 among them.

20 Q. Okay. Doctor, if you keep flipping until we 02:09
21 get to your article --

22 A. Yes.

23 Q. -- I believe you testified -- or you write in
24 your article -- and it's at the end, Page 359 -- that
25 there are certain forms of myelodysplastic syndrome that 02:09

1 you feel are caused by benzene exposure, the last
2 paragraph of 359.

3 A. Yes, I said: Despite these caveats, based on
4 considerable evidence presented here, benzene exposure
5 cannot be considered of potential etiology for RARS 02:10
6 although it remains a risk factor for certain forms of
7 the myelodysplasia such as RAEB, an unclassified and/or
8 hypocellular myelodysplasia syndromes, and for AML.

9 Q. Correct. And, Doctor, refractory anemia is a
10 form of myelodysplastic syndrome; is that correct? 02:10

11 A. RARS is classified as a form of myelodysplasia,
12 yes.

13 Q. No, just plain refractory anemia?

14 A. Oh, yes, you can have primary refractory anemia
15 that is a form of myelodysplasia. 02:10

16 Q. And then when one develops ringed sideroblast,
17 it would be RARS refractory with ringed sideroblastic?

18 A. Yes.

19 Q. And then when one develops RAEB, it would be
20 refractory anemia with excess blast; is that correct? 02:11

21 A. Yes, but if you're talking about the same case,
22 I don't think that you would see the transition from a
23 primary refractory anemia into an RARS. You would see
24 the progression from a primary refractory anemia into an
25 RAEB. You would see the progression from an RARS into an 02:11

1 RAEB.

2 Q. And cases of RAEB, refractory anemia with
3 excess blast would have excess amounts of ringed
4 sideroblastic, too; is that correct?

5 A. If they started out as an RARS and the natural 02:11
6 history of that illness is to, in some instances, move
7 toward a Leukemia, as they increase blast, they become,
8 by the classification system RAEB. They are the same
9 illness, as far as I'm concerned; but they are classified
10 as RAEB because they now have blast and they still have 02:12
11 ringed sideroblast.

12 Q. Okay. Doctor, would that be the same for
13 RAEB-T that you would have excessive blast and also
14 possibly excessive ringed sideroblastic; is that correct?

15 MR. SCOTT: Object to the form. 02:12

16 A. Well, again, talking about the progression, if
17 you had RARS-T, that's an illness which you are saying at
18 diagnosis it's a myeloproliferative disease. It has
19 excess ringed sideroblast. That disease may progress
20 toward an acute myeloleukemia, too, and accumulate large 02:12
21 numbers of blast and actually go into AML.

22 Q. (By Mr. Williams) Doctor, are there -- how
23 much money have you made serving as an expert witness for
24 various defendants in myelodysplastic syndrome cases?

25 MR. SCOTT: Object to the form. 02:12

1 A. I couldn't give you a number.

2 Q. (By Mr. Williams) And could you give us a
3 number for how much money you have made in RARS cases?

4 A. I wouldn't have a guess. It looks like there
5 were five, I think we saw, since 1982. I couldn't give a 02:13
6 guess.

7 Q. Do you have an average of what it takes you to
8 prepare a report and go through a deposition, average
9 price, a range?

10 A. It depends on how long the deposition is in 02:13
11 terms of how much that costs; and the preparation, my
12 guess would be that it -- and this would be a guess, that
13 it might be anywhere from six to ten hours, let's say,
14 depending on the simplicity of the case in terms of
15 reviewing the records. 02:13

16 Q. Okay. Have you ever treated a patient with
17 myelodysplastic syndrome that was exposed to -- that was
18 a chemist and was exposed to chemicals?

19 A. Yes.

20 Q. And was it your opinion that that chemist's 02:14
21 exposures to benzene and other chemicals was the cause of
22 his myelodysplastic syndrome?

23 A. I thought it was possible.

24 Q. Okay. Are there any studies, Doctor, in the
25 world's literature that focus on the fact benzene, 02:14

1 besides your own, can't cause RARS?

2 A. Well, there are many articles that read on that
3 point. In other words, there is the Dr. Ruiz article,
4 which I think I cited, where he did bone marrows on 33
5 people with heavy exposure to benzene and pancitopenia 02:14
6 and he specifically tells us there were no ringed
7 sideroblasts.

8 We have Dr. Irons article. He had two
9 articles. One, I think, in 2005 and one recently where
10 he's looked at a large number of people with heavy 02:14
11 benzene exposure and none have had ringed sideroblast.

12 We have Dr. Aksoy's work. And Dr. Aksoy
13 was trained, in part, here in the United States with
14 Dr. Damashek who was the world's expert on RARS. So, he
15 certainly knew about that illness. And he did bone 02:15
16 marrows on a number of people he thought had
17 benzene-related disease, and he makes no mention of ever
18 finding RARS in their marrows.

19 And I would not think that could be missed
20 by a person of his training. 02:15

21 We have the so-called Chinese benzene
22 study, the Haze benzene studies in which Dr. Larsen and
23 others reviewed slides, they claim, of seven people with
24 myelodysplasia from that large cohort; and they make no
25 description of seeing ringed sideroblasts. And all of 02:15

1 those people are very prominent hematologists and
2 certainly would recognize ringed sideroblasts.

3 So that if we look through the literature
4 in cohorts that have been studied by bone marrow analysis
5 by prominent people, there is no mention of the 02:16
6 occurrence of ringed sideroblast, and in many instances,
7 mention that they are not evident, even after having been
8 sought.

9 Q. Doctor, maybe you didn't understand my
10 question. I asked you were there any other studies that 02:16
11 are focused, the title or the objective is benzene
12 exposure and refractory sideroblastic erythropoiesis.

13 MR. SCOTT: Object to the form.

14 A. I think I understand the question. Yes, that
15 was the reason I wrote this article is because that was 02:16
16 because early on, Wintrobe had asked that question and
17 others had; and so, now, I was in the a position to
18 review that question and try to answer that question.

19 Q. (By Mr. Williams) Basically, your study is one
20 of a kind as to answering that question only? 02:16

21 A. Yes.

22 Q. Okay. Thank you.

23 A couple more questions, Doctor; and I
24 think we're done.

25 Have you spoken with -- besides myself, 02:16

1 Mr. Scott, Bob Scott over there, regarding this
2 deposition?

3 A. Yes, I've spoken with -- well, Mr. Asher called
4 me right after you did; and I spoke with him. And then I
5 spoke with Mr. Scott later on, several days later, I 02:17
6 believe. And I also spoke with Stan Perry. That's the
7 best I can remember.

8 Q. Okay. Start off telling us what you spoke with
9 Mr. Asher about.

10 A. Well, what had happened is you called and said 02:17
11 you wanted to depose me on my paper; and I specifically
12 asked you whether this had to do with a specific case.
13 And you told me, no, I just want to depose you about your
14 article. And then I thought that was very peculiar.

15 And then shortly thereafter, I got a call 02:17
16 from Mr. Asher saying you're going to be receiving a
17 subpoena, if you haven't already; and it's about this
18 Barry Wild case.

19 And I said, Well, I'm told I'm going to
20 receive a subpoena but not that it's about a particular 02:18
21 case.

22 And he said, Oh, yes, it is. It's about a
23 particular case; and I'm going to send you a summary of
24 the case, which he did. And that was the sum and
25 substance of the conversation. 02:18

1 Q. And when you say "summary," are you referring
2 to an expert report prepared by Defendant Fisher
3 Scientific's expert, Gregory Sona?

4 A. Yes.

5 Q. And did you review that paper? 02:18

6 A. Yes, I did review the report.

7 Q. And when you say Ross Asher, you mean the
8 gentleman to my right who represents Fisher Scientific.
9 He is the one that contacted you?

10 A. Yes. 02:18

11 Q. Next you said Mr. Bob Scott contacted you.
12 Tell me about that conversation.

13 A. Well, Mr. Scott said that -- I've forgotten
14 what initiated the conversation because we had done other
15 cases; but I mentioned this situation to him, and he 02:18
16 said, Well, that's very interesting because I'm involved
17 in that Barrios case. And I didn't know that. Mr. Asher
18 hadn't mentioned that to me.

19 And so, he said, When are you going to give
20 this deposition? 02:19

21 And I told him and that was the -- in
22 general, that was the substance of that case.

23 Q. And what cases have you worked on for
24 Mr. Scott, what defendants was he representing?

25 A. I'm terrible on names, but we testified on a 02:19

1 case that was in -- was it -- New Mexico, I believe, that
2 was a myelodysplasia case that comes to mind. I know
3 there were probably several others, but I can't remember
4 it by name.

5 Q. Was RARS an issue in any of the cases that you 02:19
6 worked for with Mr. Scott?

7 A. I don't remember that. I think, yes, I think
8 that case had to do with RARS.

9 Q. In New Mexico?

10 A. Yes, I believe so. That was an issue in that 02:19
11 case.

12 Q. And did you testify at trial?

13 A. Yes.

14 MR. SCOTT: It was actually a Daubert
15 hearing. I'm sure Dr. Natelson didn't understand the 02:20
16 niceties of that.

17 Q. (By Mr. Williams) And have you served for
18 Mr. Scott as an expert on several occasions?

19 A. I'm sure I have. I can't remember all of the
20 cases. 02:20

21 Q. And then, I believe, you just told me that Stan
22 Perry, that's the gentleman that's the national counsel
23 for Shell Oil Company, called you?

24 A. Yes.

25 MR. SCOTT: Object to the form. 02:20

1 Q. (By Mr. Williams) What did Mr. Perry have to
2 say?

3 A. I'm trying to recall what he specifically said.
4 There was nothing -- he said, Well -- I asked him, I
5 said, Isn't this a little bit peculiar to get subpoenaed 02:20
6 about a case you're not involved in?

7 And he said, Well, it does sound a little
8 peculiar; but I would just recommend you going ahead and
9 giving the testimony, whatever you're asked. And he
10 said, I don't have a clue why this has occurred. 02:20

11 Q. Do you know why Mr. Stan Perry, the national
12 counsel for Shell Oil Company, contacted you when, in
13 fact, Shell Oil is not a defendant in this case?

14 A. No, I was talking with him on another issue;
15 and I brought it up. So, I said, How would you look at 02:21
16 this issue? I said, isn't this somewhat peculiar?

17 And he said, Well, this does sound a little
18 peculiar; but my advice is just go ahead and give the
19 testimony.

20 MR. SCOTT: Object to the form of the last 02:21
21 question.

22 Q. (By Mr. Williams) Did any of the attorneys
23 that contacted you tell you to testify or lean one way or
24 the other in this deposition?

25 A. No, none of them said, Don't Testify. All of 02:21

1 them said, theoretically -- I think, in fact, Mr. Asher
2 said to me, he said, You know, you could really hire an
3 attorney and try to get out of this?

4 And I said, Well, it just sounds like that
5 would be more trouble than it would be worth. And so -- 02:21
6 but no one suggested I do that.

7 Q. Right. Besides Mr. Asher?

8 A. Well, he didn't suggest. He said I could.

9 Q. You could do that, right. Okay. Give me a
10 second. That's it. 02:22

11 Do you have anything, Mr. Asher?

12 MR. SCOTT: Yeah, I definitely have some.

13 EXAMINATION

14 BY MR. SCOTT:

15 Q. Good afternoon, Dr. Natelson, and thank you for 02:22
16 being here.

17 You mentioned earlier that your first
18 thoughts about benzene and any association with a disease
19 known as refractory anemia with ringed sideroblast or
20 RARS, as it's been called, came after reading something 02:22
21 that Wintrobe wrote.

22 Did I get that right?

23 A. Yes.

24 Q. Who is Wintrobe?

25 A. Well, Dr. Maxwell Wintrobe was the -- was a 02:22

1 hematologist, self-trained really, who was the chief of
2 medicine in hematology in Salt Lake City at one time. He
3 actually worked in Louisiana at one time and I believe he
4 went to Rochester Medical School, but he became
5 internationally known because he wrote the first major 02:23
6 textbook in hematology and was a very renowned and also
7 very famous for having an enormous research -- reprint
8 library. In the days prior to the Internet, if you
9 wanted to have an article, you would write a letter or a
10 postcard to an author and they would send you back a 02:23
11 signed copy; and Dr. Wintrobe had a massive research
12 library where you could get all of your reprints there.

13 Q. This was before the Internet, I take it?

14 A. This is long before the Internet, yes.

15 Q. Is Dr. Wintrobe still with us? 02:23

16 A. No, he died a number of years ago.

17 Q. Does his hematology textbook continue to be
18 with us, new editions from time to time?

19 A. Yes.

20 Q. And is it one of the hematology textbooks that 02:24
21 is used in medical schools, certainly in this country and
22 perhaps around the world?

23 A. Yes.

24 Q. And exactly what is it that Dr. Wintrobe wrote
25 or reported that piqued your interest with regard to 02:24

1 benzene and RARS?

2 A. Well, Dr. Wintrobe was aware of this illness.
3 He was not the first discoverer of it. Some other
4 doctors in the decade prior to when he wrote about it had
5 made mention of this illness. And he decided that he 02:24
6 would study all the cases he had at Salt Lake City. I
7 don't remember the numbers. They are in this article.
8 Let's say, 19 cases or so that he had; and then I think
9 he abstracted about 44 more cases from the world's
10 literature. And he looked to see how you made this 02:24
11 diagnosis; how many ringed sideroblasts there were in the
12 bone marrow; could there be known causes for this looking
13 at drugs, looking at alcohol because it was known that
14 alcohol could produce ringed sideroblasts.

15 And so, he looked to see if there was a 02:25
16 unifying feature in these patients that explained their
17 illness. And he found what we really know today that a
18 number of these people went on to develop acute Leukemia,
19 that there was no particular relationship with alcohol,
20 there was no relationship with lead poisoning which could 02:25
21 also give ringed sideroblasts. There was no association
22 with benzole, as he put it, which he knew caused bone
23 marrow depression. And so, he termed the illness
24 idiopathic meaning that none of the known bone marrow
25 toxins that he was aware of could produce this illness. 02:25

1 Q. You also mentioned an author, a Doctor named
2 Aksoy.

3 A. Yes.

4 Q. And as I recall, he was a Turkish doctor; is
5 that correct? 02:26

6 A. Yes.

7 Q. You indicated that he trained with
8 Dr. Damashek. How do you know that?

9 A. Well, I happen to know that because Dr. Aksoy
10 wrote many articles; and these were -- most of them were 02:26
11 written, I think, in the '70s, up until about 1982, I
12 think, was his last article. And after he died, I have a
13 review article by some of his colleagues that wrote about
14 it. And they went in that article into his background
15 and pointed out that he had studied with Dr. Damashek 02:26
16 doing a fellowship. And so, I learned a little bit more
17 about his background. He was not -- I don't think his
18 hematology training was in the United States but his
19 fellowship was.

20 Q. And what is it that Dr. Aksoy wrote about that 02:26
21 was related, in your view, to the question of whether
22 benzene is associated -- causally associated with the
23 development of RARS?

24 A. Well, Dr. Aksoy studied a large number of
25 patients. His patient base was about 29,000 people. And 02:26

1 I don't recall the exact number of how many had what he
2 called pre-Leukemic syndromes and acute Leukemia, but
3 let's say it was in the 30s to 40s of individuals that he
4 personally studied. And I think in one of his articles
5 he said he does bone marrows on 11 of them. And those 02:27
6 were ones that he did, and I assume he looked at bone
7 marrows that other people did on other cases.

8 In the era when he was writing those
9 articles, the iron stain, the so-called Prussian blue
10 stain, or pearls blue stain was a standard practice in 02:27
11 hematology. And so, he would be familiar with looking at
12 iron stains.

13 He also studied with Dr. Damashek who one
14 of his favorite topics was sideroblastic anemia. So,
15 certainly, it's reasonable to expect that a trained 02:27
16 hematologist who studies with someone interested in this
17 disease could recognize a ringed sideroblastic.

18 And in a normal bone marrow, one doesn't
19 see a single ringed sideroblast. And in RARS, one may
20 see 40, 50, 70 percent of the cells may be ringed 02:28
21 sideroblast. I brought a cover here of a magazine to
22 show how striking it is.

23 So, when Dr. Aksoy writes an article and he
24 says, These are the abnormalities that I saw in
25 benzene-related illnesses, he didn't have to tell me that 02:28

1 he looked for ringed sideroblasts. He had seen them, he
2 would have commented that that was an abnormality.

3 In other words, it was just as though he
4 doesn't say he didn't see malaria parasites or this or
5 that. In other words, he said what he saw; and included 02:28
6 in that was not ringed sideroblasts.

7 Q. You use the term "sideroblastic anemia." What
8 relationship is sideroblastic anemia to refractory anemia
9 with ringed sideroblasts or RARS?

10 A. Well, sideroblastic anemia is a general topic; 02:28
11 and prior to the use of the term myelodysplasia and even
12 subsequent to it, if you went to a hematology textbook,
13 you would see a chapter on sideroblastic anemia. And
14 that chapter would be divided into those that are
15 hereditary, which there are some, and those that are 02:29
16 acquired illness.

17 And then under the acquired illnesses,
18 there would be broken down as to what the causes might
19 be. For example, lead poisoning gives you a sideroblastic
20 anemia, very heavy arsenic poisoning can give you a 02:29
21 sideroblastic anemia. Alcohol can give you a
22 sideroblastic anemia.

23 Those all acquired sideroblastic anemias;
24 but only, perhaps, in the arsenic related might they go
25 on to a Leukemia. They are not a pre-Leukemia state. 02:29

1 But certain of the sideroblastic anemias
2 for which there are no obvious causes, no drugs, no
3 chemicals, they fall under the title Wintrobe called
4 idiopathic sideroblastic anemia. And that was a group
5 that he followed and he commented that they could live 02:30
6 many years, and they often died of iron overload. They
7 didn't always die of Leukemia. In fact, only
8 occasionally did they die of Leukemia. Dr. Damashek
9 thought about half of them would die of Leukemia, but
10 Dr. Wintrobe realized that that was too big a number and 02:30
11 it was much smaller than that that went on to develop
12 Leukemia.

13 So, that would be what you would find in
14 the textbook chapter. It would give you a discussion of
15 all the different types of sideroblastic anemias. 02:30

16 Q. You say you have a cover that shows us a
17 refractory anemia with ringed sideroblast or at least a
18 ringed sideroblast?

19 A. Yes.

20 Q. Is that something that we can mark for this 02:30
21 deposition and have it sent back to you?

22 A. Certainly.

23 (Exhibit No. G was marked.)

24 Q. (By Mr. Williams) And, Doctor, if you don't
25 mind, would you hold that up for the camera; and we'll 02:31

1 see if he can zoom in on the cover here of Exhibit G.

2 A. This is a cover of a magazine called BLOOD, and
3 Dr. Damashek was the founder of that magazine. He was
4 the original editor.

5 Q. And is the journal BLOOD the JOURNAL OF THE 02:31
6 AMERICAN SOCIETY OF HEMATOLOGY?

7 A. Yes, it is.

8 Q. Or SOCIETY OF HEMATOLOGY?

9 A. Yes.

10 Q. Now, can you point at -- it may be tough to do 02:31
11 on the -- on the camera, I don't know, because you can't
12 see the other side of it; but can you point out --

13 A. I think I can.

14 Basically, when you prepare a slide to do
15 an iron stain, what you like is to make a fairly thin 02:31
16 film of the bone marrow; and that spreads out the mother
17 cells that give rise to red cells. And they're counter
18 stained with a slightly red stain. So, everything you
19 see red is the nucleus of a cell that is going to be
20 circulating a red blood cell. 02:31

21 Q. And that's sometimes called an erythroid cell;
22 is that right?

23 A. These are called erythroid blasts in the bone
24 marrow. And when you're staining them with the Prussian
25 blue stain, any iron in the cytoplasm forms a blue 02:32

1 granule color. And in a normal bone marrow, all you
2 should see is the red counter stain. There wouldn't be a
3 single one of these cells with these multiple little blue
4 dots around them. So, this smacks you in the face if you
5 were looking at an iron stain on a bone marrow. 02:32

6 Q. This is not the kind of thing Dr. Aksoy would
7 miss if he had seen it?

8 A. I'm confident Dr. Aksoy would recognize this,
9 just as Dr. Damashek and many others have.

10 Q. I want to -- we've talked about Dr. Wintrobe 02:32
11 and Dr. Aksoy. What other -- you have written a review
12 article. What is a review article? You distinguish that
13 between a review recall and a research. Can you describe
14 for us what a review recall is and what the purpose of it
15 is? 02:33

16 A. Well, a review article is to provide education
17 for people in the medical community about a particular
18 issue. And you take a subject and you try to review the
19 literature intensively and find what you think are the
20 pertinent articles to answer a particular question. And 02:33
21 then you review those articles and mention why you're
22 selecting them and why these articles help you come
23 toward a conclusion.

24 In this particular case, we're talking
25 about sideroblastic anemia and causation; and that's what 02:33

1 the purpose of this review was.

2 Q. And I take it that in preparing that article
3 and writing that article, you did some sort of literature
4 search to see what was available in the medical and
5 scientific literature regarding benzene and refractory 02:33
6 anemia with ringed sideroblast?

7 A. Yes.

8 Q. You've told us about Wintrobe and Aksoy. What
9 other original work was in the literature that led you to
10 your conclusions that benzene is not associated with the 02:34
11 development of RARS?

12 A. Well, there were several articles; and some of
13 these are referenced in the paper, and some of these are
14 already discussed. One we didn't discuss, for example,
15 is we discussed, let's say, the Ruiz study where he had 02:34
16 people heavily exposed to benzene and he selected a group
17 of 33 that he thought would be most reflective of that
18 poisoning and he did bone marrows on them. And he tells
19 us that none of them have ringed sideroblasts.

20 Q. Not a single one? 02:34

21 A. Not a single one.

22 Then you could look at that in reverse, and
23 one of the articles I cited took a large collection of
24 people with RARS, I think there were 84 of them. And
25 they went back and interviewed those people and studied 02:34

1 their files to see how many of those 84 might have had it
2 from benzene exposure. Did they have a chemical
3 background that could have been causative? And in that
4 article, they claim they found one person who alleged
5 exposure to benzole; but that person had also received 02:35
6 radiation therapy for a malignancy. And so, it did not
7 appear that looking at a cohort of people with this
8 illness that benzene stood out as a potential cause and
9 effect.

10 Q. What was the article where they took the 02:35
11 collection of people with RARS and went back to see if,
12 in their history, they had benzene or solvent exposure?

13 A. Let me see if I can find that. Let's see where
14 I reference that. I probably better find it from looking
15 at my references. I believe it's reference 19, but let 02:36
16 me see if that's correct.

17 Yes, it's my reference 19, which is called
18 -- is by Garand, G-A-R-A-N-D.

19 Q. That was in the 1992, it looks like, from your
20 reference list, correct? That was -- that article 02:36
21 appeared in LEUKEMIA RESEARCH?

22 A. That article appeared in LEUKEMIA RESEARCH,
23 Volume 16, Page 463 to 486, 1992.

24 Q. Are you familiar with a series of papers
25 arising out of a study conducted by the National Cancer 02:36

1 Institute in conjunction with the Chinese Academy of
2 preventative maintenance -- preventative medicine -- I've
3 got a car problem. I keep saying "maintenance" instead
4 of "medicine" -- of a large group of workers in China?

5 A. Yes.

02:36

6 Q. Does that article shed any light or provide any
7 information that is helpful on the question of whether or
8 not benzene has been associated with the development of
9 RARS?

10 A. Yes, I think so. That was a very large cohort, 02:37
11 I believe, about 74,000 workers in China exposed to what
12 are thought to be very large amounts of benzene in an
13 occupational environment. And in that group, the --
14 there were seven cases identified as having forms of
15 myelodysplasia. And according to the articles, those 02:37
16 cases were reviewed by hematopathologists. And they list
17 the diagnosis of these seven, and none of them are RARS.

18 There is also a comment in one of the
19 articles I cited about what the typical bone marrow
20 looked like in these people, and there is no mention of 02:37
21 ringed sideroblast in that comment.

22 MR. SCOTT: What's our next exhibit?

23 THE COURT REPORTER: H.

24 (Exhibit No. H was marked.)

25 Q. (By Mr. Scott) Dr. Natelson, I'm going to hand 02:38

1 you what I've marked as -- actually, the court reporter
2 has marked as Exhibit H, which is an Internet search form
3 and then an article with a lead author Travis; and it was
4 published in 1994.

5 Have you seen that article before? 02:38

6 A. Yes.

7 Q. Is that one of the papers out of this NCI CADM
8 or Chinese Preventative Medicine Study?

9 A. Yes.

10 Q. On page -- the second page of that article 02:38
11 which is numbered, I think, 92 -- and Lois Travis is the
12 lead author; am I correct?

13 A. Yes.

14 Q. And in the right-hand column, there is a
15 description in the first full paragraph that says: 02:39
16 Evidence of dyserythropoiesis included the presence of --
17 and it lists a number of items, ringed sideroblasts,
18 multinuclearity, nuclear fragmentation, megaloblastoid
19 changes and so on.

20 What are those? What is dyserythropoiesis, 02:39
21 and what are those items?

22 A. Well, dyserythropoiesis would be a general term
23 meaning, in lay language, that the cell line looks
24 abnormal; and it may be abnormal because it's too large.
25 It may be abnormal because the cytoplasm is very 02:39

1 irregular on the cells. It may be abnormal because the
2 colors -- the stain colors are abnormal. It may be
3 abnormal because they are inclusions, like ringed
4 sideroblasts, something that shouldn't be in there. It
5 may be abnormal because the nucleus is splitting, that 02:39
6 you have two nuclei in a single red cell precursor, for
7 example.

8 So, dyserythropoiesis is a general term
9 means abnormal, morphology, funny-looking cells. And
10 then they go on to say what some of those were, for 02:40
11 example, ringed sideroblasts we've discussed.
12 Multinuclearity meaning there were multiple nuclei
13 instead of a single one in the cell.

14 Karyorrhexis, what that means is the
15 nucleus is fragmenting instead of being very well 02:40
16 defined.

17 Abnormal nuclear shape, I think I mentioned
18 it should be like a bulls eye. It looks very round. It
19 may be irregular.

20 Impaired hemoglobinization, what that means 02:40
21 is that as the cell matures, the cytoplasm becomes redder
22 and redder as hemoglobin is manufactured. And so,
23 impaired hemoglobinization means the cell looks very
24 pale. It's not making it's complement of the hemoglobin.

25 Megaloblastoid changes meaning simulating 02:40

1 what we see with Vitamin B-12 deficiency where the cells
2 are very large and abnormal looking.

3 And so, those are the things that they
4 mention as would come under the heading of
5 dyserythropoiesis. 02:41

6 Q. And part of the -- one of the items or things
7 they were looking for as evidence of dyserythropoiesis is
8 the existence or observation of ringed sideroblasts?

9 A. Yes.

10 Q. Can you turn to Table 5 of the Travis article, 02:41
11 Exhibit H, which I think is on Page 97. Can you first
12 confirm that Table 5 is a listing of the various -- among
13 other things, the various items of dyserythropoiesis that
14 the National Cancer Institute investigators had been
15 looking for? 02:41

16 A. Yes.

17 Q. And under the cases of MDS, how many instances
18 did they observe ringed sideroblasts?

19 A. None, according to this. They have looked for
20 them, but they don't cite any cases as having them. 02:42

21 Q. And they do cite, if you can confirm,
22 observation of megaloblastoid changes, abnormal nuclear
23 change, impaired hemoglobinization and multinuclearity as
24 you described for us earlier; correct?

25 A. Yes, that is correct. 02:42

1 Q. Is that the same thing as saying they look to
2 see if there were ringed sideroblasts among their MDS
3 cases and saw none?

4 A. Correct.

5 Q. And then finally the Irons article or articles, 02:42
6 what do Dr. Irons and his group's articles in 2005 and I
7 think it was titled something along the lines of benzene
8 induces a unique form of dysplasia or something like
9 that. And then in more recent 2009 article which we
10 don't have marked -- do you have that article? 02:43

11 MR. WILLIAMS: It's right here.

12 A. Yes.

13 MR. SCOTT: Let's mark that as Exhibit I
14 just so we have a sticker on it.

15 (Exhibit No. I was marked.) 02:43

16 Q. (By Mr. Scott) How did Dr. Irons' 2005 and
17 2009 articles or reports inform your view on whether
18 benzene causes refractory anemia with ringed
19 sideroblasts?

20 A. Well, in this particular article, he comments 02:43
21 about how they looked at the bone marrows, that they did
22 iron stains on the bone marrows. Let's see if I can find
23 where he discusses that, but I know that he says that.

24 He says: Bone marrow aspirate and
25 peripheral blood smears were prepared from fresh tissue 02:44

1 and evaluated using Wright-Giemsa stained preparations
2 and special stains, including an iron stain.

3 So, he was doing an iron stain on all of
4 this material.

5 And then he comments and I have to look to 02:44
6 see what page this might be that -- here it is, Page 10
7 of the article. He says: There was no evidence of
8 increased ringed sideroblasts.

9 Q. And was this among a group of people who had a
10 myelodysplastic syndrome and had known and, in some 02:44
11 cases, very high benzene exposure?

12 A. Yes, according to Dr. Irons, these were his
13 signal cases, as he used that term, meaning that they had
14 unequivocal enormous benzene exposure and abnormal bone
15 marrows. 02:45

16 Q. Are there -- from your knowledge and review of
17 the scientific literature -- and I want to turn away from
18 RARS, at this point; but myelodysplastic syndromes, you
19 have said that some myelodysplastic syndromes are
20 associated with exposure to benzene? 02:45

21 A. Yes, I think that's true.

22 Q. Are there features, clinical features,
23 morphologic features, cytogenetic features, type of
24 features that, sort of thing, of the benzene-caused
25 myelodysplastic syndromes? 02:45

1 (Mr. Trull enters the deposition room at
2 this time.)

3 A. Well, I suppose the two best articles that
4 would read on that would be the Ruiz article with his
5 large number of cases, 33 cases that were studied and the 02:45
6 Richard Irons article. And the results of those two
7 articles are quite similar. They also are in line with
8 the description that's in the cases seen in the Hayes of
9 benzene study.

10 The description is that the bone marrows 02:46
11 generally show reduced total cellularity or what we call
12 hypocellularity, that they have abnormal morphology of
13 the red cell precursors, that they have the presence of
14 increased numbers of eosinophils, which are a cell that
15 we see in inflammatory conditions, and that these 02:46
16 eosinophils look peculiar. They are granules. They are
17 very unusually colored and large, as we see in certain
18 forms of acute Leukemia.

19 And the bone marrow also contains
20 phagocytic cells, histiocytes that are prominent in these 02:46
21 bone marrows. And the absence of ringed sideroblasts,
22 for example, in these bone marrows.

23 Q. You say histiocytes or phagocytic cells, are
24 those sometimes referred to as -- is that condition
25 sometimes referred to as hemophagocytosis? 02:47

1 A. Yes.

2 Q. And the abnormal eosinophils, increased
3 eosinophils and peculiar appearance, morphologic
4 appearance, are those in the peripheral blood or in the
5 bone marrow?

02:47

6 A. Well, in the case of Leukemias, they can be
7 both in the peripheral blood and bone marrow in certain
8 forms of Leukemia.

9 In the case of benzene bone marrows that
10 are described, they are confined to the bone marrow.

02:47

11 Q. And are these sometimes called precursors
12 because they are in the bone marrow?

13 A. Well, a general statement would be that most of
14 the cells that you see in the bone marrow are precursors
15 to cells that eventually come out and circulate in the 02:48
16 peripheral blood.

17 Q. In normal MDS, myelodysplastic syndrome case,
18 is the bone marrow hypercellular, that is, greater
19 cellularity or more cells in the marrow or hypocellular?

20 A. I think in general, you might find the figure 02:48
21 that looking at all types of myelodysplasia, perhaps
22 20 percent are very hypocellular, sometimes referred to
23 as hypocellular myelodysplasia. Many have a normal
24 cellularity, and many have increased cellularity.

25 Q. Are you familiar with a disorder known as -- or 02:48

1 referred to as myelodysplastic
2 syndrome/myeloproliferative disorder or sometimes
3 myeloproliferative neoplasm?

4 A. Yes.

5 Q. What is that disorder or disorders? 02:49

6 A. That classification is a relatively new
7 classification by the World Health Organization, and this
8 really came about because what the World Health
9 Organization has been trying to do is to become as
10 specific as it can about a particular diagnosis. For 02:49
11 example, we had the illness chronic myeloid Leukemia,
12 which, for many years, we considered most of them to have
13 a positive Philadelphia chromosome but also some of them
14 to be missing that chromosome, but we still called them
15 chronic myeloid Leukemia. 02:49

16 Well, the World Health Organization took
17 the position that only chronic myeloid Leukemia with a
18 Philadelphia chromosome is the real thing and we've got
19 to do something else with these cases of chronic myeloid
20 Leukemia that lack the Philadelphia chromosome. And 02:49
21 there is another illness called chronic myelomonocytic
22 Leukemia, which is another myeloproliferative disease,
23 which the cause is unknown. And the question was, where
24 are we going to place that.

25 So, they came up with a category called 02:50

1 myeloproliferative myelodysplastic syndromes. And the
2 best known in this category to be chronic myelomonocytic
3 Leukemia, what's called atypical CML -- that is CML
4 lacking the Philadelphia chromosome, an unusual illness
5 called juvenile myeloid Leukemia. And eosinophilic 02:50
6 Leukemia would be another in this category.

7 And a provisional member of this is once
8 called RARS-T. These are illnesses for which they are
9 all myeloproliferative illnesses. They are not
10 myelodysplasia. They are all myeloproliferative 02:50
11 diseases. However, they can have funny-looking cells.
12 So, they can have some degree of myelodysplasia; but they
13 are quite different from the illnesses we classify as
14 myelodysplasia. And those illnesses are all thought to
15 be of unknown cause at this time. So, the articles on 02:51
16 that subject tell us that the diseases in that category
17 of myelodysplasia, myeloproliferative disease are all of
18 unknown cause.

19 Q. I want to hand you -- I'm going to hand you two
20 things here, one a very poor color print that I have 02:51
21 made.

22 (Exhibit No. J was marked.)

23 Q. (By Mr. Williams) Dr. Natelson, I've marked as
24 Exhibit J, two pages out of what I will represent to you
25 as the World Health Organization's 2008 classification of 02:51

1 tumors of hematopoietic and lymphoid issues. And I'm
2 going to turn to the book -- mine is sort of messed up
3 here so that we can copy it, but can you just confirm
4 that, one, this is, in fact, the 2008 World Health
5 Organization classification book; and second, that the 02:52
6 pages I've handed you are, albeit poor, but copies of
7 Pages 85 and 86 from that book?

8 A. Yes, I'm glad you're not checking books out of
9 my library. Yes, that's what these are from.

10 Q. And what is this particular -- what disease or 02:52
11 disease entities do these pages deal with, Exhibit J,
12 that I've handed you?

13 A. What you've handed me are Pages 85 and 86; and
14 they are referred to as
15 myelodysplastic/myeloproliferative neoplasm, 02:52
16 unclassifiable.

17 Q. Now, is that the disease entity that -- or
18 entities that you were describing for us a moment ago
19 before I handed you that document?

20 A. Yes. 02:52

21 Q. Now, is MDS/MPN, I think WHO calls it, is that
22 a myelodysplastic syndrome?

23 A. All of these diseases in this category are
24 myeloproliferative disease or neoplasms, whichever term
25 you like; but they may have myelodysplastic features. 02:53

1 Q. What is the difference for a layperson between
2 MDS or myelodysplastic features and myeloproliferative
3 features?

4 A. Well, the easiest way to think about it is this
5 way. Myelodysplasia is characterized by what we call 02:53
6 ineffective myelopoiesis. What that means is -- a simple
7 example is, if I take a person and inject them with
8 radioactive iron, within about 30 minutes or so, that
9 iron disappears from the circulation. It's gone. It
10 goes right into the bone marrow. 02:53

11 Now, if I sample the blood over the course
12 of a week, by the time you get out to seven to ten days,
13 all of that iron has reappeared out into the circulating
14 blood; but now it's inside the red cells in the
15 hemoglobin. 02:54

16 In other words, the bone marrow took that
17 iron, built it into new red blood cells and all of that
18 radioactive label came out circulating. That's effective
19 erythropoiesis.

20 Now, if I do that same experiment on 02:54
21 someone with RARS, I inject them with the same amount of
22 radioactive iron. In the same sort of period of time, it
23 will go right into the bone marrow. Now, if I look to
24 see where that iron is at seven to ten days, sometimes as
25 little as 5 percent of it will be back out and 02:54

1 circulating red cells.

2 What's happening is the iron gets into the
3 red cell precursors and it churns in the bone marrow and
4 the cells are made and die and made and die in the bone
5 marrow and it's ineffective. The production is -- the 02:54
6 machinery looks like it's there, but it's not efficient.
7 The cells aren't coming out. That's ineffective
8 erythropoiesis. The same would be true if you're looking
9 at white cells or platelets. The general term is
10 ineffective myelopoiesis. That's a very strong 02:55
11 characteristic of all myelodysplastic disorders.

12 When you look at myeloproliferative
13 disorders, like atypical chronic myeloid Leukemia, for
14 example, or chronic myelomonocytic Leukemia, the bone
15 marrow is very efficient. You look in the bone marrow, 02:55
16 it's full of white cells. They are coming right out and
17 circulating. So, they don't have this problem. They
18 have -- they have a very proliferative disease.

19 So, in myelodysplasia, typically,
20 everything is low. We have what we call cytopenias -- 02:55
21 low red cells in the peripheral blood, low numbers of
22 white cells, low numbers of platelets.

23 On the other hand, in the
24 myeloproliferative diseases, you may have white counts of
25 300,000 because the bone marrow is quite efficient. It's 02:55

1 making these cells, and they are coming out and
2 circulating. And so, that's a major difference between
3 those two illnesses.

4 Q. We have talked about your opinions and views on
5 whether benzene is causally associated or causes RARS -- 02:55
6 refractory anemia ringed sideroblast. What is the
7 evidence as to whether benzene causes myeloproliferative
8 disorders?

9 A. Well, to my knowledge, there is none. In other
10 words, this has been looked at by a number of people, 02:56
11 particularly in illnesses like chronic myeloid Leukemia
12 and myelomonocytic Leukemia, chronic myelomonocytic
13 Leukemia; and there isn't evidence that those
14 myeloproliferative diseases can be caused by excessive
15 benzene exposure. 02:56

16 So, the general dogma in hematology would
17 be that myelodysplasia, that category, certain types can
18 be caused by excessive benzene exposure. In fact, the
19 World Health Organization booklet says that.

20 Myeloproliferative diseases, on the other 02:56
21 hand, there isn't evidence that benzene can cause those.

22 Q. The same question for this MDS/MPN
23 myelodysplastic syndrome/myeloproliferative disorder or
24 neoplasm, what is the evidence that benzene causes those
25 disorders? 02:57

1 A. Well, there is none. And, in fact, the
2 reviewers on that, the latest reviews that are perhaps a
3 year or so old tell us the cause of all of those
4 illnesses in that category, the etiology is unknown.

5 MR. SCOTT: Doctor, that's all I have. 02:57
6 Thank you very much.

7 EXAMINATION

8 BY MR. ASHER:

9 Q. Dr. Doctor, my name is Ross Asher.
10 Did I hear you correctly earlier to say 02:57
11 that myelodysplastic syndrome or myelodysplasia is a term
12 for a classification of a group of diseases?

13 A. Yes, it's a classification system that was
14 first proposed around 1982.

15 Q. So, if someone is diagnosed with 02:57
16 myelodysplastic syndrome or myelodysplastic disorder, is
17 that a general diagnosis; or is that a diagnosis of some
18 specific disease?

19 A. Well, it's a little of both. It's a general
20 term. It might be, like, akin to saying hepatitis; but 02:58
21 there are many forms of hepatitis. It's a general
22 category of bone marrow failure; but there are many, many
23 different forms of myelodysplasia.

24 Q. I want to go back and ask just a couple of
25 questions about -- pardon me -- the article that you were 02:58

1 asked about earlier, Benzene Exposure Refractory
2 Sideroblastic Erythropoiesis: Is There an Association,
3 that article, I believe, was published in the AMERICAN
4 JOURNAL OF MEDICAL SCIENCE?

5 A. Yes.

02:58

6 Q. Is the AMERICAN JOURNAL OF MEDICAL SCIENCE a
7 peer-reviewed publication?

8 A. Yes.

9 Q. And can you explain for the ladies and
10 gentlemen of the jury what it means for an article to 02:58
11 undergo peer review?

12 A. Yes, well, this particular journal is one of
13 the oldest journals in the country, medical journals; and
14 what happens is that when you send an article into a
15 journal, they have an internal editorial board. And 02:59
16 their people review the article and see if they feel that
17 it has merit. And many times when you send an article
18 into a journal, it will never get out of the journal. In
19 other words, the internal review board turns it down
20 flat. They say it's not of interest to the general 02:59
21 public. It's poorly written. We're not even going to
22 bother to send this out to a reviewer not connected with
23 our journal.

24 And ultimately, if they decide it has
25 potential, they will send it out, typically, to three 02:59

1 reviewers. And, for example, I, just a few weeks ago got
2 an e-mail from a journal called HEMATOLOGICA.

3 And they said, Would you be willing to
4 review an article for us?

5 And I said, okay.

03:00

6 And so, they sent me that article, all
7 electronically.

8 And what happens is they then gather the
9 comments of the reviewers they send it out to; and if
10 there is a disagreement, they may send it out to a few
11 more reviewers. And then they come to some decision and
12 will send a letter back to you saying what they feel you
13 should do with your article.

03:00

14 Q. And what's the purpose, generally, of peer
15 review before publication?

03:00

16 A. Well, it's multiple eyes. In other words, they
17 are sending it out to people who don't necessarily think
18 alike, have different expertise and might find something
19 that's incorrect that another reviewer might gloss over.
20 And so, you're looking for several people to look at a
21 study and see if you feel it has merit.

03:00

22 Q. And the article we're talking about here that
23 you've written on benzene exposure, that was peer
24 reviewed; is that right?

25 A. Yes.

03:00

1 Q. And it was published by that -- by the AMERICAN
2 JOURNAL OF MEDICAL SCIENCE after being peer reviewed; is
3 that right?

4 A. Yes.

5 Q. I wasn't quite certain, did you say that when 03:01
6 you spoke to Mr. Williams, he told you that your
7 deposition today wasn't for use in any specific case?

8 A. Yes, as I recall, the conversation was
9 something; and, of course, I don't have a recording.

10 But he said that you're going to receive a 03:01
11 subpoena, and I want to question you about your article.

12 And I said, About my article?

13 He said, yes.

14 I said, Well, are we talking about a
15 particular case or -- he said, No, no, I want to question 03:01
16 you about your article.

17 And I said, Okay. I hadn't received the
18 subpoena at that point, but I said that sounds all right.
19 I'll be willing to do that.

20 Q. Have you come to find out that you are here 03:01
21 today because of a specific case that's going on?

22 A. Well, you informed me of that when you called
23 me.

24 Q. And I want to make sure we clear up one thing
25 that you mentioned earlier. 03:02

1 Did I ever suggest to you in a telephone
2 call that you should try to avoid this deposition today?

3 A. Absolutely not.

4 Q. And did I inform you that I represented a party
5 to the case and we had not designated you as an expert 03:02
6 witness and, therefore, I couldn't represent you?

7 A. Correct, you said that.

8 Q. Sir, I think that's all the questions I have
9 for you right now.

10 FURTHER EXAMINATION 03:02

11 BY MR. WILLIAMS:

12 Q. When we originally talked, I informed you that
13 this deposition didn't involve a case that you were an
14 expert in; is that correct?

15 A. I can't recall the exact language. You said 03:02
16 something to the effect -- when I asked you, Is this
17 regarding a case?

18 You said something, as best I can say, This
19 is no case -- this has nothing to do with any case you've
20 ever had anything to do with, or something to that 03:02
21 effect.

22 Q. Fair enough.

23 Doctor, do you recall one other thing you
24 told me on the phone when I explained that I wanted to
25 discuss your 2007 article dealing with RARS, do you 03:02

1 recall what you told me?

2 A. I don't recall.

3 Q. Do you recall what you told me about -- that
4 you couldn't call it a RARS case without looking at the
5 slide?

03:03

6 MR. SCOTT: Object to the form.

7 A. Oh, yes, I said -- I don't remember how we got
8 on that; but I said, if it's a particular case, I said, I
9 would have to look at the marrow slides to be convinced
10 that that was a diagnosis.

03:03

11 Q. (By Mr. Williams) Doctor, what percentage of
12 ringed sideroblasts do you need to have a RARS diagnosis?

13 A. Well, that's an interesting question. The
14 typical number given by bodies such as the WHO is
15 15 percent of all of the red cell precursors of the bone 03:03
16 marrow should be ringed sideroblasts.

17 Hematologists traditionally don't count
18 cells. We look at it. And many of these cases, there
19 are 60 and 70 percent ringed sideroblasts. It's obvious
20 what they have. It's like looking at an old friend. And 03:03
21 I think you would find very few hematologists who would
22 laboriously count whether it's 15 percent, 16 or 17
23 percent. Some pathologists might; but not too many of
24 them, either.

25 So, it's usually a visual diagnosis; but, 03:04

1 technically, the number is supposed to be 15 percent or
2 greater.

3 Q. And if there aren't 15 percent ringed
4 sideroblasts present, you couldn't make a diagnosis of
5 RARS; is that correct? 03:04

6 A. It does not meet the standard of care that this
7 diagnosis requires.

8 Q. And, Doctor, one final question: Did you
9 receive any type of compensation whatsoever for the
10 writing and drafting and publishing of your 2007 benzene 03:04
11 RARS article?

12 A. No. In fact, it cost me a few dollars, as I
13 gave you the receipt.

14 Q. As a matter of fact, this is your invoice --

15 A. That is my invoice. 03:04

16 Q. -- that you paid to get a published copy of the
17 book?

18 A. Yes, most journals will give you a charge per
19 page and a very large charge if you have color prints;
20 and so, it can be very expensive to publish an article 03:04
21 these days.

22 MR. WILLIAMS: We'd like to mark his
23 invoice. I don't have any further questions. Thank you,
24 Doctor.

25 (Exhibit No. K was marked.) 03:05

1 FURTHER EXAMINATION

2 BY MR. SCOTT:

3 Q. Dr. Natelson, on this issue of counting ringed
4 sideroblasts, is this one of those issues where
5 practicing clinicians and hematologists, such as 03:05
6 yourself, basically don't need a weatherman to know which
7 way the wind blows?

8 A. Well, when considered that way, I think in my
9 career, I've probably, personally, looked at at least
10 7,000 bone marrows more. And so, usually, if I'm looking 03:05
11 at a bone marrow, it doesn't take more than a few
12 milliseconds to give me a general idea of what the bone
13 marrow is going to show.

14 Now, I will study it for much longer than
15 that, particularly if I'm photographing it to find a good 03:05
16 feel to illustrate a point. But usually, to an
17 experienced hematologist, just a short time under the
18 microscope tells you what you need to know.

19 Q. And that's an interesting point. Is it
20 accurate to say that even if one were to count 03:06
21 sideroblasts, the counting must be done in representative
22 fields from the bone marrow pathology?

23 A. Certainly, it's not only the representative
24 fields; but also is the slide preparation proper? There
25 is an art, as well as a science to making a good iron 03:06

1 stain of a bone marrow. It needs to be a relatively thin
2 film, and it needs to be incubated with the two reagents
3 that you use -- cyanide reagent and a hydrochloric acid
4 reagent, and it needs to be properly incubated and then
5 it needs to be properly counterstained because if you 03:06
6 over counterstain it, you may obscure a lot of things
7 there. And if you don't incubate it long enough, you
8 don't get the good blue color.

9 So, there is a bit of a science and an art
10 to making this; and I've seen many bone marrow slides 03:07
11 which are very thick. And you really can't tell whether
12 there is ringed sideroblasts there or not, and you may
13 have to repeat a stain.

14 Q. If staining is done in a way that the stain was
15 negative as a processing artifact, can that affect the 03:07
16 count, if you will, of ringed sideroblasts when you
17 observe the slides under the microscope?

18 A. Yes, because what happens is you flood the
19 slide with a stain; and sometimes, if there is a little
20 grease on the slide or it's not properly fixed with 03:07
21 alcohol, you will get uneven staining. Some areas will
22 be very densely stained. Other areas not well sustained
23 at all. So, you have to look sometimes at multiple
24 slides and you'll find a, quote, good area that looks
25 well sustained with good colors; and that's what you -- 03:07

1 if I were going to photograph something, that's what I
2 would seek.

3 Q. Did you bring a copy of your CV today?

4 A. I didn't. It wasn't asked for. So, I didn't
5 bring it. 03:08

6 Q. I understand. I neglected to do that myself.

7 Do you diagnose and treat patients with
8 Leukemia lymphoma, myelodysplastic syndromes essentially
9 every workday of your life?

10 A. Yes. 03:08

11 Q. How long have you been doing that?

12 A. I've been seeing hematology patients
13 exclusively since around 1969.

14 Q. Do you teach medical students and hematology
15 specifically to medical students? 03:08

16 A. Yes.

17 Q. And for how long have you been doing that?

18 A. Well, I've been in medical education my entire
19 career; and that might involve interns and residents.
20 And I'm a director of one of our residency programs, and 03:08
21 it might be students of various types.

22 MR. SCOTT: I believe that's everything I
23 have. Thank you, Doctor.

24 MR. WILLIAMS: Thank you, Doctor.

25 MR. ASHER: Whoa. 03:08

FURTHER EXAMINATION

BY MR. ASHER:

Q. Doctor, with regard to this question of 15 percent ringed sideroblasts in order to have a diagnosis of RARS --

03:09

A. Yes.

Q. -- does that 15 percent count have to come in any particular time? For example, if you have two bone marrow samples taken at different times, an earlier bone marrow sample doesn't show 15 percent but a later one shows greater than 15 percent, is there any particular time that 15 percent number has to appear?

03:09

A. No. And, of course, an earlier one might have been a poor stain; but, in other words, you would have to look at the case in total. But, typically, 15 percent or greater makes a diagnosis along with the other features of the illness.

MR. ASHER: Thank you, sir.

FURTHER EXAMINATION

BY MR. SCOTT:

03:09

Q. Since Ross has asked, now I have to. Do repeated blood transfusions cause the development or observation of ringed sideroblasts?

A. No.

MR. SCOTT: That's all I have. Thank you,

03:09

1 sir.

2 THE VIDEOGRAPHER: Going off the record.

3 The time now is 3:09.

4 (Signature requested.)

CHANGE AND SIGNATURE

PAGE	LINE	CHANGE	REASON

I, ETHAN A. NATELSON, M.D., have read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted above.

ETHAN A. NATELSON, M.D.

THE STATE OF TEXAS
COUNTY OF _____

Before me, _____, on this day personally appeared ETHAN A. NATELSON, M.D., known to me (or provided to me under oath or through _____) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this _____ day of _____, 2010.

NOTARY PUBLIC IN AND FOR
THE STATE OF _____

1 STATE OF TEXAS:

2 REPORTER'S CERTIFICATION
3 ORAL DEPOSITION OF ETHAN A. NATELSON, M.D.
4 TAKEN ON FEBRUARY 10, 2010

5 I, Minnie Cadena, Certified Shorthand

6 Reporter in and for the State of Texas, do
7 hereby certify that this deposition transcript is a true
8 record of the testimony given by the witness, ETHAN A.
9 NATELSON, M.D., after said witness was duly sworn by me.

10 The witness x was / ____ was not requested
11 to review the deposition.

12 I further certify that I am neither
13 attorney nor counsel for, related to, nor employed by any
14 of the parties to the action in which this testimony was
15 taken. Further, I am not a relative or employee of any
16 attorney of record in this cause, nor do I have a
17 financial interest in the action.

18 GIVEN under my hand and seal of office on
19 this the 15th day of February, 2010.
20

22 _____
23 Minnie Cadena, CSR, RMR
24 CSR No. 5849
25 Expiration Date: 12-31-10
Preferred Legal Services, Inc.
Firm Registration No. 157
P.O. Box 551387
Dallas, Texas 75355