

STENOGRAPHIC TRANSCRIPT

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

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FRIENDS FOR ALL CHILDREN, INC., as :
legal guardian and next friend of the :
named 150 infant individuals, et al, :
:
 Plaintiffs, :
:
 -vs- :
:
LOCKHEED AIRCRAFT CORPORATION, :
:
 Defendant and :
 Third-Party Plaintiff, :
:
 -vs- :
:
THE UNITED STATES OF AMERICA, :
:
 Third-Party Defendant. :
:
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Civil Action No.
76-0544-80

Arlington, Virginia

Wednesday, October 7, 1981

Deposition of John J. Downes, Jr.

Mattingly Reporting, Inc.
COURT REPORTERS
4339 Farm House Lane
Fairfax, Va. 22032

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Deposition of JOHN J. DOWNES, JR., called for examination
by counsel for the plaintiffs, the witness being duly sworn
by Jerome T. Mattingly, a Notary Public in and for the
Commonwealth of Virginia, at the offices of Lewis, Wilson,
Lewis & Jones, Ltd., 2054 North 14th Street, Arlington,

1 Virginia, commencing at 10:15 a.m., the proceedings being
2 recorded in stenotype by Mr. Mattingly and transcribed
3 under his direction.

4 APPEARANCES:

5 On behalf of the Plaintiffs:

6 OREN R. LEWIS, JR., ESQUIRE
7 LEWIS, WILSON, LEWIS & JONES, Ltd.
2054 North 14th Street
8 Arlington, Virginia 22216

9 On behalf of Lockheed Aircraft Corporation:

10 CARROLL E. DUBUC, ESQUIRE
HAIGHT, GARDNER, POOR & HAVENS
11 1819 H Street, Northwest
Washington, D. C. 20006

C O N T E N T S

	<u>Examination by Counsel for</u>	
	<u>Lockheed Aircraft</u>	
<u>Deposition of</u>	<u>Plaintiffs</u>	<u>Corporation</u>
John J. Downes, Jr.	3	40

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E X H I B I T S

<u>Downes Deposition Exhibits</u>	<u>Identified</u>
No. 1 (Report, 10/5/81)	3
No. 2 (Table No. 1: Average Alveolar Gas Tensions in Acute Decompression Altitude)	26
No. 3 (Table No. 2: estimated average blood gas value in children during acute decompression at altitude)	26
No. 4 (Dr. Busby's computations w/personal notes by Dr. Downes)	26
No. 5 (graphs and tables w/personal notes)	26
No. 6 (Game report)	26
No. 7 (FAA 1980 physiologic training manuals)	26
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No. 9 (copy of B-1227)	30
No. 10 (Downes C.V.)	40

P R O C E E D I N G S

MR. LEWIS: On the record.

MR. DUBUC: If you don't want his report, that is fine. You know he's going to testify to it and this is as soon as you can get it. He brought it down by hand yesterday. He had his problems typing it up.

MR. LEWIS: Mark this document.

(Document referred to was marked
Downes Deposition Exhibit No. 1
for Identification)

Whereupon,

JOHN J. DOWNES, JR.,

was called for examination by counsel for the plaintiffs and, having been duly sworn by the Notary Public, was examined and testified as follows:

EXAMINATION BY COUNSEL FOR PLAINTIFFS

BY MR. LEWIS:

Q State your full name, please.

A John J. Downes, Jr.

Q And what is your home address, please, sir?

A [REDACTED] Marion, Pennsylvania, 19066.

Q Let me show you a document that the Court Reporter marked Downes Exhibit No. 1. Would you tell me what that is, sir?

1 A This is a report which I brought to Washington
2 yesterday, yesterday evening, describing the material that
3 I reviewed, in brief, and my conclusions from the review
4 of that material.

5 Q Now, sir --

6 MR. DUBUC: Incidentally, Oren, he has been
7 described again in that general description which we had
8 to do to make the deadline on the briefs, but he is not
9 going to testify about that last part, the deceleration
10 and stuff.

11 MR. LEWIS: Why don't you tell me what he is
12 going to testify to.

13 MR. DUBUC: He is going to testify about hypoxia
14 and decompression hypoxia and probability of damage to
15 children and some information that he's got with respect
16 to children that he has treated generally and the experience
17 and statistics he may have on how children, as opposed to
18 adults, react to hypoxia.

19 MR. LEWIS: I mean, I read his certainly
20 extensive C.V. and I gather he is the gentleman that has
21 a great deal of experience in the area of anesthesia and
22 lung-related type blood gases and all that sort of thing.

23 MR. DUBUC: He has some experience in

1 decompression chambers.

2 MR. LEWIS: I am sure the gentleman has lots
3 of experience. I am going to try to determine what you
4 have called him for.

5 MR. DUBUC: Hypoxia and specific questions
6 raised about children versus adults, and he is going to
7 address that question.

8 MR. LEWIS: I understand that.

9 Would you, for me and for the record, describe
10 with as much precision as you can the areas that you would
11 offer him for.

12 THE WITNESS: I would --

13 MR. DUBUC: He is asking me.

14 MR. LEWIS: I get to ask him a question, Doctor.

15 MR. DUBUC: We're offering Dr. Downes on an
16 experiment of hypoxia, the effects of decompression and
17 hypoxia under the circumstances of this accident, a review
18 of the information on the accident, and decompression in
19 descent.

20 He is not going to address G-forces, as I said,
21 I guess with Dr. McMeekin and Horn. We have Turnbow, we
22 have Downes.

23 MR. LEWIS: I don't know who you have. I am

1 interested in what this witness is going to testify to.

2 MR. DUBUC: You deposed those people, so
3 specifically he is addressing the hypoxia effects on the
4 children in the troop compartment with background tying
5 data and information of children to those circumstances
6 as opposed to adults; and you have raised the question.

7 MR. LEWIS: The impact and that type of trauma,
8 deceleration forces and what happened in the impact, what
9 happened to the child as a result of that and the
10 neurological effects of that.

11 He is not going to discuss in any way those
12 items; is that right?

13 MR. DUBUC: That is right.

14 MR. LEWIS: I don't want to be sandbagged.

15 MR. DUBUC: That is right, although we have had
16 prior depositions you said that, and you still examined them
17 on that.

18 MR. LEWIS: I just want to get the parameters
19 of this gentleman's testimony. He is talking about events
20 that occurred before the airplane hit the ground the first
21 time?

22 MR. DUBUC: That is right.

23 MR. LEWIS: Now, there are some exhibits that

1 we had understood that he was going to discuss regarding
2 the duration, magnitude of acceleration and all that sort
3 of stuff, but he is not going to get into that in any way?

4 MR. DUBUC: No.

5 BY MR. LEWIS:

6 Q Now, Doctor, when were you first contacted by
7 a representative of the Lockheed Aircraft Corporation?

8 A In the first week of September.

9 Q Of what year, sir?

10 A Of this year.

11 Q And who contacted you?

12 A I was first contacted by Mr. John Connors.

13 Q And what did you understand you were to do?

14 A He described to me, this was in a phone conversa-
15 tion, the circumstances of the action that had arisen that
16 had been the crash of this aircraft in Vietnam with some
17 children aboard from an altitude of approximately 23,000
18 feet; and that the plaintiffs had alleged that these
19 children had various sequela, some of which were attributable
20 in their minds to hypoxia; and that they would like me
21 to examine materials and address that issue.

22 Q Did they ever --

23 A We agreed to do that.

1 Q Excuse me, Doctor. I will undertake not to
2 interrupt you, but sometimes if you pause a little bit, it
3 leads me to believe that you are finished.

4 A Fine.

5 Q I am not complaining. You feel free to pause
6 as much as you want.

7 That is a signal that I have developed over the
8 years that perhaps the witness, you know, has finished
9 because some people don't complete their sentences. I'd
10 wait for everybody, but some we would be waiting here
11 eternally.

12 As I say, I am going to undertake not to
13 interrupt you, but if you feel I am, please tell me. I
14 don't mean to be rude in any way.

15 Now, were you ever asked to describe or to
16 investigate injuries due to trauma, for Lockheed?

17 A The question was raised whether I felt qualified
18 in that regard, and although I have had an interest in head
19 trauma I do not pose as an expert in that area.

20 Q You declined to do that?

21 A I declined, that is right.

22 Q Can you tell me when you were contacted in
23 September, Doctor?

1 A I don't have the precise date in mind. I was
2 on vacation and returned to -- it was before Labor Day. It
3 was in the week before Labor Day.

4 Q So it was sometime in the first week of
5 September?

6 A That is right.

7 Q All right.

8 Now, do you know who recommended you?

9 A Yes. Dr. Christian Lambertson with whom I
10 worked some twenty years ago, and he had called me when I
11 was on vacation and told me that I might be contacted and
12 that he had recommended me, and gave me the opportunity to
13 look at my schedule and also to withdraw if I was so inclined.
14 But he urged me to at least look at the materials of the
15 case because he felt I had something I could add.

16 Q Did you see the materials then on your vacation?

17 A No, I did not see those until after I returned
18 from vacation.

19 Q I notice in your report, which I have not had
20 an opportunity to read or study since it was produced this
21 morning, but the first sentence says, "I reviewed the
22 material which you forwarded to me."

23 Do you know, does this document describe or list

1 the material that you have got?

2 A No, I do not.

3 Q Would you tell me what you received, Doctor,
4 and when you received it?

5 A Towards the end of the first week in September,
6 I received materials. I have received other things that
7 I have requested over the succeeding weeks.

8 I received the descriptions of the accident,
9 which appear to be a Federal investigation or a military
10 investigation.

11 I received the reports of aviation experts,
12 Dr. Berry, Gaume, Dr. Gibbons, and I received the physicians'
13 and psychologists' reports on Carly Kurth. I received the
14 reports, materials of the aerospace authorities that had
15 been called -- Mr. Edwards -- and I don't recall the other
16 names -- which I examined, but did not understand.

17 I did also receive -- I don't know if it was
18 total depositions, parts of depositions of several of the
19 individuals who were actually in the accident as they would
20 relate to the events surrounding the moments of the decom-
21 pression and subsequent descent of the aircraft.

22 Q All right, sir. Is that it?

23 A To the best of my recollection, yes.

1 Q Now I am going to go over these things and
2 sort of try to get a little more detail, if I may.

3 We have, you say, the description of the accident
4 from the report of the accident investigation board?

5 A Yes.

6 Q How much material was that?

7 A It was just one --

8 Q How many pages, would you say?

9 A Eight, ten pages of the actual, what appeared
10 to be the official Federal report.

11 Q I understand. But it has various attachments
12 that make it a bulky document. I am trying to see if you
13 got any of the other materials.

14 A No, I did not.

15 Q Now, you said that you received the medical
16 and psychologists' reports on Carly Kurth?

17 A Yes.

18 Q Did you receive any reports on any other children?

19 A No.

20 Q Or any crew members?

21 A I have the depositions.

22 Q I am speaking of medical reports.

23 A Medical reports, no.

1 Q So the only medical reports you have are
2 Carly Kurth's?

3 A That is right.

4 Q Do you have the study done by Dr. Connors of
5 the comparison between the childrens' examinations by
6 doctors for Lockheed and doctors for the plaintiffs? You
7 see that?

8 A I have doctors' reports on Carly Kurth from
9 the plaintiffs.

10 Q I understand.

11 A Yes.

12 Q But what I am speaking of --

13 A Dr. Borkin, Dr. Copeland.

14 Q I understand that. I am trying to describe
15 Dr. Connors' work, what he attempted to do. He did a
16 computer analysis by taking all of the reports on all of
17 the children -- and I believe there were 47 of them -- and
18 he analyzed various symptoms, patterns, and things like
19 that.

20 A In our conversation with Mr. Dubuc and
21 Mr. Connors, it was mentioned that such a report existed
22 but I did not see it.

23 Q You did not see it.

1 Now, you said you saw the report of Dr. Berry,
2 Dr. Gaume, and Gibbons. Anybody else?

3 A Not to my recollection.

4 Q Well, the reason that it is important to me,
5 sir, is to get an accurate description as you had that --
6 I just want to know if you got a fair shot at the material
7 that was available.

8 A Um-hum.

9 Q Because, you will agree, it is possible to
10 arrive at a wrong conclusion if you don't get a complete
11 picture.

12 A I have Dr. Busby's deposition; not a report,
13 however.

14 Q I understand that.

15 Now, you have, then, in addition -- you say you
16 have reports of the aerospace people like Edwards?

17 A That is right.

18 Q What do you understand Mr. Edwards is?

19 A An aeronautical engineer, I think.

20 Q Do you know who he works for?

21 A I believe he works -- he at one time or presently
22 works for Lockheed.

23 Q You didn't read his deposition?

1 A No. This was just a report.

2 Q Now then, you said you read reports of witnesses?

3 A Yes.

4 Q I want to know the names of those people.

5 A There was one crewman by the name of Wise.

6 Q When did you get Sergeant Wise's report?

7 A Just last evening.

8 Q Last night?

9 A Yes.

10 Q So then you had not considered that in the
11 preparation of the report dated October 5?

12 A No, and it isn't germane, either. It would not
13 have influenced the matter.

14 Q Whether it would or not, you didn't have the
15 benefit of it; they didn't give it to you when you were
16 getting that material?

17 A That is right.

18 Q What other witnesses' testimony do you have?

19 A Part of the deposition, I believe, if not the
20 entire deposition of a Ms. Leivermann and part of the
21 deposition, again relating to the time of descent, on several
22 of the Air Force nurse crew people that were in the troop
23 compartment.

1 Q Who?

2 A I don't recall the names. Goffinet I believe
3 was one; Aune was another.

4 Q Any others?

5 A Not that I can recall.

6 Q Did you have any other witness statements,
7 Doctor?

8 A Not to the best of my recollection.

9 Q So when I say witness statements, I am speaking
10 about either depositions or affidavits or reports of what
11 the witnesses said.

12 A Yes, sir.

13 Q So that is Wise and Goffinet, Aune and Christie
14 Leivermann?

15 A That's right.

16 Just for the record, there may be one or two
17 others. I received a box of materials, a horrendous box
18 of materials, and I perused all of it shortly after I
19 received it. I then focused on the problem that I was to
20 address, which was the observations upon the children, the
21 observations of Carly Kurth and the testimony of the
22 aerospace physiology individuals regarding the decompression
23 and the descent. And I looked at data from the record of

1 the descent, the amount of time.

2 Q We call it a MADAR tape.

3 A That is right, the printout.

4 Q Which is some kind of machine that tells you,
5 although it breaks down from time to time, it attempts to
6 say what altitude the airplane was at.

7 A I looked at that and was able to verify.

8 Q Did you have any other depositions or reports
9 or witness statements other than those that you have
10 described?

11 A Not to my recollection.

12 Q And in any event, these are the ones you relied
13 on; you didn't rely on any others?

14 A Correct.

15 Q If there was another one --

16 A I am not relying in terms of my interpretation
17 of what happened centered, as I mentioned, around several
18 reports, and those are from the physiologists, the report
19 of the descent, the decompression, and that is what I
20 focused on. So I am not fully knowledgeable on the events
21 of the crash itself and the reports, although I had in the
22 material from Mr. Edwards and other people that knew a lot
23 about the deceleration and I didn't know about it and had

1 no way to prepare for that.

2 Q Do you know what injuries, if any, Nurse Aune
3 sustained in the crash?

4 A I don't recall.

5 Q Do you have any knowledge of what injuries, if
6 any, Nurse Goffinet sustained?

7 A I don't recall the reports.

8 Q Do you have any knowledge of the injuries, if
9 any, sustained by Nurse Leivermann in the crash?

10 A No.

11 Q Do you have any knowledge of the injuries
12 sustained, if any, by Sergeant Wise in the crash?

13 A Injuries, no.

14 I understand all of these people had various
15 types of injuries. I did not address that issue.

16 Q I understand, but -- so you wouldn't be able to
17 describe it with any degree of accuracy regarding any of
18 the injuries?

19 A Of those individuals, no, sir.

20 Q And of the reports that you have already
21 mentioned, the various reports that you used in this --

22 A Yes, sir.

23 Q -- do you have any idea of the speed of the

1 decompression?

2 A The estimates that I have seen indicate that
3 the decompression occurred suddenly over a period of
4 fractions of a second to several seconds, but that is my
5 impression.

6 MR. LEWIS: Would you excuse me just a moment.
7 Off the record.

8 (Discussion off the record)

9 MR. LEWIS: On the record.

10 BY MR. LEWIS:

11 Q Do you know the speed of the decompression in
12 any part of the airplane, sir?

13 A No, I do not.

14 Q Do you know the speed of the decompression in
15 the troop compartment?

16 A No, sir, except it was sudden.

17 Q Does it make a difference as to the speed?

18 A It would, I believe, to individuals standing
19 near the door, the place where it occurred. It's my under-
20 standing someone was swept out of the cargo compartment.
21 Decompression, it would also make a difference in the
22 response to hypoxia perhaps being more immediate than a
23 sudden precipitous decompression occurred were a wave of

1 input hypoxic stimulus.

2 Q You will have to forgive me, sir. You were
3 probably clear but I didn't understand you.

4 A The response of a human being to gradual onset
5 of hypoxia or to a sudden precipitous onset of hypoxia is
6 slightly different. So in that sense, the physiologic
7 response of the occupants might be altered.

8 Q Have you assumed that there was no difference
9 in the apparent condition of the children before and after
10 the sudden decompression?

11 A I am not clear on apparent condition.

12 Q Well, whether they were unconscious, for example,
13 whether there was a manifest change in their behavior.

14 A From the documents I have read, it's apparent
15 that some of the children were asleep and some of the
16 children were awake before the decompression and that the
17 testimony that I read, it would appear that those who were
18 asleep for the most part stayed asleep and those that were
19 awake stayed awake.

20 Q That is just what I mean. In other words, the
21 children were exactly the same before and after the decom-
22 pression?

23 A External appearance?

1 Q Yes, sir.

2 A One child was observed to become cyanotic, I
3 believe, by one of the witnesses; I believe Ms. Leivermann --
4 and she administered oxygen to the child. Otherwise,
5 apparently there was little change, according to what I
6 have read.

7 Q I understand that. That is what I have tried --
8 and I am just trying to get your basic assumptions. That
9 is one of the things that you have assumed?

10 A Yes.

11 Q Now, there isn't any test data on one-year-old
12 babies in explosive decompression situations, is there?

13 A That is correct.

14 Q So the workup has to be theoretical?

15 A That is correct.

16 Q Now, in science, in this kind of investigation
17 you frequently have phenomena which you are called on to
18 explain from the other data? Is this not correct?

19 A You mean we translate data from one situation
20 to another where exact measurements were not made?

21 Q Yes.

22 A Yes, we do that in the practice of medicine all
23 the time.

1 Q I understand. But as far as -- the the crash
2 involving this large number of small infants is truly
3 unique in the literature, isn't it?

4 A So far as I know, yes.

5 Q You don't know of any parallel to it?

6 A No. I have read in the material that I was
7 given of the decompression that occurred in some other
8 accidents, and there were some children involved, but it's
9 not explained in detail what happened.

10 Q The literature doesn't go into any detailed
11 examination of the children, does it?

12 A The literature might. I am not an expert on
13 aerospace literature. The materials I was given did.

14 Q That is all I mean. I am not asking you to
15 speak for aerospace literature, Doctor. I am trying to get
16 a feel for the premises that you used in addition to your
17 own background, training, and education and experience in
18 this.

19 A Yes.

20 Q In this particular investigation. You assumed
21 then that the children were normal in all respects except
22 the ones that were cyanotic before and after the explosive
23 decompression?

1 A Yes, sir. In the troop compartment.

2 Q In the what?

3 A The troop compartment.

4 Q That is what I am talking about.

5 Would it make any difference what the appearances
6 were in or the people in the cargo compartment?

7 A It would not as far as the decompression. I
8 would assume it's uniform throughout in fairly short order
9 although presumably it occurred more suddenly in the cargo
10 compartment where the door flew off and there had to be some
11 time lag for the air to decompress the troop compartment.

12 Q Do you know whether there are vent openings
13 designed for the express purpose of equalizing the pressure
14 in those two areas?

15 A There was a hatchway. I don't know if it was
16 designed for that purpose or just a hatchway connecting the
17 two compartments. I don't know.

18 Q Is that the only opening there was?

19 A I have no idea.

20 Q Do you know how big the door was, sir?

21 A No. It was large. I have no idea of its
22 dimensions.

23 Q I just want to find out. Are you suggesting

1 there is a significant difference in the rate of decompres-
2 sion between --

3 A Significant from a physiological standpoint, I
4 would say it was not significant.

5 Q I am just trying to understand.

6 And the conclusions that you have reached are
7 based, at least from a factual standpoint, from these
8 witness reports that you had?

9 A That is correct.

10 Q You didn't bring this material with you, did you?

11 A I brought some materials with me, yes, sir.

12 Q Could I see that?

13 A I can give you copies. These are some of the
14 graphs and other tables that I have used for my computations
15 and these are the computations. I figured we would get to
16 this sooner or later, anyway.

17 This sheet is really a rough sample showing a
18 few sample compilations.

19 Q I am going to want to mark these, so maybe if
20 we had to take the time, if you give me the materials or
21 what you think is a reasonable order, or a reasonable
22 grouping, we will suspend for just a minute and let the
23 Court Reporter mark it. He obviously can't type and mark

1 at the same time, and if that is satisfactory with you,
2 Mr. Dubuc. . .

3 Why don't we do that, and we will proceed in
4 that manner.

5 A (Pause)

6 These are the materials.

7 Q You have a file of other things there?

8 MR. DUBUC: Some of it is duplication.

9 THE WITNESS: Some of it duplicates that. Do
10 you want to look at that?

11 BY MR. LEWIS:

12 Q If you say they are, I won't argue with you.

13 A I brought along, just for my own reference --

14 MR. DUBUC: That is Gause's D-1302.

15 THE WITNESS: And this chart.

16 BY MR. LEWIS:

17 Q Would you hand me the things that are not
18 duplicates?

19 A Sure.

20 MR. DUBUC: They have been marked before.

21 MR. LEWIS: I understand.

22 THE WITNESS: That is just a listing of computa-
23 tions.

1 BY MR. LEWIS:

2 Q Is that all of the notes you have, Doctor?

3 A Yes, that's it.

4 Q There are some yellow sheets there.

5 A These are just the originals.

6 Q Could I have the originals? We will give them
7 back to you. They make a better photostat than the copies
8 will. The second generation and third generation copies
9 are frequently valueless.

10 A Fine.

11 MR. LEWIS: Mr. Reporter, let's start out and
12 let's --

13 MR. DUBUC: We agree the exhibits will be
14 copies; right?

15 MR. LEWIS: Yes. I will give them back to you
16 after they're copied.

17 I would like Table No. 1 to be -- this letter,
18 this will be Exhibit No. 2; Table No. 2 will be Exhibit
19 No. 3; this document here, Busby's computations based upon
20 trial testimony, will be the next exhibit. Then this
21 Page 1486 --

22 THE WITNESS: Those are all different series
23 of tables.

1 MR. LEWIS: That will be the next numbered
2 exhibit. Make that one group.

3 THE WITNESS: That is the same as the yellow
4 sheets.

5 BY MR. LEWIS:

6 Q We will mark this Exhibit 1302 because there
7 are some notes on it.

8 MR. DUBUC: What number is that?

9 MR. LEWIS: We will have it numbered and we
10 will see.

11 I want to mark this exhibit, also, the next
12 one, the physiological training.

13 I would just note for the record that he also
14 handed me the flight profile chart done by Mr. Edwards
15 and we will mark that as the next exhibit.

16 (Documents referred to were
17 marked Downes' Deposition
18 Exhibits Nos. 2 through 8
for Identification)

19 BY MR. LEWIS:

20 Q One is the report dated October 5, 1981, on
21 the stationery of Childrens Hospital of Philadelphia to
22 Mr. John Connors and Carroll Dubuc, FFAC v Lockheed Aircraft
23 Corporation and is the report of John J. Downes, M.D.

1 Now, Exhibit No. 2 -- I will ask you to
2 identify that and describe it if you would, sir.

3 A This Exhibit No. 2 is labeled Table 1, Average
4 Alveolar Gas Tensions in Acute Decompression Altitude.

5 Q And those are calculations that were prepared
6 by you, sir?

7 A That is right. The barometric pressure calcu-
8 lations I took both from the materials that were given to
9 me and also checked them in textbooks and they seem to be
10 correct. The barometric pressure. The rest of it is my
11 work.

12 Q When did you do that?

13 MR. DUBUC: Can we get the rest of the exhibits
14 identified?

15 MR. LEWIS: I will be happy to do that.

16 BY MR. LEWIS:

17 Q Now, sir, let me show you a Table 2, Downes
18 Exhibit No. 3. Would you tell us what that is, please?

19 A Table 2 is an estimated average blood gas value
20 in children during acute decompression at altitude.

21 Q Now, that is your work?

22 A That is correct.

23 Q Would you tell us what Exhibit No. 4 is?

1 A Exhibit 4 is a sheet representing Dr. Busby's
2 computations based on the Schneider trial testimony.

3 Q With some personal notes of yours?

4 A That is correct. Also, it contains personal
5 notes of mine and was provided by Mr. Dubuc.

6 Q And No. 6 is -- ?

7 MR. DUBUC: What is No. 5?

8 MR. LEWIS: I'm sorry. You're so right.

9 BY MR. LEWIS:

10 Q Tell us what 5 is.

11 A Exhibit No. 5 is a group of graphs and tables
12 which I used in my computations or Tables 1 and 2.

13 Q With some personal markings on them?

14 A Correct.

15 Q All right, sir.

16 And then would you identify 6 for me?

17 A Exhibit No. 6 is the report of Dr. James Gaume
18 which was provided to me by Mr. Dubuc and has a few under-
19 linings.

20 Q What is Exhibit No. 7, sir?

21 A Exhibit No. 7 is a copy of the physiological
22 training manuals, manuals dated 1980 of the Federal Aviation
23 Administration, which was likewise provided to me by

1 Mr. Dubuc with my notations on Page 10.

2 Q And No. 8?

3 A No. 8 is from the report of Mr. J. W. Edwards
4 describing in the graph the altitude history and when the
5 decompression occurred.

6 Q All right, sir.

7 Now, including the witness statements, did you
8 have all of this material prior to the time you completed
9 writing your report? I know you told me that you did not
10 have the witness statement of Sergeant Wise or the deposi-
11 tion of Sergeant Wise. Other than that, did you have all
12 of this other material?

13 A I did. I did not have -- that is correct. I
14 had all of the material except the deposition of Mr. Wise
15 and one other item which I neglected to recall, the
16 deposition of a young girl that was in the cargo compart-
17 ment. That was also given to me last night to peruse.

18 Q Ly DeBolt?

19 A That is right.

20 Q You didn't have that at the time you wrote your
21 report?

22 A No.

23 Q All this other, you had?

1 A All this other, I had.

2 Q May I have those things back, sir?

3 A These exhibits?

4 Q Yes, if I may.

5 MR. DUBUC: Are we going to have those copied?

6 MR. LEWIS: Off the record.

7 (Discussion off the record)

8 MR. DUBUC: Let's put this on the record.

9 No. 9 is a copy of B-1227.

10 MR. LEWIS: Let's go back on the record.

11 BY MR. LEWIS:

12 Q Doctor, how do you know the base altitude at
13 the time of the explosive decompression?

14 A You say the base altitude?

15 Q Whatever altitude the pressure was in the troop
16 compartment at the time of the explosive decompression.

17 A 23,200 feet.

18 Q That was outside.

19 A I am speaking inside, inside the cabin. The
20 cabin altitude was 5,000.

21 Q 5,000. How do you know that?

22 A That was in one of the reports. It was stated
23 in, I believe it was the report of Mr. Edwards.

1 Q Do you know whether there was any information
2 indicating that that was in fact the cabin altitude?

3 A I do not know, sir.

4 Q But that is an assumption that you based your
5 calculations on?

6 A I assumed that was correct, yes, sir. I
7 assumed that was based an interpretation of the flight
8 record.

9 Q That would change these calculations if that
10 were not correct; is that right?

11 A It would change the calculations at 5,000 feet,
12 correct. It would not change the other calculations.

13 Q Now let me show you Downes Exhibit No. 4. Who
14 prepared this, Busby computation based upon Schneider trial
15 testimony?

16 A I am not certain, sir. I believe that it was
17 either Dr. Gibbons or Dr. Gaume but I am not certain.

18 Q Did you discuss this with either one of them,
19 the doctors, the material on here, sir?

20 A I have not discussed it with Dr. Gibbons or
21 Dr. Gaume, other than with the attorneys.

22 Q I mean as to how you --

23 A Yes. I just remembered.

1 Q What the computations are.

2 A Correct. I reviewed this. This was given to
3 me at my request when I said what other than what I had
4 received in the reports by way of calculations had been
5 made with respect to alveolar or blood gas tensions in
6 the children and this was forwarded to me.

7 Q Would you look at Exhibit No. 8 and tell me --
8 Do you have that there?

9 MR. DUBUC: Is that the chart?

10 MR. LEWIS: I would be glad to give this one
11 back to you.

12 MR. DUBUC: Fine.

13 BY MR. LEWIS:

14 Q How long was the airplane at -- what was the
15 altitude of the airplane after a half a minute post-
16 decompression? One half minute, thirty seconds.

17 A Thirty seconds?

18 Q Yes.

19 A It would appear, at 23,000 feet.

20 Q What altitude was it at at one minute post-
21 decompression?

22 A It would appear, somewhere about slightly under
23 22,000 feet.

1 Q What altitude was it at one-and-a-half minutes
2 post-decompression?

3 A It would appear to be at 21,000 feet.

4 Q What altitude was the airplane at at two minutes
5 post-decompression?

6 A It would appear to be 19,000 feet.

7 Q And what altitude was the airplane two-and-a-
8 half minutes post-decompression?

9 A It looks like 17,300 feet.

10 Q All right.

11 How about three minutes post-decompression?

12 A Slightly above 16,000 feet.

13 Q And three-and-a-half minutes post-decompression?

14 A It would be at 17,100 feet.

15 Q All right. And four minutes post-decompression?

16 A At 16 -- about 16,500.

17 Q And four-and-a-half minutes post-decompression?

18 A 15,500.

19 Q All right. And five minutes post-decompression?

20 A 14,600.

21 Q Thank you.

22 Now, have you discussed Dr. Garme's report with
23 him?

1 A I have not, no, sir.

2 Q But you relied on some aspects of his report
3 in your report, sir?

4 A Yes, sir.

5 Q Now I see a manual called Physiological Training
6 1980 which is Downes Exhibit No. 7. Was this part of the
7 material furnished you by the Lockheed Aircraft Corporation?

8 A Yes, sir.

9 Q Did you rely on any part of this information in
10 your work, sir?

11 A As a matter of fact, I did not use that in
12 formulating my testimony. It was only background reading.

13 Q Now, when did the Lockheed Aircraft Corporation
14 or its attorneys ask you to prepare a report?

15 A It was in mid-September.

16 Q Around the 15th?

17 A Yes.

18 Q I am not trying to suggest; I am just trying
19 to get facts. Do you have the date?

20 A September 16.

21 Q And did you start to do your work at that time?

22 A Yes.

23 Q That was when you understood that you were going

1 to testify; is that right?

2 A I had been informed that I would be asked to
3 testify prior to that time. The specifics of the report
4 had not been discussed prior to that time. I had reviewed
5 some of the materials; I had not begun to do my computations.

6 Q I understand.

7 Who asked you to do the report?

8 A Mr. Dubuc.

9 Q And you started to work seriously on the case
10 at that time?

11 A That is correct.

12 Q I don't mean to misstate it. You reviewed it
13 generally and he asked you to do this report; is that
14 correct?

15 A That is right.

16 Q Did you tell him when you would be able to come
17 up with it?

18 A I told him I had a number of obligations. They
19 wanted a deposition around this date and I said I had a
20 number of other obligations that would preclude my doing
21 the necessary study and calculations until the last minute.

22 Q You mean just prior to today?

23 A That's right; that I would have to have the

1 report ready, I should say, even if I started -- I did
2 work in the interim. I had many other obligations which
3 had to take priority.

4 Q Did you do the report and actually put it
5 together on the 5th, sir?

6 A On the what?

7 Q It's dated the 5th. Is that the date?

8 A The graphs were done over the weekend and
9 corrected by me and calculations rechecked by me. Some
10 of the calculations changed by me without discussing that
11 with them and the original draft was typed on the 5th.
12 There were some typographical errors and other material
13 that I wanted to redo. The first page was not changed,
14 and that is why the date was not changed.

15 The bulk of the change was in the -- well,
16 really, the second page where numbers changed as I recon-
17 sidered various things. I did have that retyped; the
18 first page didn't need to be changed so that wasn't retyped.
19 It was brought down by me last night. This was actually
20 typed yesterday, just in time for me to leave.

21 Q If I can state it accurately -- and correct me
22 if I am wrong in any way, inaccurate -- essentially you
23 put together, this past weekend, as far as a rough draft is

1 concerned --

2 A That is right.

3 Q It was originally typed on the 5th. You reviewed
4 it and made some corrections based upon your own standards?

5 A The night of the 5th.

6 Q The night of the 5th. And you then -- it was
7 completed and finished when?

8 A Yesterday afternoon, on the 6th, at about 5:00
9 p.m.

10 Q So it was off the press, as it were, in deliver-
11 able form at the close of business yesterday?

12 A Yes, 5:30 probably.

13 Q 5:30. And when did you come?

14 A I took a 6:30 flight last night.

15 Q You got on the airplane at 6:30?

16 A No, I didn't. I didn't get on until -- it was
17 a 6:30 flight.

18 Q It was due to leave at 6:30 but it left late?

19 A Yes.

20 Q You arrived here in the evening?

21 A That is right.

22 Q And when did you give this to anybody, to
23 Lockheed's attorneys? Yesterday?

1 A I gave it to them last night. I didn't get to
2 their office until almost 9:00 o'clock.

3 Q But you gave it to them at 9:00?

4 A Yes, sir.

5 MR. LEWIS: Mr. Dubuc, I don't see how, in view
6 of the technical nature of this report, which is obviously --
7 I am not independently competent in and I certainly want to
8 discuss it with someone that was -- I don't think I can
9 examine the man.

10 MR. DUBUC: He's here.

11 MR. LEWIS: I understand your position.

12 MR. DUBUC: We have given you a report which is
13 not always the case. We don't always write reports, so we
14 have the summary of the thing available, as you just deter-
15 mined, as soon as we had it late last evening.

16 That is uniformly the problem we have run into
17 in all of these cases. If you want to take a break to look
18 at it, we can Xerox some of the exhibits while we're doing
19 this. Dr. Downes is extremely busy and is not going to be
20 available this week again.

21 MR. LEWIS: I understand that.

22 MR. DUBUC: The trial starts --

23 MR. LEWIS: I don't see how, in view of the

1 technical nature of this subject and the specialty of this
2 gentleman whose C.V. had a lot of the background and
3 training, how I should take his deposition on a very
4 technical report that he drafted over the weekend.

5 MR. DUBUC: You had the C.V. You have had that
6 for weeks, that area which you usually go into. If you
7 want to take some time to review the report, that is fine.

8 MR. LEWIS: I am not going to sit here and look
9 at -- read the report, which I have not done except super-
10 ficially glanced at it. I haven't read it, studied it, or
11 anything like that.

12 I had the C.V. There are no questions that I
13 want to ask about the C.V. That is my position, Mr. Dubuc.

14 MR. DUBUC: We're prepared to go ahead.
15 Dr. Downes is also prepared to take a break if you want
16 to look at his report.

17 MR. LEWIS: That is not going to be sufficient.

18 MR. DUBUC: The timing of this trial is not my
19 date of setting and this period has been made available to
20 utilize by us even on short notice. Lord knows we have done
21 the same on short notice.

22 MR. LEWIS: I will want to review this with
23 somebody that is knowledgeable on the subject so I can ask

1 this gentleman intelligent questions on it, and I don't
2 think either he or I want to spend our time beating our
3 gums about something that is so obviously technical that
4 I am not in the position to handle.

5 I have had one year of chemistry and one year
6 of biology and I don't think that really qualifies me
7 without some coaching and some understanding from an expert
8 to discuss with a person of this background in good speed.
9 So that is my position.

10 Mr. Dubuc, do you want to ask any questions?

11 MR. DUBUC: I might.

12 Would you mark this for Identification as
13 Exhibit 10.

14 (Document referred to was
15 marked Downes Exhibit No. 10
for Identification)

16 EXAMINATION BY COUNSEL FOR
17 LOCKHEED AIRCRAFT CORPORATION

18 BY MR. DUBUC:

19 Q Doctor, is Exhibit 10 the curriculum vitae for
20 yourself?

21 A Yes.

22 Q Doctor, in preparing your opinion, did you check
23 and utilize any data with respect to studies or experience

unit time by the blood. Those two factors are major importance in sustaining oxygenation of the brain, the quantity of oxygen in the blood and the rate of blood flow to the brain. The issue of the quantity of oxygen in the blood I have addressed in Table 2 and the issue of the rate of blood flow I have addressed in my report based on the data of Kennedy and coworkers on cerebral blood flow in children as compared to adults and based on the increase in cerebral blood that occurs in acute hypoxic stimulus based on data of Lambertson in adults.

Looking at these two sets of facts, it appears to me that the infant child are indeed provided with profusion of blood to the brain to meet oxygen demands under normal conditions and it would seem reasonable to me to presume that the hypoxic phase debilitation which occurs in the brain of adults would also occur in the brain of infants and children since this is one of the very fundamental protective reflexes that man and other mammals are equipped with.

Therefore, it seems to me in acute hypoxic episodes as which would occur in a decompression at 23,000 feet, an infant and child would indeed be better equipped from a physiologic standpoint to maintain brain oxygenation

1 or statistics regarding children who have been exposed to
2 hypoxic situations and other circumstances?

3 A Yes, I did.

4 Q Would you tell us what that was?

5 A I examined materials from the literature and
6 that address the issue of cardiorespiratory responses to
7 a hypoxic stimulus in the newborn and infant throughout the
8 first ten days of exterior uterine life.

9 I also examined the response of the adult to
10 hypoxic -- acute hypoxic stimuli as published in several
11 textbooks.

12 In addition, I recall my own personal experience
13 with patients with hypoxia and furthermore reviewed the
14 literature with regard to the hypoxic effects on cerebral
15 blood flow in adults and the normal cerebral blood flow in
16 children, and these are referenced in this document.

17 Q What is the significance of cerebral blood flow
18 to the issue of hypoxia, if any, that may have occurred in
19 any children in the troop compartment of this airplane?

20 A The functioning of the brain depends upon a
21 number of factors, one of which is the amount of oxygen
22 available for utilization by the cells per unit time which
23 is determined by the oxygen transported to the brain per

1 under severely hypoxic conditions over a relatively short
2 period of time such as we're addressing here, less than
3 eight minutes, than would an adult. That is, in fact, the
4 essence of my report.

5 Q Is that a conclusion that you have reached as
6 a conclusion of the result of the review of the materials
7 and the other things that you just referred to?

8 A Correct.

9 Q Is that conclusion based on reasonable medical
10 certainty?

11 A As I state in the report, it's my opinion with
12 reasonable medical certainty that the hypoxic conditions
13 that occurred in this decompression would not have led to
14 permanent neurologic sequelae in the infants and children
15 in the troop compartment and that there should be sufficient
16 delivery of oxygen to the brain to maintain cell integrity
17 if not indeed consciousness.

18 Q Doctor, in forming your opinion, did you rely
19 upon any personal experience or data from your own practice
20 in connection with circumstances where you have treated
21 patients or been involved in consultation of the patient?

22 A I did.

23 Q Under circumstances parallel, under the conditions

1 existing in this kind of hypoxic event?

2 A The conditions were analogous in that the
3 degree of hypoxemia which I have observed and objectively
4 verified with arterial blood bases in patients with
5 status asthmaticus which is a condition, an asthma that
6 occurs in children, in bronchiolitis, a form of viral
7 bronchiolitis that occurs in infants and in occasional
8 other episodes that lead to hypoxic conditions in children
9 with various cardiorespiratory diseases, I have observed
10 blood gas values that parallel those experienced in an
11 acute depression at this altitude.

12 And it further has been my observation that
13 these children if treated promptly recover under neurologic
14 functions for the most part and certainly are able to
15 sustain consciousness and integrated brain functions for
16 reasonable periods of time such as ten minutes, fifteen
17 minutes or longer.

18 Therefore, it is my conclusion or contention
19 that children are, if previously healthy, able to withstand
20 hypoxic insults to a remarkable degree and I have used this
21 as background in formulating my conclusions.

22 Q In the materials you reviewed and Mr. Lewis
23 asked you about, did you have occasion to review

1 Dr. McMeekins chamber run profile?

2 A Yes, I did.

3 Q Did that have any significance?

4 A It indicated that an individual could remain
5 conscious down to levels of oxygen saturation that approached
6 those observed at 20,000 feet or approximately that
7 altitude. I would add that would not necessarily be true
8 for every individual even though healthy.

9 Dr. McMeekin has a reasonable tolerance for
10 that degree of hypoxia. It's difficult to know whether an
11 infant child would also, but it certainly demonstrates at
12 least that one individual was able to tolerate hypoxia.

13 Q Assume the subject of Dr. McMeekin's profile
14 test which was a chamber simulation which occurred in this
15 airplane, assume the subject was a 32-year-old Air Force
16 captain who had been through a few but not a lot of chamber
17 decompressions and assume the facts and results described
18 in Dr. McMeekin's chamber test, can you tell us whether in
19 your opinion a child of approximately ten to twelve months
20 of age, say nine to twelve months of age, would react
21 the same, differently, or in some variable, based upon
22 your information and studies to the same type of chamber
23 run?

1 A Yeah.

2 Q Assuming the child is healthy.

3 A There are no chamber data in children, to my
4 knowledge, but it would seem to me that based on my previous
5 discussions that an infant between nine and twelve months of
6 age would in fact have better tolerance for the degrees of
7 hypoxia that occurred in that simulated trial than would
8 an adult.

9 MR. DUBUC: Thank you, Doctor.

10 Any other questions?

11 MR. LEWIS: I am going to reserve on that,
12 Mr. Dubuc.

13 MR. DUBUC: I understand your position. He is
14 here and I have asked him questions to amplify what he's
15 already given in the report. I am perfectly willing to take
16 a break if you want to.

17 MR. LEWIS: How long of a break do you have in
18 mind?

19 MR. DUBUC: If you want to review it --

20 MR. LEWIS: Tell me what you think is generous,
21 Mr. Dubuc, under these circumstances. I would like to get
22 it on the record.

23 MR. DUBUC: He is here.

1 MR. LEWIS: How much time do you think is
2 reasonable for me to study this report without technical
3 assistance, Mr. Dubuc, and cross-examine this witness?

4 MR. DUBUC: In light of several years of
5 experience with this, I would assume you could probably
6 read this report and if you had to make a telephone call
7 you could do it in an hour.

8 MR. LEWIS: That is not adequate, Mr. Dubuc.

9 MR. DUBUC: Okay.

10 Are we going to have these copied?

11 MR. LEWIS: Yes. I will certainly do that.

12 (Whereupon, at 11:45 a.m., the taking of the
13 deposition was concluded)

1 I have read the foregoing 47 pages,
2 which contain a correct transcript of the answers
3 given by me to the questions therein recorded.
4
5
6

7 _____
Signature of Witness

8
9
10 - - -

11 SUBSCRIBED AND SWORN to before me this _____ day
12 of _____, 1981.
13
14

15 _____
Notary Public

16
17 My commission expires:
18 _____


CERTIFICATE OF NOTARY PUBLIC

COMMONWEALTH OF VIRGINIA)

) ss.:

COUNTY OF ARLINGTON)

I, Jerome T. Mattingly, the officer before whom the foregoing deposition was taken, do hereby certify that the witness whose testimony appears in the foregoing deposition was duly sworn by me; that the testimony of said witness was recorded by me in stenotype and thereafter reduced to typewritten form under my direction; that said deposition is a true record of the testimony given by said witness; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this deposition was taken; and, further, that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of the action.


Notary Public in and for the
Commonwealth of Virginia.

My commission expires
November 9, 1984.