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IN THE CIRCUIT COURT FOR ANDERSON COUNTY, TENNESSEE

REPOSITORY Oak Ridge Operations Office
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BOX No.
FOLDER Litigation Action Re: Rickey Sexton

MARY SUE SEXTON and TALMON SEXTON, Parents and next friends of TALMON DWAYNE SEXTON, Deceased,

Plaintiffs

VS

No. L-2728

OAK RIDGE ASSOCIATED UNIVERSITIES,

Defendant

DEFENDANT'S FIRST SET OF INTERROGATORIES TO PLAINTIFFS

Pursuant to the Tennessee Rules of Civil Procedure, plaintiffs are hereby requested to answer these interrogatories under oath within thirty (30) days from date of service hereof:

1. With respect to the averment in your Amended Complaint that you "were improperly advised of the purposes and consequences of the treatment" given to Dwayne Sexton by defendant, please state

   (a) What you were told about the purposes and consequences of the various kinds of treatment administered to decedent;

   (b) The name of the person making each such statement to you; and

   (c) In what respect each of said statements was improper

2. Upon what evidence or information do you base the averment that "there was a failure to provide adequate information so that fully informed consent could be given to the treatment received by the decedent".

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3. What do you contend you should have been told in order to have adequate information upon which to give a fully informed consent to the treatment received by decedent?

4. State specifically what medical or other care defendant failed to give decedent which caused him to suffer needlessly as averred in paragraph 4 of your Amended Complaint.

5. State specifically what medical or other care defendant failed to give the decedent which caused him to have a shortened life expectancy as averred in paragraph 4 of your Complaint.

6. How much do you contend the decedent's life was shortened by the alleged omissions of the defendant?

7. Upon what do you base your answer to the next preceding question?

8. What information did you receive in June, 1981 that indicated that your son had received improper treatment at defendant's hospital?

9. State the name and address of the person or persons from whom you received the information described in response to the next preceding interrogatory.

10. Upon what do you base the averment contained in paragraph 5 that treatments given to decedent were for some motive or purpose other than to try to bring under control his disease?

11. When, and from whom, did you obtain the information or evidence related in response to the next preceding interrogatory?

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12. On what dates do you contend that decedent was given radiation treatments by defendant for the purpose of gathering data for AEC and NASA?

13. Describe with particularity the evidence that you have which shows that defendant gave decedent radiation treatments for the purpose of gathering data for AEC and NASA.

14. State the full name and address of every person who has informed you that defendant gave decedent radiation treatments for the purpose of gathering data for NASA or AEC.

15. State the date or dates upon which you obtained each item of evidence which you contend shows that defendant gave decedent radiation treatments for the purpose of gathering data for AEC and NASA.

16. When, and in what manner, was the general public advised that defendant gave radiation treatments to decedent for the purpose of gathering data for AEC and NASA, as averred in paragraph 7 of your Amended Complaint?

17. Describe with particularity the records that are referred to in paragraph 7 of your Amended Complaint, which you contend shows that defendant was guilty of fraudulent concealment, by giving the date, title, author, and any other information that will properly identify and assist in the location of such records, or attach a copy of each of such records to your answers as a part thereof.

18. State the date upon which you acquired each of the foregoing records referred to in response to the next preceding interrogatory, and state the name of the person, business, office or agency from which such records were obtained.

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19. State the name of each physician who gave you false information or advice, as alleged in paragraph 8 of your Amended Complaint, and with respect to each state the substance of the false information or advice that you were given.

20. State the name of each physician who intentionally failed to give you information or knowingly withheld information from you, as averred in paragraph 8 of your Amended Complaint.

21. What information do you contend that the physicians listed in response to the next preceding interrogatory should have given you?

22. State all the facts upon which you base your claim that the statute of limitations has been tolled in this case by concealment or fraudulent concealment.

23. Identify each person whom you expect to call as an expert witness at the trial of this case and

(a) State the subject matter on which each such expert is expected to testify;

(b) State the substance of the facts and opinions to which each such expert is expected to testify; and

(c) Summarize the grounds for the opinion of each such expert.

24. Describe or give the name of each treatment received by the decedent which was not consistent with the prevailing standard of care for treatment of lympoblastic leukemia, and give the date or dates upon which the decedent received such treatments.

25. With respect to the treatments referred to in response to the next preceding interrogatory, please state precisely how such treatments deviated or departed from the proper standard of care for treatment of lympoblastic leukemia.

THIS the 28 day of September, 1982.

OAK RIDGE ASSOCIATED UNIVERSITIES

By Wheeler A. Rosenbaum

Wheeler A. Rosenbaum, Attorney
P. O. Box 39
Knoxville, Tennessee 37901

CERTIFICATE OF SERVICE

I certify that an exact copy of the foregoing document has been served upon counsel for all parties to the litigation to which it pertains, either by hand delivery of a copy thereof to the offices of said counsel, or by mailing a copy to said counsel in a properly addressed and stamped envelope regularly deposited in the United States Mail.

This 28 day of Sept., 19 82.

W A Rosenbaum

For FRANTZ, McCONNELL & SEYMOUR

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IN THE CIRCUIT COURT FOR ANDERSON COUNTY, TENNESSEE

MARY SUE SEXTON and TALMON SEXTON, Parents and Next Friends of TALMON DWAYNE SEXTON, Deceased,	) *) *) *	
Plaintiffs	) *	
vs.	) *	NO. L-2728
OAK RIDGE ASSOCIATED UNIVERSITIES,	) *) *	
Defendant	*	

PLAINTIFFS' FIRST SET OF INTERROGATORIES TO DEFENDANTS

Pursuant to the Tennessee Rules of Civil Procedure, Defendant is hereby requested to Answer these Interrogatories under oath within thirty (30) days from date of service thereof:

1. Please provide the names, current addresses and phone numbers, and capacities in which employed, of all persons who treated Talmon Dwayne Sexton while he was under the care of Oak Ridge Associated Universities.

2. Please provide papers, letters or scientific journal articles which suggested that the experimental immunotherapy treatment given to Talmon Dwayne Sexton would be effective in treating his acute lymphoblastic leukemia.

3. Please provide us with the protocols for the experimental immunotherapy treatment given to Talmon Dwayne Sexton, including a statement of the parties responsible for designing protocol and those responsible for choosing patients under the protocol.

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4. What was the standard preferred form of treatment for leukemia in 1956?

5. What was the standard preferred form of treatment for leukemia in 1968?

6. What drugs had been used successfully in the treatment of lymphoblastic leukemia by 1965 and later by 1968?

7. Please provide the reviewer's full reports from the Medical Program Review Committee Site Visits to ORAU (ORINS) from March, 3-4, 1966; January 22-23, 1968; and March 9-11, 1969.

8. Please provide us with all information provided to the Federal Government generated under contract T-88566, including the contract proposal, the contract, the investigatory protocols, all progress reports, and all peer reviews.

9. Please provide us with the protocols for selecting patients to be treated in the LETBI or METBI facilities. Please explain how decisions to treat patients in these facilities were made, by whom, and why.

10. Please provide us with all data from the LETBI facility recorded for Talmon Dwayne Sexton, including the information gathered via the physiologic umbilical system and stored on the IBM 1800 computer.

11. Please provide us with a copy of Interagency Agreement 40-35-64.

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12. Please provide us with all documents related to NASA order R-104 (09) or Task 9 and amendments from its inception to its cancellation or completion.

13. How many patients were treated for acute lymphatic leukemia at ORAU each year between 1957 and 1975? For each year, please indicate:

(a). Of these patients, how many were under the age of 18 years?

(b) Of these patients, how many were treated with chemotherapy only?

(c) Of these patients, how many were treated with total body irradiation?

(d) Of those patients treated with whole body irradiation, how many were children under the age of 18 years?

14. How many patients were treated for myeloid leukemia at ORAU for each year between 1957 and 1975? For each year please indicate:

(a) Of these patients, how many were under the age of 18 years?

(b) Of these patients, how many were treated with chemotherapy only?

(c) Of these patients, how many were treated with total body irradiation?

(d) Of those patients treated with total body irradiation, how many were children under the age of 18 years?

15. Were the doctors at ORAU aware of immunotherapy treatment like that given to Talmon Dwayne Sexton being given to other human subjects before July, 1965, in the United States, or elsewhere? If so, please describe the person(s) so treated, for what condition, where, when and with what results. Please

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indicate any ways in which the treatment given to Talmon Dwayne Sexton differed from that given to other human experimental immunotherapy subjects and the reasons for the changes in treatment procedures.

16. For charts appearing on pages 327 to 329, in the Hearing before the Subcommittee on Investigations and Oversight of the Committee on Science and Technology, U. S. House of Representatives, 97th Congress, 1st Session, titled Human Total Body Irradiation (TBI) Program at Oak Ridge, held September 23, 1981, (hereinafter referred to as September 23rd hearing) through what age are patients classified as children?

17. For the chart on page 328 of the September 23rd hearing, is the date at the end of the line the date of diagnosis or the date of death?

18. How many weeks did each patient survive after treatment with 300 rads or more of radiation? Please indicate the illness for which the patient was treated and the patient's age in the Answer to this Interrogatory.

19. When did ORAU stop treating children in LETBI, and why?

20. When did ORAU stop treating children in METBI, and why?

21. On page 9 of Schedule 89 for project "Radiosensitivity in Man: A study of Therapeutic and Accidental Whole-Body Irradiation", Contract no AT(40-1)-GEN-33 dated October 8th, 1969, the statement is made that "a mutually cooperative study has been arranged without additional cost to NASA for determinir

what levels of single, repeated or protracted irradiation exposures result in alteration of the bacteriologic flora of persons exposed. This study has received its main financial support from the Army but is also supported by the AEC budget." In this regard, please provide all documents between ORINS, AEC, and the Department of the Army (or any other government agency) concerning the above mentioned program, including but not limited to research protocols, progress reports, form 189's, records of site visits, information on patient selection, peer reviews, number of patients involved, their ages, and papers published or unpublished.

22. Please provide all communications, letters, and memorandum with personnel of project "Radiationsentity in Man" AT(40-1) GEN-33 with other researchers conducting prospective irradiation studies funded by AEC, NASA, DOD, or other government agencies going on at or around this same time period of the AEC/NASA/ARMY study at ORINS; correspondence or other communications including but not limited to Walter Heller, Alvin Paulsen, Wright Langham, Eugene Saenger, E. L. Jacobs, B. I. Friedman, Dr. Chen, Miss Pepplinger, and Douglas Grahm.

23. Please provide all form 189's with appendices for contract AT-(40-1) GEN 33, as well as other documents related to this contract, such as contract proposals, the contract, progress reports, and peer reviews.

24. On page 2 of schedule 189, contract no. AT-(40-1) GEN 33, the statement is made, "A COMPLETE LIST OF PUBLICATIONS AND A LIST OF AVAILABLE COMPUTER PROGRAMS GENERATED BY THIS STUDY ARE LISTED IN 'SAN ANTONIA BRIEFING MATERIAL BOOKLET'.", circulated March 23, 1972. Please provide all computer programs and tapes referred to in the above mentioned statement as well a

a copy of the "San Antonio Briefing Material Booklet."

25. Please provide the following reports:

(a) Andrews, G. A & Lushbaugh, C. C., "Preliminary Progress Report," July 1, 1964.

(b) Andrews and Lushbaugh, "AEC/NASA/ORINS Consultation at Division of Biology and Medicine, Germantown, Maryland", April 28, 1965.

(c) Andrews and Lushbaugh, "Supplemental Progress Report", June 1, 1965.

(d) Andrews, G. A and Pollard, W. "Conceptual Design, Report for Proposed Low-Dose Rate Exposure Facility at ORINS Medical Division Complex, Vance Road, Oak Ridge, Tennessee", project 66-1, July 12, 1965.

(e) Lushbaugh, C. C. & Billingham, J., "Workshop Conference about the Feasibility of Measey-Radiation Effects Upon Human Performance", July 22, 1965.

(f) Andrews, G. A. & Lushbaugh, C. C. "Summarization Progress Report", November 15th, 1965.

(g) Lushbaugh, C. C., Comas, F. Edward, C. L. and Andrews, G. A. "Clinical Evidence of Dose-rate Effects in Total Body Irradiation in Man", PROCEEDINGS OF A SYMPOSIUM ON DOSE RATE IN MAMMALIAN RADIATION BIOLOGY, April 29-May 1, 1968, Conf. 680410.

(h) Andrews, G. A., et al "Hemotologic Responses to Total-body Irradiation" presented at Gesellschaft Fur Neulearmedizin, Wiesbaden, Germany, September 28, 1968.

(i) Proceedings of a National Symposium on Natural and Man-Made Radiation in Space, NASA TM-X-2440.

26. Please provide the physicians order for December, 1968, for Talmon Dwayne Sexton, as there appear to be missing pages in the medical records provided thus far to Mary Sue Sexto

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27. Please explain what items were crossed out on the physicians orders for Talmon Dwayne Sexton for the page beginning "3 dec. 1 B Total Body irradiation today 250 Rads". We wish to know what the orders said, who crossed them out, and why they were crossed out.

W. HOLT SMITH
Attorney for Plaintiffs
301 Highway 68 West
Sweetwater, Tennessee 37874
Phone: (615) 337-3576

KATHLEEN M. TUCKER
Attorney for Plaintiffs
236 Massachusetts Ave., N. E. #506
Washington, D. C. 20002
Phone: (202) 543-1070

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and exact copy of this pleading has been served upon counsel for all parties [illegible] true and exact [illegible] or by [illegible] with [illegible] its

15th March 1983

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IN THE CIRCUIT COURT FOR ANDERSON COUNTY, TENNESSEE

MARY SUE SEXTON and TALMON SEXTON, Parents and Next Friends of TALMON DWAYNE SEXTON, Deceased,	:	
Plaintiffs,	:	
vs.	:	NO. L-2728
OAK RIDGE ASSOCIATED UNIVERSITIES,	:	
Defendant.	:	

DEFENDANT'S REPLY TO PLAINTIFFS' FIRST SET OF INTERROGATORIES

Comes the defendant, Oak Ridge Associated Universities (ORAU) and in reply to plaintiffs' first set of interrogatories says:

Q1: Please provide the names, current addresses and phone numbers, and capacities in which employed, of all persons who treated Talmon Dwayne Sexton while he was under the care of Oak Ridge Associated Universities.

A1: The physicians who treated Talmon Dwayne Sexton while he was under the care of Oak Ridge Associated Universities were:

(1) Radiation Therapist: Frank Comas, M.D., University of Tennessee, Memorial Research Center and Hospital, 1924 Alcoa Highway, Knoxville, Tennessee 37920, (615) 971-3701.

(2) Chief of Staff: C. L. Edwards, M. D., Mt. Morris Health Center, 405 Charles Avenue, Mt. Morris, Illinois 61054, (815) 734-6061.

(3) Associate Chairman: Ralph M. Knisely, M.D., 1024 E. Locust, Emmett, Idaho, 83617, (208) 365-3589.

hematopoietic cells," in Diagnosis and Treatment of Acute Radiation Injury. World Health Organization, International Documents Service, New York, 1961

(5) Old, L.J. and Boyse, E.A. "Immunology of experimental tumors" Ann. Rev. Med. 15, 167 (1964)

(6) Skipper, H.E. "The effects of chemotherapy on the kinetics of leukemia cell behavior, "Cancer Res. 25, 1544 (1965)

(7) Southam, C.M., Moore, A.E., and Rhoads, C.P. Human Cancer Cells - Cancer Patients (Hemotransplantation of Human Cell Lines) Science 125:158-160, 1957. (Sloan-Kettering Institute, NY)

(8) Southam, C.M., and Moore, A.E. Induced immunity to cancer cell homografts in man. Annals NYAC 73/3:635-653, 1958.

(9) Thiersch, J. B. Attempted transmission of acute leukemia from man to man by the sternal marrow route Cancer Res. 6, 695 (1946)

(10) Woodruff, M.F.A. and Nolan, B. Preliminary observations on treatment of advanced cancer by injection of allogeneic spleen cells Lancet, Vol. 2, 426-29 (1963)

(11) Woodruff, M.F.A. and Symes, M.O. The use of immunologically competent cells in the treatment of cancer; experiments with a transplantable mouse tumor.

(4) Staff Physician: Ryosaku Tanida, M.D., V.A. Hospital, 2615 Clinton Avenue, Fresno, California 93703, (209) 225-6100, FTS 466-9257.

(5) Staff Physician: Helen Vodopick, M.D., Oak Ridge Medical Center, 170 West Tennessee Avenue, Oak Ridge, Tennessee 37830, (615) 483-7411.

Q2: Please provide papers, letters or scientific journal articles which suggested that the experimental immunotherapy treatment given to Talmon Dwayne Sexton would be effective in treating his acute lymphoblastic leukemia.

A2: See the following publications:

(1) Alexander, P., Delorme, E.J., and Hale, J.G. The effort of lymphoid cells from the lymph of specifically immunized sheep on the growth of primary sarcoma in rats. Lancet 1186-1189, May 28, 1966.

(2) Delorme, E.J., Alexander, P. The treatment of primary fibrosarcoma in the rat with immune lymphocytes. Lancet 2/7351:117-120, 1964.

(3) Levin, A.G., Custodio, D.B., Mandel, E.E., and Southam, C.M. Rejection of cancer homotransplants by patients with debilitating non-neoplastic diseases. Annals NYAC 120/1:158-160, 1964.

(4) Mathe, G. "Secondary syndrome: A stumbling block to the treatment of leukemia by whole body irradiation and transfusion of allogenic

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Brit. J. Cancer 16(4), 707 (1962)

(12) Woodruff, M.F.A., Symes, M.O. and Anderson, N.F.
The effect of intraperitoneal injection of thoracic duct lymphocytes from normal and immunized rats in mice inoculated with Landshutz ascites tumor.
Brit. J. Cancer 17(3), 482 (1963)

Defendant does not possess copies of these papers. All are in the public domain.

Q3: Please provide us with the protocols for the experimental immunotherapy treatment given to Talmon Dwayne Sexton, including a statement of the parties responsible for designing protocol and those responsible for choosing patients under the protocol.

A3: Defendant does not possess a copy of the original formal protocol for the immunotherapy treatment of Dwayne Sexton. An amended protocol for the treatment is attached hereto and is labeled Q3. Also attached is a copy of a report on this experimental immunologic approach published in Volume 9 of "Experimental Hematology;" the report informally states the original protocol. The parties responsible for designing the protocol were: G. A. Andrews, R. M. Knisely, C. L. Edwards, F. V. Comas, R. Tanida, H. Vodopick, C. C. Congdon and N. Gengozian. Those responsible for selecting patients for this protocol were: G. A. Andrews, C. L. Edwards, R. M. Knisely, and H. Vodopick.

Q4: What was the standard preferred form of treatment for leukemia in 1956?

A4: In 1956 it was common practice to treat acute lymphocytic leukemia as follows: If the patient had acute lymphoblastic leukemia and especially if he or she was acutely ill, treatment was initiated with cortisone or prednisone, or ACTH (adrenocorticotrophic hormones). In less critical cases,

treatment was initiated with amethopterin, a folic acid antagonist, or 6-mercaptopurine (6-MP), a purine analog, both of which had to be given in fairly large doses to produce remissions. After this initial type of treatment, doses could be reduced to smaller ones for maintenance therapy. In cases of relapse, the doses had to be increased again, and if this approach did not induce another remission, doses had to be increased further to produce toxic symptoms in order to have any chance to get the disease in control again.

Q5: What was the standard preferred form of treatment for leukemia in 1968?

A5: In 1968 two chemotherapeutic agents, Methotrexate and Vincristine, were used in the treatment of lymphoblastic leukemia. In addition to these two drugs, 6-mercaptopurine and adrenocorticosteroids were also important drugs in the management of childhood leukemia. The general recommendation for the treatment of acute lymphoblastic leukemia was to induce a remission with Prednisone, and begin 6-MP when remission was achieved. When relapse occurred, remissions were induced again with Prednisone, and maintenance therapy was attempted by using Methotrexate.

Q6: What drugs had been used successfully in the treatment of lymphoblastic leukemia by 1965 and later by 1968?

A6: In 1965 the treatment of acute lymphoblastic leukemia consisted of the combined or sequential use of cortico steroids, 6-mercaptopurine, and amephopterin. Drugs that had been successfully used in the treatment of lymphoblastic leukemia in 1968 are described in the answer to question 5.

Q7: Please provide the reviewer's full reports from the Medical Program Review Committee Site Visits to ORAU (ORINS) from March 3-4, 1966; January 22-23, 1968; and March 9-11, 1969.

A7: The reports requested are attached hereto and are labeled Q7.

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Q8: Please provide us with all information provided to the Federal Government generated under contract T-88566, including the contract proposal, the contract, the investigatory protocols, all progress reports, and all peer reviews.

A8: The requested information that is in defendant's possesion is attached hereto and is labeled Q8.

Q9: Please provide us with the protocols for selecting patients to be treated in the LETBI or METBI facilities. Please explain how decisions to treat patients in these facilities were made, by whom, and why.

A9: Defendant is unaware of any formally written protocols for selecting patients to be treated in the LETBI or METBI facilities. Decisions to treat patients in the LETBI or METBI facilities were made by the clinical staff at weekly staff meetings. Those usually attending the weekly meetings were Drs. Knisely, Andrews, Edwards, Vodopick, Comas, Nelson, Tanida, and residents. Decisions to treat patients in these facilities was made on a case by case basis; treatment was tailored to individual patient needs.

Q10: Please provide us with all data from the LETBI facility recorded for Talmon Dwayne Sexton, including the information gathered via the physiologic umbilical system and stored on the IBM 1800 computer.

A10: The data recorded for Talmon Dwayne Sexton in the LETBI facility is attached hereto and is labeled Q10. None of the data was ever stored in the IBM 1800 computer. Data for a patient other than Talmon Dwayne Sexton appears on the last page of the attached information; that patient's name has been obscured to protect the patient's privacy.

Q11: Please provide us with a copy of Interagency Agreement 40-35-64.

A11: The requested information that is in defendant's possession is attached hereto and is labeled Q11.

Q12: Please provide us with all documents related to NASA order R-104 (09) or Task 9 and amendments from its inception to its cancellation or completion.

A12: The requested documents that are in defendant's possession are attached hereto and are labeled Q12.

Q13: How many patients were treated for acute lymphatic leukemia at ORAU each year between 1957 and 1975?

A13: The number of patients treated for acute lymphatic leukemia or acute leukemia at ORAU between 1957 and 1975 were:

1957 - 5 patients
1958 - 3 patients
1959 - 4 patients
1960 - 1 patient
1961 - 1 patient
1962 - 3 patients
1963 - 6 patients
1964 - 3 patients
1965 - 2 patients
1966 - 2 patients
1967 - 2 patients
1968 - 3 patients
1969 - 2 patients
1970 - 0 patients
1971 - 0 patients
1972 - 3 patients
1973 - 0 patients
1974 - 0 patients
1975 - 0 patients

Q13: For each year, please indicate:

(a) Of these patients, how many were under the age of 18 years?

A13: Thirty-six of these 40 patients were under the age of 18 years.

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1957 - 4 patients

1958 - 3 patients

1959 - 4 patients

1960 - 0 patients

1961 - 1 patient

1962 - 2 patients

1963 - 5 patients

1964 - 3 patients

1965 - 2 patients

1966 - 2 patients

1967 - 2 patients

1968 - 3 patients

1969 - 2 patients

1970 - 0 patients

1971 - 0 patients

1972 - 3 patients

1973 - 0 patients

1974 - 0 patients

1975 - 0 patients

Q13: (b) Of these patients, how many were treated with chemotherapy only?

A13: Twenty-one of these patients were treated with chemotherapy only:

1957 - 1 patient

1958 - 0 patients

1959 - 2 patients

1960 - 0 patients

1961 - 1 patient

1962 - 1 patient

1963 - 3 patients

1964 - 2 patients

1965 - 0 patients

1966 - 2 patients

1967 - 2 patients

1968 - 2 patients

1969 - 2 patients

1970 - 0 patients

1971 - 0 patients

1972 - 3 patients

1973 - 0 patients

1974 - 0 patients

1975 - 0 patients

Q13: (c) Of these patients, how many were treated with total body irradiation?

A13: Eighteen of these patients were treated with total body irradiation:

1957 - 4 patients

1958 - 3 patients

1959 - 2 patients

1960 - 1 patient

1961 - 0 patients

1962 - 2 patients

1963 - 3 patients

1964 - 1 patient

1965 - 1 patient

1966 - 0 patients

1967 - 0 patients

1968 - 1 patient

1969-1975 - 0 patients

Q13: (d) Of those patients treated with whole body irradiation, how many were children under the age of 18 years?

A13: Fourteen of the patients treated with whole body irradiation were children under the age of 18 years:

1957 - 3 patients

1958 - 3 patients

1959 - 2 patients

1960 - 0 patients

1961 - 0 patients

1962 - 1 patient

1963 - 2 patients

1964 - 1 patient

1965 - 1 patient

1966 - 0 patients

1967 - 0 patients

1968 - 1 patient

1970-75 - 0 patients

Q14: How many patients were treated for myeloid leukemia at ORAU for each year between 1957 and 1975?

A14: Seventeen patients were treated for myeloid leukemia or granulocytic leukemia at ORAU between 1954 and 1975 as follows:

1957 - 0 patients

1958 - 1 patient

1959 - 0 patients

1960 - 2 patients

1961 - 1 patient

1962 - 3 patients

1963 - 3 patients

1964 - 3 patients

1965 - 1 patient

1966 - 0 patient

1967 - 2 patients

1968 - 0 patients

1969 - 0 patients

1970 - 0 patients

1971 - 1 patient

1972-75 - 0 patients

Q14: For each year please indicate:

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(a) Of these patients, how many were under the age of 18 years?

A14: Eleven of these patients were under the age of 18 years:

1957-59 - 0 patients
1960 - 1 patient
1961 - 1 patient
1962 - 2 patients
1963 - 2 patients
1964 - 3 patients
1965 - 0 patients
1966 - 0 patients
1967 - 1 patient
1968-70 - 0 patients
1971 - 1 patient
1972-75 - 0 patients

Q14: (b) Of these patients, how many were treated with chemotheraphy only?

A14: Five of these patients were treated with chemotheraphy only:

1960 - 1 patient
1963 - 1 patient
1964 - 1 patient
1967 - 1 patient
1971 - 1 patient

Q14: (c) Of these patients, how many were treated with total body irradiation?

A14: Of the seventeen patients treated for myeloid or granulocytic leukemia, eleven were treated with total body irradiation.

1958 - 1 patient
1960 - 1 patient
1961 - 1 patient

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1962 - 3 patients

1963 - 2 patients

1964 - 2 patients

1965 - 1 patient

Q14: (d) Of the patients treated with total irradiation, how many were children under the age of 18 years?

A14: Of the patients treated with total body irradiation six were under the age of 18 years:

1961 - 1 patient

1962 - 2 patients

1963 - 1 patient

1964 - 2 patients

In the answers to questions 13 and 14 the years listed denote the year of the first treatment of a patient.

Q15: Were the doctors at ORAU aware of immunotherapy treatment like that given to Talmon Dwayne Sexton being given to other human subjects before July, 1965, in the United States, or elsewhere? If so, please describe the person(s) so treated, for what condition, where, when and with what results. Please indicate any ways in which the treatment given to Talmon Dwayne Sexton differed from that given to other human experimental immunotherapy subjects and the reasons for the changes in treatment procedures.

A15: The specific protocol used to treat Talmon Dwayne Sexton had not previously been used, but analogous protocols had been used prior to July, 1965, in treating human subjects.

Q16: For charts appearing on pages 327 to 329, in the Hearing before the Subcommittee on Investigations and Oversight of the Committee on Science and Technology, U.S. House of Representatives, 97th Congress, 1st. Session, titled Human Total Body Irradiation (TBI) Program at Oak Ridge, held September 23, 1981, (hereinafter referred to as September 23rd hearing) through what age are patients classified as children?

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A16: In the charts at pages 327-29 of the Hearing Report, patients 15 years or younger are classified as children.

Q17: For the chart on page 328 of the September 23rd hearing, is the date at the end of the line the date of diagnosis or the date of death?

A17: In the chart at page 328 of the Hearing Report the year at the end of the line indicates the year during which death occurred.

Q18: How many weeks did each patient survive after treatment with 300 rads or more of radiation? Please indicate the illness for which the patient was treated and the patient's age in the Answer to this Interrogatory.

A18: The information requested is attached hereto and is labeled Q18.

Q19: When did ORAU stop treating children in LETBI, and why?

A19: Only one child was ever irradiated in the LETBI facility. That child was treated in 1969. The facility was originally designed to test the idea that radiation delivered at a low rate had the potential for providing the same therapeutic benefit to the patient as radiation delivered at a high rate without causing the undesirable side effects observed at the high rates. To get the same dose at a low rate, however, the patient had to be exposed for much longer periods of time. After a period of use of the LETBI facility, it became clear that given the same therapeutic benefit from radiation in the slow-rate LETBI facility or in the high-rate METBI facility, patients preferred the METBI facility because of the shorter time necessary for the treatment.

Q20: When did ORAU stop treating children in METBI, and why?

A20: The last child was treated in the METBI facility in 1968. The METBI facility was used to treat patients until 1974. After 1968, the combination of various chemotherapeutic

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agents in conjunction with cranial and/or spinal radiation proved to be an effective form of treatment for leukemia in children. There was never a formal decision that no further children would be treated in METBI as seems to be implied by question 20.

Q21: On page 9 of Schedule 89 for project "Radiosensitivity in Man: A study of Therapeutic and Accidental Whole-Body Irradiation", Contract No. AT(40-1)-GEN-33 dated October 8th, 1969, the statement is made that "a mutually cooperative study has been arranged without additional cost to NASA for determining what levels of single, repeated or protracted irradiation exposures result in alteration of the bacteriologic flora of persons exposed. This study has received its main financial support from the Army but is also supported by the AEC budget." In this regard, please provide all documents between ORINS, AEC, and the Department of the Army (or any other government agency) concerning the above mentioned program, including but not limited to research protocols, progress reports, form 189's, records of site visits, information on patient selection, peer reviews, number of patients involved, their ages, and papers published or unpublished.

A21: The requested information that is in defendant's possession is attached hereto and is labeled Q21.

Q22: Please provide all communications, letters, and memorandum with personnel of project "Radiationsensitivity in Man" AT(40-1) GEN-33 with other researchers conducting prospective irradiation studies funded by AEC, NASA, DOD or other government agencies going on at or around this same time period on the AEC/NASA/ARMY study at ORINS; correspondence or other communications including but not limited to Walter Heller, Alvin Paulsen, Wright Langham, Eugene Saenger, E. L. Jacobs, B. I. Friedman, Dr. Chen, Miss Pepplinger, and Douglas Graham.

A22: The requested information that is in defendant's possession is attached hereto and is labeled Q22.

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Q23: Please provide all form 189's with appendices for contract AT-(40-1) GEN 33, as well as other documents related to this contract, such as contract proposals, the contract, progress reports, and peer reviews.

A23: The requested information that is in defendant's possession is attached hereto and is labeled Q23.

Q24: On page 2 of schedule 189, contract No. AT-(40-1) GEN 33, the statement is made, "A COMPLETE LIST OF PUBLICATIONS AND A LIST OF AVAILABLE COMPUTER PROGRAMS GENERATED BY THIS STUDY ARE LISTED IN 'SAN ANTONIA BRIEFING MATERIAL BOOKLET';", circulated March 23, 1972. Please provide all computer programs and tapes referred to in the above mentioned statement as well as a copy of the "San Antonio Briefing Material Booklet."

A24: Defendant does not possess the computer programs and tapes to which question 24 refers; nor does defendant have a copy of the "San Antonio Briefing Material Booklet."

Q25: Please provide the following reports:

(a) Andrews, G. A & Lushbaugh, C.C., "Preliminary Progress Report," July 1, 1964.

(b) Andrews and Lushbaugh, "AEC/NASA/ORINS Consultation at Division of Biology and Medicine, Germantown, Maryland", April 28, 1965.

(c) Andrews and Lushbaugh, "Supplemental Progress Report", June 1, 1965.

(d) Andress, G.A. and Pollard, W. "Conceptual Design, Report for Proposed Low-Dose Rate Exposure Facility at ORINS Medical Division Complex, Vance Road, Oak Ridge, Tennessee", project 66-1, July 12, 1965.

(e) Lushbaugh, C. C. & Billingham, J., "Workshop Conference about the Feasibility of Measey-Radiation Effects Upon Human Performance", July 22, 1965.

(f) Andrews, G. A. & Lushbaugh, C. C. "Summarization Progress Report", November 15, 1965.

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(g) Lushbaugh, C. C., Comas, F. Edward, C. L. and Andrews, G. A. "Clinical Evidence of Dose-rate Effects in Total Body Irradiation in Man", PROCEEDINGS OF A SYMPOSIUM ON DOSE RATE IN MAMMALIAN RADIATION BIOLOGY, April 29-May 1, 1968, Conf. 680410.

(h) Andrews, G.A., et al "Hemotologic Responses to Total-body Irradiation" presented at Gesellschaft Fur Nculearmedizin, Wiesbaden, Germany, September 28, 1968.

(i) Proceedings of a National Symposium on Natural and Man-Made Radiation in Space, NASA TM-X-2440.

A25: Defendant does not have copies of the reports requested in parts (d), (e), and (i) of question 25. The other requested reports are attached hereto and are labeled Q25.

Q26: Please provide the physicians order for December, 1968, for Talmon Dwayne Sexton, as there appear to be missing pages in the medical records provided thus far to Mary Sue Sexton.

A26: Physicians orders for Talmon Dwayne Sexton for December, 1968, are attached hereto and are labeled Q26. Defendant is unaware of any missing pages in these medical records.

Q27: Please explain what items were crossed out on the physicians orders for Talmon Dwayne Sexton for the page beginning "3 dec. 1 B Total Body irradiation today 250 Rads". We wish to know what the orders said, who crossed them out, and why they were crossed out.

A27: The items crossed out in the physician's orders for the page beginning "3 Dec." say:

4 Insert naso-gastric feeding tube (gently) before going to TBI METBI--inject 20 ml of sterile saline without preservative--aspirate back 2 ml from stomach; send to Bacteriology for culture--leave n.g. tube in

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during irradiation and repeat culture technique one hour after irradiation--repeat bacteriology survey at that time.

5 Compazine 2.5 mgm IM 1/2 hour before irradiation

Dr. Edwards crossed out the orders. The orders were crossed out because Dr. Edwards decided to give the Compazine by suppository rather than by injection and to spare the patient the discomfort from the nasogastric tube.

This ___ day of _____, 1983.

OAK RIDGE ASSOCIATED
UNIVERSITIES

By: _____

Sworn to and subscribed before me this __ day of _____, 1983.

_____
Notary Public

My Commission Expires _____

1018903

IN THE CIRCUIT COURT FOR ANDERSON COUNTY, TENNESSEE

MARY SUE SEXTON and TALMON SEXTON, Parents and next friends of TALMON DWAYNE SEXTON, Deceased,	:	
Plaintiffs	:	
VS	:	No. L-2728
OAK RIDGE ASSOCIATED UNIVERSITIES,	:	
Defendants	:	

REQUESTS FOR ADMISSION

Pursuant to the requirements and provisions of Rule 36 of the Tennessee Rules of Civil Procedure, plaintiffs are hereby requested to admit, for purposes of the pending action only, the truth of the following matters and statements:

(1) That your son, Dwayne Sexton, first became a patient at Oak Ridge Associated Universities Clinic on July 27, 1965.

(2) That at the time of his first admission to the Oak Ridge Associated Universities Clinic, Dwayne Sexton was three years of age.

(3) That you admitted your son, Dwayne Sexton, to Oak Ridge Associated Universities Clinic or Hospital for examination and treatment upon the recommendation of your family physician.

(4) That the doctors at Oak Ridge Associated Universitie Clinic diagnosed Dwayne Sexton's condition as acute lymphoblastic leukemia.

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for use in the care of your son were unproven by medical experience and that the consequences of those treatments were unpredictable.

(12) In advising and informing you about the standard and experimental treatment available for use in the care of your son, and the risk incident to such treatment, the defendant followed the practices and standards then generally recognized by reasonable medical practitioners in the medical profession under the same or similar circumstances.

(13) In August, 1965, you chose to have your son, Dwayne Sexton, treated by an experimental treatment program known as immunotherapy.

(14) Following the use of immunotherapy your son was also treated by chemotherapy, the standard treatment for acute lymphoblastic leukemia.

(15) Both the immunotherapy and chemotherapy programs of treatment failed to cure Dwayne Sexton.

(16) In December, 1968, you chose to have Dwayne Sexton treated by an experimental treatment method or program known as total body irradiation or irradiation therapy, after having been advised and informed about the nature and purpose of that experimental treatment, the possible alternative methods of treatment, the risk involved with irradiation therapy, and the possibilities of complications resulting from it.

(17) You were informed and advised that irradiation therapy was unproven by medical experience and that the consequences of treatment by irradiation therapy were unpredictable.

(18) In treating and caring for Dwayne Sexton Oak Ridge Associated Universities followed the practices and standards generally recognized by reasonable medical practitioners during the period of July 27, 1965 to December 29, 1968 for the treatment of acute lymphoblastic leukemia in children.

(5) That Dwayne Sexton died on December 29, 1968, as a result of acute lymphoblastic leukemia.

(6) That at the time of Dwayne Sexton's initial admission to Oak Ridge Associated Universities Clinic on July 27, 1965, and during the following three years until his death on December 29, 1968, there was no cure known to medical science for acute lymphoblastic leukemia in children.

(7) At the time of Dwayne's initial admission to Oak Ridge Associated Universities Clinic you were informed that your son could be treated in that clinic with the standard treatments customarily and generally employed by the medical profession for the treatment of acute lymphoblastic leukemia in children.

(8) The standard treatments generally and customarily used by the medical profession between July 27, 1965 and December 29, 1968 for the treatment of acute lymphoblastic leukemia in children would not cure the patient of that condition and there was no assurance that these treatments would prolong the patient's life.

(9) When Dwayne Sexton was first admitted to Oak Ridge Associated Universities you were also informed that experimental treatment methods were available for use in the treatment of your son if you chose to use those treatments rather than the standard procedures then available.

(10) The doctors at Oak Ridge Associated Universities explained to you the nature and purpose of the experimental treatment, the possible alternative methods of treatment available, the risk involved in the experimental treatment, and the possibilities of complications resulting from the experimental treatment.

(11) You were informed by the doctors at Oak Ridge Associated Universities that the experimental treatments availabl

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(19) Dwayne Sexton was not given radiation treatments by Oak Ridge Associated Universities for the purpose of collecting data for AEC, NASA or any other person, entity or agency.

(20) The radiation treatments administered to Dwayne Sexton by Oak Ridge Associated Universities were given to him solely for the purpose of trying to improve and cure his condition of acute lymphoblastic leukemia.

(21) During the course of its use of irradiation therapy Oak Ridge Associated Universities did not provide data to AEC, NASA, or any other person, entity or agency about the effects of radiation on children.

(22) The information or data collected by Oak Ridge Associated Universities during the course of treatment of persons having acute lymphoblastic Leukemia or other malignancies was made available to hospitals, Universities, research facilities and the scientific community generally.

(23) You do not presently have possession of any information, facts or evidence about the treatment, or alleged improper treatment, of your son Dwayne Sexton by Oak Ridge Associated Universities that was not known by you, or discoverable by you in the exercise of due diligence, more than one year prior to March 15, 1982.

(24) The treatment administered to your son Dwayne Sexton by Oak Ridge Associated Universities was furnished to you free of cost or charge.

This the 30th day of December, 1982.

OAK RIDGE ASSOCIATED UNIVERSITIES

By Wheeler A. Rosenbaum

Wheeler A. Rosenbaum, Attorney
P. O. Box 39
Knoxville, Tennessee 37901

CERTIFICATE OF SERVICE

I certify that an exact copy of the foregoing document has been served upon counsel for all parties to the litigation to which it pertains, either by hand delivery of a copy thereof to the offices of said counsel, or by mailing a copy to said counsel in a properly addressed and stamped envelope regularly deposited in the United States Mail.

This 31 day of Dec., 1982.

For FRANTZ, McCONNELL & SEYMOUR

1018907

IN THE CIRCUIT COURT FOR ANDERSON COUNTY, TENNESSEE

MARY SUE SEXTON and TALMON SEXTON, Parents and next friends of TALMAN DWAYNE SEXTON, Deceased,	) *) *) *	
Plaintiffs	) *	
VS.	) *	NO. L-2728
OAK RIDGE ASSOCIATED UNIVERSITIES,	) *) *	
Defendants	*	

ANSWER TO REQUEST FOR ADMISSION

Plaintiffs, answer the Request for Admission hereto served upon him on January 3rd, 1983, as follows:

1. They admit the truth of the statements contained in paragraph one (1) of the Request.

2. They admit the truth of the statements contained in paragraph two (2) of the Request.

3. They admit the truth of the statements contained in paragraph three (3) of the Request.

4. As to the statement of facts appearing in paragraph four (4) of the Request, Plaintiffs have made reasonable inquiry and the information known or readily obtainable to them is insufficient to enable them to either admit or deny statement of facts.

5. They admit that Dwayne Sexton died on December 29th, 1968, but as to the remaining statement of facts appearing in paragraph five (5) of the Request, Plaintiffs have made reasonable inquiry and the information known or readily obtainable to them is insufficient to enable

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them to either admit or deny statement of facts.

6. They deny the truth of the statements contained in paragraph six (6) of the Request.

7. They deny the truth of the statements contained in paragraph seven (7) of the Request.

8. They deny the truth of the statements contained in paragraph eight (8) of the Request.

9. They admit the truth of the statements contained in paragraph nine (9) of the Request.

10. They deny the truth of the statements contained in paragraph ten (10) of the Request.

11. They deny the truth of the statements contained in paragraph eleven (11) of the Request.

12. They deny the truth of the statements contained in paragraph twelve (12) of the Request.

13. They admit the truth of the statements contained in paragraph thirteen (13) of the Request.

14. As to the statement of facts appearing in paragraph fourteen (14) of the Request, Plaintiffs have made reasonable inquiry and the information known or readily obtainable to them is insufficient to enable them to either admit or deny statement of facts.

15. They admit the truth of the statements contained in paragraph fifteen (15) of the Request.

16. They deny the truth of the statements contained in paragraph sixteen (16) of the Request.

17. They deny the truth of the statements contained in paragraph seventeen (17) of the Request.

18. They deny the truth of the statements contained in paragraph eighteen (18) of the Request.

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19. They deny the truth of the statements contained in paragraph nineteen (19) of the Request.

20. They deny the truth of the statements contained in paragraph twenty (20) of the Request.

21. They deny the truth of the statements contained in paragraph twenty-one (21) of the Request.

22. As to the statement of facts appearing in paragraph twenty-two (22) of the Request, Plaintiffs have made reasonable inquiry and the information known or readily obtainable to them is insufficient to enable them to either admit or deny statement of facts.

23. They deny the truth of the statements contained in paragraph twenty-three (23) of the Request.

24. They admit the truth of the statements contained in paragraph twenty-four (24) of the Request.

THIS _____ day of _____, 1983.

MARY SUE SEXTON

TALMON SEXTON

W. HOLT SMITH
Attorney for Plaintiffs
301 Highway 68 West
Sweetwater, Tn. 37874
Phone: (615) 337-3576

KATHLEEN M. TUCKER
Attorney for Plaintiffs
236 Massachussetts Ave., N. E. # 506
Washington, D. C. 20002
Phone: (202) 543-1070

1018910

IN THE CIRCUIT COURT FOR ANDERSON COUNTY, TENNESSEE

MARY SUE SEXTON and TALMON SEXTON, parents and next friends of TALMON DWAYNE SEXTON, Deceased,	:	
Plaintiffs	:	No. L-2728
VS.	:	
OAK RIDGE ASSOCIATED UNIVERSITIES	:	
Defendant	:	

RESPONSE TO DEFENDANT'S MOTION FOR SUMMARY JUDGMENT

Plaintiffs, by Gary Davis and Kathleen M. Tucker, their Attorneys, and in answer to Defendants' Motion for Summary Judgment, respectively state:

(1) That there is a genuine dispute between the Parties as to whether the Plaintiffs' cause of action is barred by the one year statute of limitations contained in T.C.A. Section 28-3-104 and T.C.A. Section 29-26-116.

(2) That there is a genuine dispute between the Parties as to whether the Plaintiffs' cause of action is barred by the three year statute of limitations for malpractice actions contained in T.C.A. Section 29-26-116(3).

(3) That there is a genuine dispute between the Parties as to fraudulent concealment of the cause of action by Defendant which tolled the statute of limitations.

(4) That Defendant's acts of ommission and fraudulent statements to Plaintiffs tolled the statute of limitations.

(5) That Plaintiff's first began learning of their cause of action in the summer of 1981, so that this action was filed within one year after discovery that the cause of action exists as required by Section 28-3-104 and T.C.A. Section 29-26-116.

(6) That in support of this answer Plaintiffs file herewith the Affidavit of MARY SUE and TALMON SEXTON, Plaintiffs, dated June 8, 1983.

WHEREFORE, Plaintiffs pray that this Court deny Defendant's Motion for Summary Judgment.

Dated June 10, 1983

Gary Davis
Davis and Nickle
602 S. Gay St., Suite 507
Knoxville, TN 37902

Kathleen M. Tucker
236 Massachusetts Ave., NE #506
Washington, DC 20002

CERTIFICATE OF SERVICE

I certify that an exact copy of the foregoing document has been served upon Counsel for all parties to this litigation to which it pertains, either by hand delivery of a copy thereof to the offices of said Counsel, or by mailing a copy to said Counsel in a properly addressed and stamped envelope regularly deposited in the United States Mail.

This 10th day of June, 1983.

For GARY DAVIS, DAVIS and NICKLE

1018912

IN THE CIRCUIT COURT FOR ANDERSON COUNTY, TENNESSEE

MARY SUE SEXTON and TALMON SEXTON, Parents and next friends of TALMON DWAYNE SEXTON, Deceased,	:	
Plaintiffs	:	No. L-2728
VS.	:	
OAK RIDGE ASSOCIATED UNIVERSITIES	:	
Defendant	:	

RESPONSE TO DEFENDANT'S MOTION FOR SUMMARY JUDGMENT
MEMORANDUM OF POINTS AND AUTHORITIES

It is well established in Tennessee that fraud will toll the statute of limitations. Whaley v. Catlett, 103 Tenn. 347, 53 S.W. 131 (1899); Bodney v. Austin, 156 Tenn. 366, 2 S.W.2d 104 (1928); Hudson v. Shoulders, 164 Tenn. 70, 45 S.W. 2d 1072 (1932); Albert v. Sherman, 167 Tenn. 133, 67 S.W.2d 140 (1934); Hall v. De Saussure, 41 Tenn. App. 572, 297 S.W.2d 81 cert.denied; De Saussure v. Hall, 201 Tenn. 164, 297 S.W.2d 90 (1956); Louisville and Nashville Railroad Company v. Disspain, 275 F.2d 25 (C.A.Tenn. 1960); Redwood v. Raskind, 49 Tenn. App. 69, 350 S.W.2d 414 cert. denied (1961); Ray v. Scheibert, 224 Tenn. 99, 450 S.W.2d 578 (1969), appeal after remand 484 S.W.2d 63 (Tenn.App. 1972); Cooper v. Cordova Sand & Gravel Co., Inc., 485 S.W.2d 261 (Tenn. App. 1971); Jackson v. Travelers Insurance Co. of Hartford, Conn., 403 F.Supp. 986, (M.D.Tenn. 1975) modified and aff'd; Edwards v. Travelers Insurance of Hartford, Connecticut, 563 F.2d 105 (6th Cir. 1977); Long v. State Farm Fire & Casualty Co., 510 S.W.2d 517 (W.D.Tenn. 1974). Further, T.C.A. Section 29-26-116(3) clearly states that "...where there is fraudulent concealment on the part of the Defendant...the action shall be commenced within one year after discovery that the cause of action exists."

In Ray v. Scheibert, a malpractice action against a physician by a former patient, the Plaintiff argued that "...because the Defendant who owed the Plaintiff the duty of a full disclosure fraudulently concealed the cause of action from him the statute of limitations did not begin to

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run until the cause of action was discovered by the Plaintiff..." (Supra at 579). The Court ruled in favor of the Plaintiff, stating, "The allegations charged the Defendant with fraudulent concealment of the Plaintiff's cause of action, which, if proved, will toll the statute." (Supra at 581). The instant complaint also charges the Defendant with fraudulent concealment of Plaintiff's cause of action, and this action was filed within one year after discovery that the cause of action exists.

This case involves medical treatment of TALMON DWAYNE SEXTON (hereinafter DWAYNE), Plaintiff's infant son, now deceased, by the OAK RIDGE INSTITUTE OF NUCLEAR STUDIES MEDICAL DIVISION, later known as OAK RIDGE ASSOCIATED UNIVERSITIES MEDICAL CLINIC (hereinafter ORAU medical clinic). DWAYNE entered ORAU medical clinic in July of 1964 1965 where he was diagnosed as suffering from acute lymphatic leukemia.. Malpractice is alleged regarding the immunotherapy experiment to which DWAYNE was submitted shortly after his arrival in 1965 and in the total body irradiation to which he was subjected shortly before his death in December of 1968. The parents allege that fraudulent statements were made to them to induce their consent to these treatments, and that agents of Defendant withheld other information, which they were under a duty to reveal, in order to induce their consent to these treatments. Either the fraudulent representations of agents of Defendant or the concealment of facts which there was a duty to transmit are sufficient to toll the statute of limitations in this action.

While the Tennessee Supreme Court in Patten stated that "mere silence does not constitute fraudulent concealment," it clarifies this assertion by pointing out that "...in addition to a failure to disclose known facts,...there must be a legal or equitable duty resting on the party knowing such facts to disclose them." (Patten v. Standard Oil Co. of Louisiana, 165 Tenn. 438, 55 S.W.2d 759 (1933). The Court states further, "Hence, in order that suppression of the truth may constitute fraud, there must be a suppression of facts which one party is under a legal or equitable obligation to communicate to the other, and which the other party is entitled to have communicated to him." (Patten v. Standard Oil Co. of Louisiana, supra at 761).

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The Court found no duty to disclose in Patten, an action involving an airplane accident which killed plaintiff's husband. Defendant's delivery of allegedly faulty fuel to the airplane on which plaintiff's husband traveled, and the defendant's instructions to employees to keep information about the faulty fuel secret, formed the basis of this case. The Court found no relationship between the parties requiring such a disclosure. But the Court stated in Patten at 761:

> ...the facts concealed must be such as, in fair dealing, the one party has a right to expect to be disclosed, and such as the other party is bound to disclose. If, then, there is a legal obligation to speak, a failure to speak amounts to a suppression of the fact which should have been disclosed; and such failure is a fraud...

In Hall v. De Saussure (supra at 85), the Court held that failure to speak where there is a duty to speak is the equivalent of some positive act or artifice planned to prevent inquiry or escape investigation." In Hall v. De Saussure a widow sued a physician for performing an unauthorized operation upon her husband after the physician had agreed to perform a different operation. The Court found that the relationship of physician and patient required full disclosure of relevant facts, stating at 86:

> The rule of law applicable to the relationship between physician and patient is stated in American Jurisprudence, as follows:
>
> "The physician naturally is in a position of trust and confidence as regards the patient, and his opportunities to influence the patient are unusual. Hence all transactions between physician and patient are closely scrutinized by the courts, which must be assured of the fairness of those dealings." 41 Am.Jur.--Physicians and Surgeons, Sec. 74, p.196.

In Redwood v. Raskind (supra at 417), the Court stated that "...where a confidential relationship exists as between physician and patient, proof of failure to speak, where there was a duty to speak, produces the same result as a false representation."

In the instant case we also have the relationship of physician and patient, as the physicians treating DWAYNE were agents of Defendant ORAU medical clinic. Plaintiffs have alleged that treating physicians withheld information vital to obtaining their informed consent for experimental treatments, and it is clear that in this case the physicians had a duty to disclose just as in Hall v. De Saussure.

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Other jurisdictions support this rule. In Hardin v. Farris, 87 N.M. 143, 530 P.2d 407 at 410 (1974) the Court stated, "However, in a confidential relationship where there exists a duty to speak, such as in a doctor-patient relationship, mere silence constitutes fraudulent concealment." See also Guy v. Schuldt, 236 Ind. 101, 138 N.E.2d 891 (1956); Wolfe v. Virusky, 306 F.Supp. 519 (S.D. Ga. 1969).

Actions can be found fraudulent without documentary evidence of the intent to deceive. In Jones v. Seal, 56 Tenn. App. 593, 409 S.W.2d 382 cert. denied (1966), the Court decided that a combination of all circumstances together may furnish proof of fraud at 385:

> It is not essential that direct evidence of fraud be adduced; circumstantial evidence may be sufficient to establish it, and fraud may be proved by evidence wholly circumstantial, or by a combination of direct and circumstantial evidence, and, where in the face of inferences so strong as to make out a prima facie case of fraud defendant remains silent, plaintiff should recover. Where fraud is to be shown by circumstantial evidence, such evidence should be considered in its entirety without giving undue importance to isolated facts...

The Tennessee Court of Appeals in Hall v. De Saussure (supra at 88) cited with approval a statement by the Supreme Court of the United States:

> On the other hand, if the fraud be secret in its nature, and such that its existence cannot be readily ascertained, or if there be fiduciary relations between the parties, there need be no evidence of a fraudulent concealment other than that implied from the transaction itself. (Citations Ommitted)

Defendant has alleged that this action is barred by the statute of limitations in T.C.A. Section 28-3-104 and T.C.A. Section 29-26-116, but Plaintiffs have alleged fraudulent concealment which tolled the statute of limitations. This case was filed within one year of first learning of the fraudulent concealment and the facts underlying this lawsuit. The existence of fraudulent concealment is clearly a question of fact which should be decided by the jury.

In Long v. State Farm & Casualty Co. (supra at 519) the Court stated, "The issue of fraud, by its nature, is one which requires for determination the actual hearing and viewing of witnesses whose

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credibility is of paramount concern for the trier of facts. (Citation ommitted)." The Court noted that "...in the usual case where the action is based on a complex scheme of fraud summary judgment is inappropriate." (Supra at 519, emphasis added.)

For the foregoing reasons, the Defendant's Motion for Summary Judgment should be denied.

RESPECTFULLY submitted this 10th day of June, 1983.

Kathleen M. Tucker
236 Massachusetts Ave., NE #506
Washington, D.C. 20002

Gary Davis
Davis and Nickle
602 S. Gay St., Suite 507
Knoxville, TN 37902

1018917

IN THE CIRCUIT COURT FOR ANDERSON COUNTY, TENNESSEE

MARY SUE SEXTON and TALMON SEXTON, Parents and next friends of TALMON DWAYNE SEXTON, Deceased,	:	
Plaintiffs	:	
VS.	:	No. L-2728
OAK RIDGE ASSOCIATED UNIVERSITIES,	:	AFFIDAVIT
Defendant	:	

AFFIDAVIT OF MARY SUE SEXTON
AND TALMON SEXTON

MARY SUE SEXTON and TALMON SEXTON, being of full age and being duly sworn according to law, upon their oath depose and say of their own personal knowledge:

1. That they are the Plaintiffs in the above-entitled action, and they make this Affidavit in opposition to the Motion for Summary Judgment of OAK RIDGE ASSOCIATED UNIVERSITIES.

2. That this is an action to recover damages for improper treatment of TALMON DWAYNE SEXTON, deceased, by agents of Defendant OAK RIDGE ASSOCIATED UNIVERSITIES.(formerly Oak Ridge Institute of Nuclear Studies).

3. That TALMON DWAYNE SEXTON (hereinafter referred to as DWAYNE) was our son.

4. That DWAYNE became ill during the summer of 1965, at the age of three years, and we consulted our family physician for a check-up July 15, 1965.

5. That our family physician, Dr. Leeds, referred us to the OAK RIDGE ASSOCIATED UNIVERSITIES Clinic because he was not certain about the cause of DWAYNE's anemia and OAK RIDGE ASSOCIATED UNIVERSITIES had specialists who might be able to determine DWAYNE's problem.

6. That DWAYNE entered OAK RIDGE ASSOCIATED UNIVERSITIES Clinic on July 27, 1965, where he was diagnosed as suffering from acute lymphatic leukemia.

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7. That neither of us is trained in medicine, so we relied upon the information provided to us by the specialists at OAK RIDGE ASSOCIATED UNIVERSITIES Clinic.

8. That in July, 1965, agents of OAK RIDGE ASSOCIATED UNIVERSITIES Clinic told us that they wanted to use an experimental treatment on DWAYNE that might help him a great deal or even possibly cure him.

9. That we were assured by doctors at OAK RIDGE ASSOCIATED UNIVERSITIES Clinic that the proposed treatment was promising and DWAYNE'S best hope.

10. That the procedure to be used was described to us in general terms.

11. That the doctors at OAK RIDGE ASSOCIATED UNIVERSITIES Clinic intentionally withheld information crucial to making an informed consent to such an experimental treatment, and that we only began to learn about this information in the summer of 1981.

12. That since the summer of 1981 we have learned the following information which was knowingly and intentionally withheld from us by doctors at OAK RIDGE ASSOCIATED UNIVERSITIES clinic:

a. That no other human subject had been treated with this experimental regimen. (See Exhibit 1)).

b. That animal studies had not been performed which would assure the safety or the likelihood of success with such a treatment for humans suffering from acute lymphatic leukemia. (See Exhibit: 2, Hearing, at p. 248)

c. That the Committee of Consultants which reviewed the Medical Division Program of OAK RIDGE ASSOCIATED UNIVERSITES on March 3-4, 1966, called this experiment on humans "premature." (See Exhibit 2, p. 248)

d. That dangers of this treatment included the withholding of conventional chemotherapy. (See Exhibit 3)

e. That known potential hazards to the donor, including the possible transmission of leukemia, were not sufficiently explained, nor were other risks to the patient. (See Exhibit 3)

13. That due to false statements made by physicians at OAK RIDGE ASSOCIATED UNIVERSITIES Clinic and due to their failure to provide us with relevant information regarding the proposed treatment, we allowed the experimental treatment, but our consent was fraudulently obtained.

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14. That conventional chemotherapy was withheld from DWAYNE after the experimental infusion of lymphocytes from the donor, MARY SUE SEXTON.

15. That DWAYNE was later treated with chemotherapy when the experiment failed to work, and treatments continued from 1965 to 1968.

16. That DWAYNE was again hospitalized at OAK RIDGE ASSOCIATED UNIVERSITIES Clinic November 24, 1968.

17. That we were told DWAYNE had built up an immunity to the drugs he had been using, so our treatment choices were: (1) radiation, (2) blood transfusions alone, or (3) some type of new experimental drugs.

18. That we were told that the odds were in favor of radiation, and that if we put DWAYNE on drugs we might be losing time.

19. That the doctors falsely represented the probability of radiation helping DWAYNE, and that the doctors intentionally withheld information crucial to making an informed consent to such a treatment.

20. That we thought that the doctors would know what was best for DWAYNE, so we left the decision to them and they chose radiation.

21. That we did not provide our informed consent to the total body radiation treatment because we were not given all of the information needed to make such a decision and because the doctors made false statements about the liklihood of this treatment's success.

22. That DWAYNE was given 353 r of total body irradiation on December 3, 1968, in the Medium Exposure Total Body Irradiator and that he was then transferred to a second facility, the Low Exposure Total Body Irradiator where he was hooked to special equipment to monitor his physiological responses to the total body irradiation.

23. That since the summer of 1981 we have learned the following information which was knowingly and intentionally withheld from us by doctors at OAK RIDGE ASSOCIATED UNIVERSITIES clinic:

a. That the LD_{50} (lethal dose for 50% of those so exposed) for total body irradiation had been estimated to be 281± 44 rads by C.C. Lushbaugh and Frank Comas of the Medical Division of Oak Ridge Institute of Nuclear Studies. (See Exhibit 4)

b. That therefore the prescribed dose for DWAYNE of 300 r gave him approximately a 50% chance of dying from the radiation.

c. That OAK RIDGE ASSOCIATED UNIVERSITIES was engaged in research for the federal government to determine the effects of various doses of radiation on human beings, and that subjects were needed for this experimental program. (See Exhibit 5)

d. That reviewers of the OAK RIDGE ASSOCIATED UNIVERSITIES program had notified them in 1966 that "Abundant data accumulated during the past 10 years on total body irradiation of leukemics and the ensuing complications resulting therefrom have been uniformly discouraging." (See Exhibit 2)

e. That other patients similarly treated at OAK RIDGE ASSOCIATED UNIVERSITIES with total body irradiation of similar magnitude did not have greatly increased chances of survival, but in fact died within a short time period. (See Exhibit 6)

f. That since radiation damages the immune system, increasing the chance of death from infection, the detrimental sanitary conditions at OAK RIDGE ASSOCIATED UNIVERSITIES could have increased DWAYNE's chances of infection.

24. That DWAYNE died on December 29, 1968.

25. That we first learned of the facts underlying this cause of action within one year of filing this suit.

June 8 83 Mary Sue Sexton
Date Mary Sue Sexton

June 8, 83 Talmon Sexton
Date Talmon Sexton

Sworn and subscribed to before me this 8 day of June, 1983.

Bobby Clinton
Notary Public
Comm Expires 3, 28, 87

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LIST OF EXHIBITS

EXHIBIT 1	Answer to plaintiff's interrogatory number 15.
EXHIBIT 2	Oversight: Human Total Body Irradiation (TBI) Program at Oak Ridge: Hearing before the Subcomm. on Investigations and Oversight of the House Comm. on Science and Technology, 97th Cong., 1st Sess. (1981). (Hereinafter Hearing)
EXHIBIT 3	Edwards, Congdon, Gengozian, Vodopick, & Andrews, Immunotherapy of Cancer and Immunocompetent Cells, Experimental Hematology (9) 23 (1966).
EXHIBIT 4	Lushbaugh, Comas, Edwards, & Andrews, Clinical Evidence of Dose-Rate Effects in Total-Body Irradiation in Man, Proceedings of a Symposium on Dose Rate in Mammalian Radiation Biology, UT-AEC Cong-680410, 17.1 (Apr. 29-May 1, 1968).
EXHIBIT 5	Hearing at 344 to 354, Memorandum to John R. Totter dated Sept. 22, 1967 and Schedule 189.
EXHIBIT 6	Hearing at 327 and 328, Charts indicating treatment with whole body irradiation and time periods each survived after treatment.

1962 - 3 patients

1963 - 2 patients

1964 - 2 patients

1965 - 1 patient

Q14: (d) Of the patients treated with total irradiation, how many were children under the age of 18 years?

A14: Of the patients treated with total body irradiation six were under the age of 18 years:

1961 - 1 patient

1962 - 2 patients

1963 - 1 patient

1964 - 2 patients

In the answers to questions 13 and 14 the years listed denote the year of the first treatment of a patient.

Q15: Were the doctors at ORAU aware of immunotherapy treatment like that given to Talmon Dwayne Sexton being given to other human subjects before July, 1965, in the United States, or elsewhere? If so, please describe the person(s) so treated, for what condition, where, when and with what results. Please indicate any ways in which the treatment given to Talmon Dwayne Sexton differed from that given to other human experimental immunotherapy subjects and the reasons for the changes in treatment procedures.

A15: The specific protocol used to treat Talmon Dwayne Sexton had not previously been used, but analogous protocols had been used prior to July, 1965, in treating human subjects.

Q16: For charts appearing on pages 327 to 329, in the Hearing before the Subcommittee on Investigations and Oversight of the Committee on Science and Technology, U.S. House of Representatives, 97th Congress, 1st. Session, titled Human Total Body Irradiation (TBI) Program at Oak Ridge, held September 23, 1981, (hereinafter referred to as September 23rd hearing) through what age are patients classified as children?

1018923

IN THE 28th JUDICIAL CIRCUIT FOR ANDERSON COUNTY, TENNESSEE
(LAW DIVISION)

MARY SUE SEXTON, ET AL,	:	
Plaintiffs	:	
	:	
VS		No. L-2728
	:	
OAK RIDGE ASSOCIATES UNIVERSITIES,	:	
	:	
Defendant	:	

ORDER SUSTAINING DEFENDANT'S
MOTION FOR SUMMARY JUDGMENT

This cause came on to be heard on the 13th day of June, 1983, before the Honorable Allen Kidwell, Judge, upon defendant's motion for a summary judgment; and after having duly considered said motion, together with the plaintiffs' answers to interrogatories submitted by defendant, the pre-trial deposition of plaintiff Mary Sue Sexton and the exhibits thereto, the affidavit of Mary Sue Sexton and Talmon Sexton, the argument of counsel for the respective parties, and the entire record in the cause, the Court is of the opinion that the defendant's Motion for Summary Judgment should be, and it hereby is, sustained for the reasons set forth in said motion.

IT IS THEREFORE ORDERED, ADJUDGED AND DECREED that the defendant's Motion for Summary Judgment be, and it hereby is, sustained, and plaintiffs' action against defendant is dismissed with the costs of the cause taxed to the plaintiffs and their prosecution sureties.

1018924

ENTER this the 19 day of July, 1983.

s/ Allen Hidnell
JUDGE

APPROVED:

DAVIS & NICKLE

By _____
Attorneys for Plaintiffs

FRANTZ, McCONNELL & SEYMOUR

By Wheeler A. Rosenbalm
Wheeler A. Rosenbalm,
Attorney for Defendant

1018925

IN THE 28th JUDICIAL CIRCUIT FOR ANDERSON COUNTY, TENNESSEE
(LAW DIVISION)

MARY SUE SEXTON, ET AL,	:	
Plaintiffs	:	
VS.	:	No. L-2728
OAK RIDGE ASSOCIATED UNIVERSITIES,	:	
	:	
Defendant	:	

MOTION TO RECONSIDER RULING AND TO VACATE ORDER

Comes now the plaintiffs, MARY SUE SEXTON and TALMON SEXTON, Parents and next friends of TALMON DWAYNE SEXTON, Deceased, pursuant to Rule 59.03 of the Tennessee Rules of Civil Procedure, move the court to reconsider and vacate the order sustaining defendant's motion for summary judgment entered July 20, 1983. In support of this motion affidavits of Dr. Karl Z. Morgan and Dr. Aroop Manglik are hereby filed for consideration.

There is a genuine issue of fact concerning plaintiff's claim that defendant concealed plaintiffs' cause of action and that this action is barred by the applicable statute of limitations.

Therefore, and for all of which, plaintiffs respectfully move the court to vacate the order sustaining defendant's motion for summary judgment entered July 20, 1983, and attached hereto.

Kathleen M. Tucker
Attorney at Law
236 Massachusetts Ave. N.E., #506
Washington, DC 20002

Gary Davis
Davis & Nickle
602 S. Gay St. #507
Knoxville, TN 37902

CERTIFICATE OF SERVICE

I certify that an exact copy of the foregoing documents have been served upon counsel for all parties to the action to which it pertains, either by hand delivery of a copy thereof to the offices of said counsel, or by mailing a copy to said counsel in a properly addressed and stamped envelope regularly deposited in the United States Mail.

This 17 day of August, 1983.

For Davis & Nickle

1018926

IN THE CIRCUIT COURT FOR ANDERSON COUNTY, TENNESSEE

MARY SUE SEXTON, ET AL,

Plaintiffs

VS

OAK RIDGE ASSOCIATED UNIVERSITIES,

Defendant

No. L-2728

AFFIDAVIT

AFFIDAVIT OF DR. AROOP MANGALIK

Dr. Aroop Mangalik, being of full age and being duly sworn according to law, upon his oath deposes and says of his own personal knowledge:

1. That he is making this affidavit in opposition to the Motion for Summary Judgment by OAK RIDGE ASSOCIATED UNIVERSITIES in the above entitled action.
2. That I am a Doctor of Medicine. I obtained my initial training in medicine at the King George's Medical College in Lucknow India and the All India Institute of Medical Sciences, New Delhi, India. Subsequently, I obtained my specialized training in Hematology at the University of Utah in Salt Lake City, Utah between July, 1964 and June, 1966, under Dr. Maxwell M. Wintrobe, a world-renowned authority in the field of diseases of the blood. My further experience has been on the teaching faculty and hospitals of the All India Institute of Medical Sciences, New Delhi, India; University of Colorado, Denver, Colorado; and the University of New Mexico, Albuquerque, New Mexico.
3. That I have reviewed some of the records pertaining to the above mentioned case.
4. That it is my expert opinion that in July of 1965 chemotherapy for acute

lymphoblastic leukemia was sufficiently developed to consider the first option for any patient suffering from this order. It was clear at that time that chemotherapy was most beneficial when it was given to induce a remission and subsequently followed up with maintenance therapy. At that time, the treatment of relapsed (recurrent disease) was not very effective.

5. That experimental therapy would be an acceptable option in those patients who had had a relapse following chemotherapy, but not as initial treatment.
6. That early diagnosis and early institution of therapy have significant influence of the outcome of therapy.
7. That the records show:
   a. the diagnosis of acute lymphoblastic leukemia was first made on 7/28/65 and the conventional treatment with Methotrexate and Prednisone was not begun until 8/6/65.
   b. That the initial treatment was given only for a period of 17 days.
   c. That conventional treatment generally lasted for 6 weeks.
   d. That no maintenance therapy was given.
   e. That maintenance therapy is considered to be essential for prolongation of remission and survival.
   f. That relapse was first suspected on 12/9/65.
   g. That relapse was proven to have occurred on 12/17/65.
   h. That treatment for this relapse was not started until 12/28/65.
8. That the maintenance therapy was withheld probably to complete the research study.
9. That the delay in starting treatment and withholding maintenance treatment could have contributed to the poor outcome of this patient.

August. 8. 1983
(Date)

Mangalik
Aroop Mangalik, M.D.

1018928

Sworn and subscribed to before me this 8th day of August, 1983.

Georgia E. Hufnagel
Notary Public

1018929

IN THE 28th JUDICIAL CIRCUIT FOR ANDERSON COUNTY, TENNESSEE
(LAW DIVISION)

MARY SUE SEXTON, ET AL,	:
Plaintiffs	:
	:
VS	:
	:
OAK RIDGE ASSOCIATED UNIVERSITIES	:
	:
Defendant	:
	:

AFFIDAVIT OF DR. KARL Z. MORGAN

Dr. Karl Z. Morgan, being of full age and being duly sworn according to law, upon his oath deposes and says of his own personal knowledge:

1. That he is an expert in health physics, and that he makes this Affidavit in opposition to the Motion for Summary Judgment of OAK RIDGE ASSOCIATED UNIVERSITIES.

2. That he received his B.A. from the University of North Carolina in 1929, his M.A. in physics from the University of North Carolina in 1930, and his Ph.D. in Physics from Duke University in 1934.

3. That he was employed at the following places for the following time periods:

Lenoir Rhyne College, Chairman, Physics Department	1934-1943
University of Chicago, Metallurgical Laboratory	1943
Oak Ridge National Laboratory, Director, Health Physics Division	1943-1972
Georgia Institute of Technology, Neely Professor	1972-1982

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4. That he has authored or co-authored over 300 papers and publications, including those listed on his biographical Sketch, which is attached as Exhibit A.

5. That he served as the first president of the Health Physics Society in 1956.

6. That he served on the International Commission on Radiological Protection and was Chairman for 20 years of the committee publishing present and past Recommendations on Maximum Permissible Internal Dose of Radioisotopes.

7. That he served on the National Council on Radiation Protection, and was Chairman for 20 years of the committee publishing present and past Recommendations on Maximum Permissible Dose for Internal Radiation.

8. That he served as the first president of the International Radiation Protection Association in 1968.

9. That he was awarded the first gold medals for meritorious work in the field of radiation protection by the Royal Academy of Science of Sweden in 1962 jointly with Walter Binks (England).

10. That he is a fellow of the American Physical Society and American Nuclear Society and an associate fellow of the American College of Radiology.

11. That while at Oak Ridge he trained physicians in the use of radioisotopes.

12. That he has reviewed documents regarding the treatmer of TALMON DWAYNE SEXTON at OAK RIDGE ASSOCIATED UNIVERSITIES.

13. That the LD_{50} dose is the dose which will be lethal for approximately 50% of those persons so exposed.

14. That in 1968 researchers at OAK RIDGE ASSOCIATED UNIVERSITIES, C.C. Lushbaugh, F. Comas, C. Lowell Edwards, and G.A. Andrews presented a paper entitled "Clinical Evidence of Dose-rate Effects in Total Body Irradiation in Man" at the PROCEEDINGS OF A SYMPOSIUM ON DOSE RATE IN MAMMALIAN RADIATION

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BIOLOGY which was subsequently printed and which he read, and in which the researchers stated that man's $LD_{50/60}$ is 300 rads or less.

15. That if a dose of 353 r total body irradiation is given to a patient, that dose would be considered greater than the $LD_{50/60}$ estimated by the OAK RIDGE ASSOCIATED UNIVERSITIES researchers.

16. That if the estimates of the OAK RIDGE ASSOCIATED UNIVERSITY researchers were correct, there was a substantial risk that treatment of 353 r total body irradiation could prove lethal to the patient.

July 15, 1983 Karl Z. Morgan

Date DR. KARL Z. MORGAN

SWORN AND SUBSCRIBED TO before me this 15th day of July, 1983.

Katherine M. Naylor

Notary Public

Notary Public, Georgia, State At Large
My Commission Expires April 12, 1986

1018932

IN THE 28th JUDICIAL CIRCUIT FOR ANDERSON COUNTY, TENNESSEE
(LAW DIVISION)

MARY SUE SEXTON, ET AL,	:	
Plaintiffs	:	
VS.	:	NO. L-2728
OAK RIDGE ASSOCIATED UNIVERSITIES,	:	
	:	
Defendant	:	

MOTION TO COMPEL ANSWERS TO INTERROGATORIES TO DEFENDANT

Now comes MARY SUE SEXTON AND TALMON SEXTON, Parents and next friends of TALMON DWAYNE SEXTON, Deceased, plaintiffs in the above-entitled cause, and say:

1. On the 17th day of March, 1983, plaintiffs, more than 10 days after the commencement of the above-entitled action served on the defendant in this cause certain interrogatories in writing pursuant to Rule 33 of the Tennessee Rules of Civil Procedure, a copy of which is attached hereto and made a part hereof.

2. Unsigned answers to the interrogatories were proffered to plaintiffs by counsel for defendant, Wheeler A. Rosenbalm, on May 18th, 1983, but executed copies of the answers to the interrogatories have not been filed as promised in the letter accompanying the answers, a copy of which is attached hereto and made a part hereof.

3. No answers to the interrogatories have been filed with the court and more than thirty days have elapsed since they were served and there has been no enlargement of time to answer nor have any objections to the interrogatories been served.

Wherefore, plaintiffs move for an order requiring defendant to answer the interrogatories within five days from the date of the service of this order, and providing that if he fails to serve sworn answers within that time his answer to the complaint shall be stricken.

Dated August 17, 1983

Kathleen M. Tucker
Attorney for Plaintiffs
Kathleen M. Tucker

1018933

Attorney for Plaintiffs
Gary Davis
Davis & Nickle
602 S. Gay St. #507
Knoxville, TN 37902

CERTIFICATE OF SERVICE

I certify that an exact copy of the foregoing document has been served upon counsel for all parties to the action to which it pertains, either by hand delivery of a copy thereof to the offices of said counsel, or by mailing a copy to said counsel in a properly addressed and stamped envelope regularly deposited in the United States Mail.

This 17 day of August, 1983.

For Davis & Nickle

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Georgia Institute of Technology

BIOGRAPHICAL SKETCH
(1976)

MORGAN, KARL Z. - Neely Professor

Education

A.B., University of North Carolina	1929
M.A., Physics, University of North Carolina	1930
Ph.D., Physics, Duke University	1934

Employment History

Lenoir Rhyne College, Chairman, Physics Department	1934-1943
University of Chicago, Metallurgical Laboratory	1943
Oak Ridge National Laboratory	
Director, Health Physics Division	1943-1972
Georgia Institute of Technology, Neely Professor	1972-1982
Consulting at Appalachian State Univ. Professor	1982-Present

Experience Summary: During the period as Chairman of the Physics Department at Lenoir Rhyne College research in cooperation with Duke University in the field of cosmic ray showers, meson lifetime, etc., was carried out. While at the University of Chicago, Morgan was one of a group of six persons who developed and established the new science and profession of health physics. At Oak Ridge National Laboratory he was Director, Health Physics Division, from its inception. He directed over 200 persons engaged in research, engineering, and 100 in applied activities. As a professor at Georgia Tech Dr. Morgan taught courses in health physics and directed the research of eleven Ph.D. students.

Experience Summary as a Teacher: Continuously throughout his professional life Dr. Morgan has been a teacher. While completing his graduate studies and conducting cosmic ray research at Duke University (1931-34) he taught courses in physics, and from 1934 to 1943 he was a professor and chairman of the physics department of Lenoir Rhyne College. During the early war years, prior to 1943, he taught night courses in theory of flight, navigation, and instrumentation to Navy students. In 1943, when the Chicago health physics group moved to Oak Ridge, Tennessee, he was in charge of the duPont health physics training group, many of whom (e.g., L. J. Cherubin, L. L. German, J. W. Healy, G. M. Patterson, W. McAdams, etc.) became leaders in health physics. While director of the Health Physics Division at Oak Ridge National Laboratory, he conducted the first formal training of health physics. There were close to 100 students in those early classes (1946-49) and among these were many who later became leaders in this profession; for example, Albert M. Holland, Van C. Tipton, Ralph H. Bennington, H. W. Spalcher, P. E. Klevin, T. E. Shea, O. R. Placak, C. L. Dowell, C. P. Straub, F. W. Chambers, etc.

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Experience Summary as a Teacher (continued)

In 1949, he organized the Health Physics Fellowship programs at Vanderbilt University and the University of Rochester. Later, these programs were extended to 15 other universities and these programs led to the education and training of a large fraction of the leaders presently in the health physics profession. From 1950 to 1972 Morgan commuted from Oak Ridge to Vanderbilt University and University of Tennessee where he taught courses in health physics to the Fellowship students.

Dr. Morgan has had many other special teaching activities, such as Short Courses at Georgia Tech, a teaching assignment at the University of Sao Paulo, Brazil, program director of four International Summer School on Radiation Protection in Yugoslavia, etc.

It was an act of fate that brought Dr. Morgan to the University of Chicago early in 1943 to join H. M. Parker, E. O. Wollan, C. C. Gamertsfelder, R. R. Coveyou, G. G. Landsverk, and L. A. Pardue as the original group of health physicists. On one of his cosmic ray expeditions to A. H. Compton's laboratory on Mount Evans near Denver, Colorado, he learned to know Professor J. C. Stearns, chairman of the physics Department at the University of Denver. Dr. Morgan wanted to move west and Stearns wished to come east, so they planned to change teaching positions in 1943. These plans were interrupted by the war, but his association with Stearns and Compton and 12 years experience in cosmic ray research resulted in his being asked by Stearns to join the Metallurgical Project at the University of Chicago, under the direction of Compton, in 1943 to begin what has now been over 38 years of active work in health physics research, education and administration.

Experience Summary as a Researcher

From 1931 to 1943 Dr. Morgan conducted research on cosmic radiation. This included studies of cosmic showers and meson measurements on Beach Mountain in North Carolina and Mt. Evans in Colorado and in Linville Caverns near Marion North Carolina. From 1943 to 1972 he performed research on instrument development and internal dose of radionuclides. From 1972 to 1982 he has conducted research on dosimetry of alpha and neutron (fast, thermal and epithermal) irradiation, electrochemical etching of polycarbonate and CR-39 foils, plutonium distribution in bone (human and animal) and cataractogenesis of X, gamma and neutron radiation.

Current Fields of Interest

Health Physics, radiation protection, diagnostic x-ray exposure, internal dose from radionuclides, environmental exposure, radiation protection standards, nonionizing radiation, safe operation of the nuclear energy industry, and effects of human exposure to low levels of ionizing radiation.

Professional Activities, Memberships

Member:
Health Physics Society, First President in 1956
International Commission on Radiological Protection, Chairman for 20 years of committee publishing values of maximum permissible body burden of

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Professional Activities, Membership (continued)

radionuclides and maximum permissible concentration MPC in air, water and food. These serve as basis of radiation standards in all countries.
National Council on Radiation Protection, Chairman for 20 years of committee publishing values which are essentially the same MPC limits now used by NRC.
American Association for the Advancement of Science
American Industrial Hygiene Association
Radiation Research Society
American Physical Society
International Radiation Protection Association, First President, 1968 -
Fachverband fur Strahlenschutz
Sigma Pi Sigma

Honors:

Associate Fellow: American College of Radiology
Fellow: American Physical Society and American Nuclear Society
First President Health Physics Society in 1956 and International Radiation Protection Association, 1968
Awarded the first gold medals for meritorious work in the field of radiation protection by the Royal Academy of Science of Sweden in 1962 jointly with Walter Binks (England)
Distinguished Alumni Award and Honorary Doctor of Science Degree from Lenoir Rhyne College, 1964 and 1967, respectively
Honorary membership in Sigma Pi Sigma, the physics honor society, from Berea College, 1957
First Distinguished Service Award of the Western Chapter of the Health Physics Society, 1968
Distinguished Achievement Award, Health Physics Society, 1973
Honorary member of Fachverband fur Strahlenschutz, 1973
Editor-in-Chief, Journal HEALTH PHYSICS, 1958-1977

Reports and Publications

Over 350 papers and publications have been written since 1930. The early ones dealt with cosmic radiation, and the later ones with health physics. Listed below are 100 of the 200 written in the period 1968-1981:

1. "Common Sources of Human Exposure to Ionizing Radiation in the United States," American Engineer, July 1968.
2. "Ionizing Radiation: Benefits Versus Risks," Annual Meeting of the Health Physics Society, June 16-20, 1968, Denver, Colorado; and published in Health Physics, Vol. 17, No. 4.
3. "Redirecting Health Physics Studies to Areas of Greatest Interest," First European Congress of the International Radiaton Protection Association, Menton, France, October 9-11, 1968; Published in Proceedings, 1968.
4. "Development of Health Physics as a Profession," Proceedings of First International Congress of Radiaton Protection, Rome, Italy, Vol. 1, 3, Pergamon Press, 1968.

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Papers, Reports and Publications (continued)

5. "The Need for Standardization Procedures in the Application of Ionizing Radiation to Medical and Dental Patients," Seminar sponsored by the National Center for Radiological Health, Rockville, Maryland, November 15, 1968, Seminar Paper 003.
6. "The Proper Working Level of Radon and Its Daughter Products in the Uranium Mines of the United States," Hearing on Radiation Standards for Mines, Washington, D.C., November 20, 1968; Congressional Record, 1968.
7. "Supplemental Statement on the Proper Working Level of Radon and Its Daughter Products in the Uranium Mines of the USA," Supplement to Testimony presented on November 20, 1968, Washington, D.C.; Congressional Record, 1968.
8. "Assumptions Made by the Internal Dose Committee of the International Commission on Radiological Protection," Sixth Annual Meeting of the Gesellschaft fur Nuclearmedizin, Wiesbaden, Germany, September 26-28, 1968; published in Proceedings, 1969.
9. "Present status of Recommendation of the International Commission on Radiological Protection, National Council on Radiation Protection and Federal Radiation Council," contained in book entitled Progress in Nuclear Energy, Series XII, Vol. 2, Pergamon Press, 1969.
10. "Risks from Diagnostic X-Rays," Yale Scientific, Vol. XLII, No. 5, February 1969; Reprinted from Yale Scientific in the Journal of the American Radiography Technologists, Vol. XIV, No. 4, Winter 1969.
11. "Future Opportunities in Health Physics," Health Physics Society Midyear Topical Symposium, Los Angeles, California, January 29-31, 1969.
12. "Education, Training and Certification Requirements of the X-Ray Technologist," Amer. Soc. of Radiological Technologists, July 2, 1969.
13. "Radiation Standards for Reactor Siting," Testimony presented before the Joint Committee on Atomic Energy at its Hearings on Environmental Effects of Producing Electrical Power, Phase 2, January 1970; Congressional Record.
14. "Energy Pollution of the Environment," Midyear Symposium of the Health Physics Society, Louisville, Kentucky, January 28, 1970; Proceedings published in USPHS-NRH Series, BRH/DEP-70-26, Oct., 1970.
15. "A Time of Challenge to the Health Physicist," Presidential Address presented before the Second International Congress on Radiation Protection, May 8, 1970, Brighton, England; Health Physics, Vol. 20, May, 1971, pp. 491-493.
16. "My Opinion--You Can Drastically Cut X-Ray Exposure Below Today's Levels," Consultant, March/April, 1970.
17. "History of the Health Physics Society," published as part of the RSNA Symposium on the Critical History of American Radiology (Nov. 1970)
18. "Standard Man-Standard Patient," Medical Radioisotopes: Radiation Dose and Effects, AEC Series 20, p. 87, June 1970.
19. "History of the International Radiation Protection Association," published in Proceedings of the RSNA Symposium on the Critical History American Radiology, November 1970.

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Major Reports and Publications (continued)

20. "Adequacy of Present Standards of Radiation Exposure," Environmental Affairs, 1, No. 1, April, 1971
21. "Criteria for the Control of Radioactive Effluents," IAEA Symposium on Environmental Aspects of Nuclear Power Stations, UN Building, New York, August 1970, Proceedings published, this paper is IAEA-SM-146/10; synopsis published also in Environmental Studies, 1971.
22. "Maximum Permissible Levels of Exposure to Ionizing Radiation," International Summer School on Radiation Protection, Boris Kidric Institute of Nuclear Sciences, Cavtat, Yugoslavia, September 20-30, 1970; Proceedings published in 1971 under title of "Radiation Dosimetry."
23. "President's Report on the General Assembly of IRPA," Brighton, England, May 1970, Health Physics, Vol. 20, No. 5, 1971.
24. "History of Radiation Protection," Symposium Commemorating the 75th Anniversary of the Discovery of X-Rays, Milwaukee, November 13-14, 1970; Materials Evaluation, Vol. XXIX, No. 3, March 1971.
25. "Why the 1968 Act for Radiation Control for Health and Safety Is Required," Radiology, Vol. 99, No. 3, pp. 569-588, June 1971.
26. "Excessive Medical Diagnostic Exposure," Third Annual National Conf. on Radiation Control, Scottsdale, Arizona, May 3, 1971; published in Proceedings.
27. "Health Physics and the Environment," International Symposium on Rapid Methods for Measurement of Radioactivity in the Environment, Neuherberg, Federal Republic of Germany, IAEA-STI/PUB/289, Vienna, 1971.
28. "Adequacy of Present Radiation Standards," presented at the Environmental and Ecological Forum, Silver Spring, Maryland, January 20, 1971; Proceedings of Forum published in 1972, USAEC-TIC-25857.
29. "Never Do Harm," Enviornment, 13, No. 1, January/February, 1971.
30. "Proper Use of Information on Organ and Body Burdens of Radioactive Material," presented at the IAEA/WHO Symposium on the Assessment of Radioactive Organ and Body Burdens, Stockholm, Sweden, November 22-26, 1971, IAEA/SM/150-50; Proceedings of Symposium published by IAEA.
31. "Health Physics Measures to Implement New USAEC Regulations Relating to Radiation Exposure of the General Public," Budapest, May 1971; Proceedings published by Akadamiai Kiado, Budapest, Hungary.
32. "The Need to Reduce Medical Exposure in the United States," outline of testimony presented before the Health and Welfare Subcommittee of the Senate Committee on Labor and Public Welfare on Senate Bill S.3327, May 15, 1972, Washington, D.C.; published in Congressional Record, 1972.
33. "Comparison of Radiation Exposure of the Population from Medical Diagnosis and the Nuclear Energy Industry," Transactions ANS, 15:1, 64 (June 1972).
34. "Environmental Impact of Natural and Man-Made Ionizing and Non-Ionizing Radiations," Second International Summer School on Radiation Protection, Herceg Novi, Yugoslavia, Aug. 1973; Proceedings, 1973.
35. "The Need for Radiation Protection," Radiologic Technology, 44, 6, p. 385 (1973).
36. "Exposure in the United States," and "Mogliche Folgen einer Ubermassigen Medizinischen Strahlenbelastung in der Vereinigten Staaten von Amerika," Rontgen-Blatter, 27, 127 (March 1974).

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Major Reports and Publications (continued)

37. "Reducing Medical Exposure to Ionizing Radiation," American Industrial Hygiene Journal. 36, No. 5, 359 (May 1975).
38. Two chapters in book, Environmental Problems in Medicine titled "Exposure to Non-Ionizing Radiation" and "Ionizing Radiation Exposure," W. D. McKee, Editor; Chas. C. Thomas Publisher, 1974.
39. "Types of Environmental Health Physics Data That Should be Collected and Evaluated in a Nuclear Power Program," p. 276-298, Chapter 16 in Environmental Impact Statements for Nuclear Power Plants, Eds., R. A. Karam and K. Z. Morgan, 1975, Pergamon Press
40. "The Bases for Standards and Regulations," p. 313-336, Chapter 17 in Environmental Impact Statements for Nuclear Power Plants, Eds., R. A. Karam and K. Z. Morgan, 1975, Pergamon Press,
41. "Release of Radioactive Materials from Reactors," p. 101-155, Chapter 5, and "Ways of Reducing Radiation Exposure in a Future Nuclear Power Economy," p. 155-169, Chapter 6, Nuclear Power Safety, Ed., J. H. Rust, and L. E. Weaver, 1976, Pergamon Press
42. "Transportation of Radioactive Material by Passenger Aircraft," Report to Joint Committee of Congress on Atomic Energy, Report No. I - Sept. 17, 1974, U.S. Government Printing Office.
43. "Health Physics - Past, Present, and Future,' presented at First Asian Regional Congress of the International Radiation Protection Assn. in Bombay, India, Dec. 1974; published in Proceedings.
44. "Suggested Reduction of Permissible Exposure to Plutonium and Other Transuranium Elements," J. Am. Ind. Hygiene 36, (8), 567 (Aug. 1975).
45. "Effects of Radiation on Man - Now and in the Future," p. 251-262, Chapter 13, in Energy and the Environment -- Cost-Benefit Analysis; Pergamon Press, Eds., R. A. Karam and K. Z. Morgan, 1976
46. "Programs Needed for Education and Training of Health Physicists," Proc. Am. Phys. Soc. Meeting, December 1974.
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