

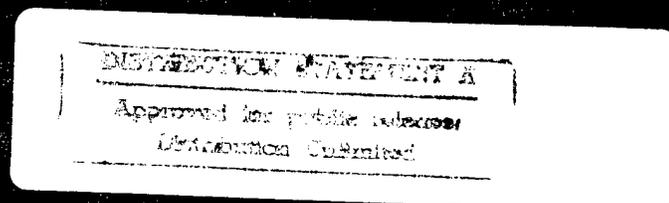


Department of Defense

Report on Search  
for  
Human Radiation Experiment  
Records

1944 — 1994

Volume 2



Assistant to the Secretary of Defense for  
Nuclear and Chemical and Biological Defense Programs

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Defense Programs

June 1997

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# I NTRODUCTION

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The *Report on Search for Human Radiation Experiment Records* documents the Department of Defense involvement in ionizing radiation research with human subjects that occurred between 1944 to 1994. Volume 1 provided the most complete information available at the time it was prepared. Little information was available for some projects that occurred between 1944 and 1974. *Volume 2* provides the information that has been found for many of these projects. The Department of Defense is committed to openness in government and will continue to make relevant information available to the public.

**1944 – 1974 HUMAN RADIATION EXPERIMENTS, PROJECTS, STUDIES AS REPORTED BY THE SERVICES AND DoD ORGANIZATIONS**

**AIR FORCE 1944-1974**

**Keesler AFB Medical Center, MS**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1974	81MG008	<b>Cisternography using ytterbium (Yb-169) DTPA (pentetate trisodium calcium Yb-169)</b>

**Abstract:** From 1974 until 1975 researchers from the USAF Medical Center at Keesler Air Force Base, MS, with partial sponsorship from the 3M Company, St. Paul, MN, studied the use of ytterbium-169 DTPA in cisternography, a radiographic technique for studying the basal cistern of the brain. Six patients participated in these studies and each received between 0.5 and 1.5 mCi of ytterbium-169 by intraspinal (lumbar) injection. The principal investigator left Keesler Medical Center and continued the research at the Armed Forces Radiobiology Research Institute in Bethesda, MD. Results of this study are unavailable at this time.

**Documents:** Title: 81MG008: Cisternography using ytterbium (Yb-169) DTPA (Pentetate Trisodium Calcium Yb 169). Document Type: Event Profile. Document Date: 1996

**School of Aerospace Medicine, Aerospace Medicine Division (AFSC), Internal Medicine Branch, Brooks AFB, TX**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1967	AF0046	<b>Simultaneous determination of Fe-59, Cr-51, and I-125, using a gamma spectrometer</b>

**Abstract:** This study did not involve human exposure to ionizing radiation.

**School of Aerospace Medicine, Dental Consult Services, Brooks AFB, TX**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1971	AF0077	<b>Patient absorbed radiation: A comparative study of standard full mouth series opposed to panoramic radiography</b>

**Abstract:** From 1971 to 1973, researchers at the School of Aerospace Medicine Dental Consult Service at Brooks AFB, San Antonio, TX conducted a study to determine the amount of radiation absorbed by patients undergoing radiographic dental exams. The investigators examined the level of primary gamma radiation and scatter radiation to highly susceptible portions of body during dental radiographs. The objective of this study was to compare the amount of radiation a patient absorbed from a standard intraoral survey of fourteen films and two bitewings with that received from a panoramic exposure and two bitewings. Four men and four women took part in the study. The only exposure to radiation was in the form of x-rays. The results showed that patients

**AIR FORCE 1944-1974 (CONTINUED)**

**School of Aerospace Medicine, Dental Consult Services, Brooks AFB, TX (continued)**

received eighty-two percent less radiation with the panoramic survey than with the standard intraoral survey. This study was combined with AF0078.

Documents: From: Albert C. Jerman, Major, US Air Force, Dental Corps, Experimental Dentistry Branch To: SMDE, SMD, SMGS. Subject: Protocol of experiment involving human volunteers (measurement of x-radiation to the body from dental x-ray machines). Document Type: Memorandum; Protocol. Document Date: 18 March 1968

Authors: Charles R. Morris; Earl L. Kinsley; Vincent A. Segreto, Dental Corps. Title: Protocol of experiment involving human volunteers (patient absorbed radiation: A comparative study of standard full mouth series opposed to panoramic radiography). Document Type: Protocol; Appendix/Attachment. Document Date: 1968 est.

From: Robert E. Tatsch, Recorder, Isotopes & Radiation Sources Committee To: CLD (Colonel Morris). Subject: Approval of proposal (to study patient radiation dose from full mouth radiographs). Document Type: Memorandum. Document Date: 11 December 1970

From: Charles R. Morris, Colonel, US Air Force, Dental Corps, Chief, Clinical Dentistry Function, Clinical Dentistry Branch To: CLD, CL, US Air Force School of Aerospace Medicine, to Advisory Committee on Human Experimentation. Subject: A comparative study of standard full mouth series opposed to panoramic radiography with use of human volunteers (forwarding protocol for committee review). Document Type: Memorandum. Document Date: 06 January 1971

Authors: Albert C. Jerman; Earl L. Kinsley; Charles R. Morris. Title: Absorbed radiation from panoramic plus bitewing exposures vs full-mouth periapical plus bitewing exposures. Journal: *Journal of the American Dental Association*, vol. 86. Document Type: Journal Article; Excerpt. Document Date: February 1973

**University of Texas, Galveston, TX**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1956	AF0108	<b>Study of the incidence of sickle cell trait and other hemoglobinopathies and the determination of the effect of high altitudes on people with such abnormalities</b>

Abstract: From 1956 until 1958 researchers from the University of Texas, Galveston, TX studied the incidence of sickle cell trait. The purpose of the study was to examine the incidence of sickle cell trait and other hemoglobinopathies and to determine the effects of high altitudes on people with such abnormalities. Fifteen participants had 30cc of blood removed in which erythrocytes (red blood cells) were labeled with chromium-51 and reinjected. Results of this study are not available at this time.

Documents: From: Gerald J. Merritt, Colonel, US Air Force, BSC, Chief, Clinical Investigation & Life Science Division To: Radiation Experiments Command Center. Subject: Trip report to Federal Personnel Records Center, St. Louis [identification and photocopying of relevant records in response to request]. Document Type: Memorandum. Document Date: 10 June 1994

From: Gerald J. Merritt, Colonel, US Air Force, BSC, Chief, Clinical Investigations and Life Sciences Division To: Record. Subject: Human study involving chromium 51-tagged red blood cells. Document Type: Memorandum. Document Date: 19 July 1994

**AIR FORCE 1944-1974 (CONTINUED)**

**Wilford Hall Medical Center, Lackland AFB, TX**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1966	CIDD-1-66	<b>Serial investigation of a variety of congenital deformities of the brain case and facial skeleton and the response to treatment</b>

Abstract: From 1966 until 1975, researchers at Wilford Hall Medical Center, Lackland AFB, TX studied the abnormal patters of growth and development of the skull in infants and children with cleft lip and palate defects. The purpose of the study was to more accurately discern proper diagnosis and subsequent treatment of cleft lip and palate defects. The original proposal called for 100 patients and a comparison group of 100 "normals." To date, no information is available on the actual number of participants. Radiation exposure was limited to serial roentgenograms; however, the number of exposures or dosage is unknown. With the aid of serial cephalometric roentgenography, the researchers originally planned to study participants over three years. However, the researchers were able to, in some cases, continue their observations until patients reached adolescence. In addition, the population under investigation broadened to include children with Treachers Collin's Syndrome, Goldenhar Syndrome, and Midfacial Dysplasia. Results of this study are unavailable at this time.

Documents: Authors: Haskell Gruber. Title: Serial investigations of a variety of congenital deformities of the brain case and facial skeleton and the response to treatment. Document Type: Protocol. Document Date: 12 January 1966

Authors: Guy C. Nicholson; Thomas H. Crouch. Title: Wilford Hall Medical Center Hospital Regulation 160-35 - Medical service: Cleft palate team. Document Type: Directive/Order/Regulation. Document Date: 11 July 1966

From: Wilford Hospital Director To: Commander, Wilford Hall Medical Center. Subject: Research proposal: Serial investigations of a variety of congenital deformities of the brain case and facial skeleton and the response to treatment. Document Type: Memorandum; Proposal. Document Date: 24 August 1966

From: John Talbot, Brigadier General, US Air Force Medical Corps, Special Assistant to the Surgeon General To: Research Committee, Wilford Hall US Air Force Hospital. Subject: Proposal for clinical investigation AFR 169-6 entitled: Congenital deformities of the brain case & facial skeleton and response to treatment. Document Type: Memorandum. Document Date: 25 October 1966

Authors: Haskell Gruber; James S. Harvin; Dewayne Hull. Title: The role of the orthodontist on the cleft palate team in a military hospital. Journal: *Plastic and Reconstructive Surgery*, vol. 38, issue 6. Document Type: Journal Article. Document Date: December 1966

Title: Serial investigations of a variety of congenital deformities of the brain case and facial skeleton and the response to treatment. Document Type: Protocol. Document Date: 15 September 1967

Authors: Defense Documentation Center for Scientific and Technical Information. Title: Congenital deformities of the brain case and facial skeleton. Document Type: Report; Excerpt. Document Date: 15 September 1967

Title: Work unit narratives, 7756-10-003: Serial investigations of a variety of congenital deformities of the brain case and facial skeleton and the response to treatment. Document Type: Report; Excerpt. Document Date: 30 June 1970

Title: Work unit narratives (7756-10-003): To investigate dental problems which impede the effectiveness of active duty military personnel. Document Type: Report. Document Date: 1970 est.

**AIR FORCE 1944-1974 (CONTINUED)**

**Wilford Hall Medical Center, Lackland AFB, TX (continued)**

From: Haskell Gruber, Colonel, US Air Force, Dental Corps, Chief, Division of Orthodontics, Principal Investigator, SGDR To: SGS. Subject: Semi-annual report: Congenital deformities of the brain case and facial skeleton...includes information on Milwaukee brace and scoliosis. Document Type: Report; Memorandum. Document Date: 26 May 1971

From: SGDR To: SGS. Subject: Semi-annual progress report of investigations (into a variety of congenital deformities of the brain case and facial skeleton...includes information on Milwaukee brace and scoliosis). Document Type: Report; Memorandum. Document Date: 08 June 1972

From: Haskell Gruber, Colonel, US Air Force, Dental Corps, Chief, Division of Orthodontics, Principal Investigator; SGDR To: SGS. Subject: Semi-annual progress report of investigations (into congenital deformities of the brain case and facial skeleton...includes information on Milwaukee brace and scoliosis). Document Type: Report; Memorandum. Document Date: 19 December 1972

From: Haskell Gruber, Colonel, US Air Force, Dental Corps, Chief, Division of Orthodontics, Principal Investigator; SGDR To: SGS. Subject: Semi-annual progress report of investigations (into congenital deformities of the brain case and facial skeleton...includes information on Milwaukee brace). Document Type: Report; Memorandum. Document Date: 12 June 1973

From: SGDR To: SGS. Subject: Semi-annual progress report of investigations (into congenital deformities of the brain case and facial skeleton...includes information on Milwaukee brace and scoliosis). Document Type: Report; Memorandum. Document Date: 18 December 1973

From: SGDR To: SGS. Subject: Semi-annual progress report of investigations (into congenital deformities of the brain case and facial skeleton...includes information on the Milwaukee brace and scoliosis). Document Type: Report; Memorandum. Document Date: 25 June 1974

From: John J. McPhaul, Jr., Colonel, US Air Force Medical Corps, Director of Research To: Haskell Gruber, Colonel, US Air Force Dental Corps, Wiesbaden Air Force Hospital. Subject: Request final report on the following projects: D-1(66), D-2(69), D-3(71) and D-9(73). Document Type: Letter. Document Date: 29 October 1974

From: Paul W. Myers, Brigadier General, US Air Force, Medical Corps, Commander To: Haskell Gruber, Colonel, US Air Force, Dental Corps, US Air Force Hospital Wiesbaden. Subject: Request for final reports of projects during time as principal investigator. Document Type: Letter. Document Date: 06 February 1975

From: Donald I. Carter, Colonel, US Air Force, BSC, Assistant for Medical Research and Standardization, Director of Professional Services, Office of the Surgeon General To: Haskell Gruber, US Air Force, Dental Corps. Subject: Request for final reports of projects pursued at Wilford Hall. Document Type: Letter. Document Date: 16 April 1975

From: Haskell Gruber, Colonel, US Air Force, Dental Corps, Chairman, Department of Orthodontics To: John J. McPhaul, Jr., Colonel, US Air Force, Medical Corps, Director of Research, Aerospace Medical Laboratory. Subject: Enclosing copy of letter from Colonel Carter suggesting three of four ongoing projects be terminated. Document Type: Letter. Document Date: 09 May 1975

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1967	CIDE-1	Myocardial infarction rehabilitation program

Abstract: This study did not involve human exposure to radiation.

**AIR FORCE 1944-1974 (CONTINUED)**

**Wilford Hall Medical Center, Lackland AFB, TX (continued)**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1968	CIDC-3(68)	<b>Treatment of liver cancer by prolonged hepatic artery infusion with chemotherapy</b>

**Abstract:** From 1968 until 1972, researchers from Wilford Hall Medical Center, Lackland AFB, TX studied intra-arterial infusion of standard chemotherapeutic agents(5-Fluorouracil) in patients with primary cancer of the liver or gall bladder. Although researchers proposed that twenty-eight volunteers take part in the study, it is unclear how many individuals ultimately participated. Participants underwent chest x-rays and bone and liver scans. Although only a small number of patients were presented for this specialized type of treatment, researchers concluded that the involved technique was feasible and in some cases, remarkably successful.

**Documents:** From: Fred G. Conrad, Lieutenant Colonel, US Air Force, Medical Corps To: Wilford Hall Research Committee. Subject: Enclosing proposal entitled "Treatment of liver cancer by prolonged hepatic artery infusion with chemotherapy." Document Type: Memorandum. Document Date: 01 November 1968

From: Gerrit Hekhuis, Colonel, US Air Force, Medical Corps, Deputy Director of Professional Services To: Commander, Wilford Hall US Air Force Hospital, Hospital Research Committee. Subject: Clinical investigation proposal number 37-2: Effectiveness of various cancer chemotherapeutic agents, treatment of liver cancer by prolonged hepatic artery infusion with chemotherapy; approval granted. Document Type: Memorandum. Document Date: 25 November 1968

From: Robert Janvier, Major, US Air Force, Medical Surgical Corps To: Medical Director, Brooks Air Force Base. Subject: [Request for funds for several studies, including: Treatment of liver cancer...with chemotherapy]. Document Type: Memorandum. Document Date: 03 December 1968

From: Wilford Hall Hospital Surgeon General To: Wilford Hall Research Committee. Subject: Research proposal: Treatment of liver cancer by prolonged hepatic artery infusion with chemotherapy. Document Type: Memorandum. Document Date: 1968 est.

Subject: Research and technology work unit summary, treatment of liver cancer by prolonged hepatic artery infusion with chemotherapy. Document Type: Report. Document Date: 1968 est.

From: Fred G. Conrad, Lieutenant Colonel, US Air Force, Medical Corps, Director, Aerospace Medical Laboratory To: Medical Director, Brooks Air Force Base. Subject: Request for funds for study: Treatment of liver cancer...with chemotherapy. Document Type: Memorandum. Document Date: 22 October 1969

From: Office of the Chief of Staff, Department of the Air Force To: Commander, Wilford Hall Medical Center. Subject: Funding availability and procedure for request [to study: Treatment of liver cancer...with chemotherapy]. Document Type: Memorandum. Document Date: 1969 est.

Title: Treatment of liver cancer by prolonged hepatic artery infusion with chemotherapy, 01 January - 30 June 1970. Document Type: Report; Excerpt. Document Date: 30 June 1970

From: John J. McPhaul, Director of Research, Aerospace Medical Laboratories To: William T. Kemmerer, Colonel, US Air Force, Medical Corps. Subject: Progress report questionnaire regarding study: Treatment of liver cancer by prolonged hepatic artery infusion with chemotherapy. Document Type: Report; Memorandum. Document Date: 30 June 1971

From: William T. Kemmerer, Colonel, US Air Force, Medical Corps, Chief, General Surgery Service To: John J. McPhaul, Jr., Colonel, Aerospace Medical Laboratories. Subject: Progress report of study entitled: Treatment of liver cancer by prolonged hepatic artery infusion with chemotherapy. Document Type: Report; Memorandum. Document Date: 23 December 1971

**AIR FORCE 1944-1974 (CONTINUED)**

**Wilford Hall Medical Center, Lackland AFB, TX (continued)**

From: William T. Kemmerer, Colonel, US Air Force Medical Corps, Chief, General Surgery Service To: John J. McPhaul, Jr., Colonel, Director of Research, Aerospace Medical Laboratories. Subject: Recommendation that the hepatic artery infusion study be terminated since the technique was discovered to be standard practice in oncology service. Document Type: Memorandum. Document Date: 11 April 1972

From: William T. Kemmerer, Colonel, US Air Force Medical Corps, Project Monitor, Chief, General Surgery Service To: John J. McPhaul, Jr., Director of Research, Aerospace Medical Laboratories. Subject: Semi-annual progress report of investigation entitled: Treatment of liver cancer by prolonged hepatic artery infusion with chemotherapy (study to be terminated). Document Type: Report; Memorandum. Document Date: 25 May 1972

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1970	CIDC-5(70)	<b>Hormonal and epidemiological studies in women with carcinoma of the breast</b>

Abstract: From 1970 until 1978, researchers at Wilford Hall Medical Center, Lackland, AFB, TX studied urinary steroid patterns and estrogen receptors in women with breast cancer. Over a period of eight years, 405 women participated in the study, fifty with breast cancer, 150 with non-breast related operations, and 205 with benign breast biopsies. Standard medical treatment for breast cancer was not changed as part of this protocol. As a result, the fifty breast cancer patients may have received standard radiation therapy. All participants received a chest x-ray as part of the entry evaluation. A metastatic x-ray series was done on diagnosis of primary or recurrent cancer. The participants were followed for at least two years; however, no correlations between hormonal patterns, historical patterns and the predictable onset of breast cancer were found.

Documents: Title: Research proposal: Hormonal and epidemiological studies in women with carcinoma of the breast. Document Type: Proposal. Document Date: 12 January 1970

From: Fred G. Conrad, Lieutenant Colonel, US Air Force, Medical Corps, Chairman, Research Committee To: Wilford Hall Research and Wilford Hall General Hospital. Subject: Minutes of research committee meeting held on 03 March 1970 (includes approval of study on: Hormonal and epidemiological studies in women with carcinoma of the breast. Document Type: Memorandum; Minutes. Document Date: 03 March 1970

Subject: Services and materials required to conduct control study on primary breast cancer patients at Wilford Hall Air Force Hospital. Document Type: Contract. Document Date: 1970 est.

Title: Progress report for study: Hormonal and epidemiological studies in women with carcinoma of the breast. Document Type: Report. Document Date: 1970 est.

From: General Surgery Service To: William Kemmerer, Colonel, US Air Force, Medical Corps. Subject: Request for progress in the study entitled: Hormonal and epidemiological studies in women with carcinoma of the breast. Document Type: Report; Memorandum. Document Date: 30 June 1971

From: William T. Kemmerer, Colonel, US Air Force, Medical Corps, Project Monitor, Chief, General Surgical Services To: Surgeon General Wilford Hall Hospital and Surgeon General Services. Subject: Semi-annual progress reports of investigation: Hormonal and epidemiological studies in women with carcinoma of the breast. Document Type: Report; Memorandum. Document Date: 25 May 1972

From: Signed by contractor, Beverly Miller; and approved by contracting officer, Frank P. Brogan; Subject: Contract to conduct a control study on breast cancer patients. Document Type: Contract. Document Date: 12 June 1972

From: John H. McCulloch, Major, US Air Force, Medical Corps Staff, General Surgery Service To: Surgery General Services. Subject: Semi-annual progress reports of investigation, C-5(70): Hormonal and epidemiological studies in women with carcinoma of the breast. Document Type: Report; Memorandum. Document Date: 27 November 1972

**AIR FORCE 1944-1974 (CONTINUED)**

**Wilford Hall Medical Center, Lackland AFB, TX (continued)**

From: John H. McCulloch, Major, US Air Force, Medical Corps, Principal Investigator To: Wilford Hall Hospital Research Staff. Subject: Semi-annual research progress report for study of: Hormonal and epidemiological studies in women with carcinoma of the breast. Document Type: Report; Memorandum. Document Date: 22 May 1973

From: John H. McCulloch, Major, US Air Force, Medical Corps Staff, General Surgery Service, Principal Investigator To: Dr. Capps; Dr. Dawson and Dr. McPhaul of Wilford Hall Hospital Staff. Subject: Semi-annual progress report C-5(70): Hormonal and epidemiological studies in women with carcinoma of the breast. Document Type: Report; Memorandum. Document Date: 26 November 1973

From: John M. McCulloch, Major, US Air Force, Medical Corps, Principal Investigator, General Surgery Service To: John J. McPhaul, US Air Force, Medical Corps. Subject: Semi-annual progress report of investigation C-5(70): Hormonal and epidemiological studies in women with carcinoma of the breast. Document Type: Report; Memorandum. Document Date: 23 May 1974

From: R. C. Haff, Lieutenant Colonel, US Air Force, Medical Corps, Principal Investigator, General Surgery Service To: Surgeon General Hospital Services. Subject: Semi-annual progress report of investigation C-5(70): Hormonal and epidemiological studies in women with carcinoma of the breast. Document Type: Report; Memorandum. Document Date: 20 November 1974

From: Roderick C. Haff, Lieutenant Colonel, US Air Force, Medical Corps, Principal Investigator, General Surgery Service To: General Surgery Services, Wilford Hall Hospital. Subject: Semi-annual progress reports of investigations: Hormonal and epidemiological studies in women with carcinoma of the breast. Document Type: Report; Memorandum. Document Date: 02 June 1975

From: Roderick C. Haff, Lieutenant Colonel, US Air Force Medical Corps To: Surgery General Services. Subject: Semi-annual progress report of investigation: Hormonal & epidemiological studies in women with carcinoma of the breast. Document Type: Report; Memorandum. Document Date: 25 November 1975

From: Surgery General Services To: John J. McPhaul, Jr, Colonel, US Air Force, Medical Corps, Director of Research, Aerospace Medical Laboratory. Subject: Memorandum regarding procurement of biometrics support and funding sources to pay for it. Document Type: Memorandum. Document Date: 30 March 1976

From: Roderick C. Haff, Lieutenant Colonel, US Air Force, Medical Corps, Assistant Chief, General and Vascular Surgery To: John J. McPhaul, Jr, Colonel, US Air Force, Medical Corps, Director of Research, Aerospace Medical Laboratory. Subject: Semi-annual progress report of investigation C-5(70): Hormonal and epidemiological studies in women with carcinoma of the breast. Document Type: Report; Memorandum. Document Date: 24 May 1976

From: Principal Investigator, General Surgery General Services To: Van Riper, Lieutenant Colonel, US Air Force, Director of Research, Aerospace Medical Laboratory. Subject: Semi-annual research progress report: Hormonal and epidemiological studies in women with carcinoma of the breast. Document Type: Report; Memorandum. Document Date: 12 January 1977

From: Roderick C. Haff, Colonel, US Air Force Medical Corps, Assistant Chief, Surgery General Services To: Donald C. Van Riper, Lieutenant Colonel, US Air Force, Director of Research, Aerospace Medical Laboratory. Subject: Semi-annual progress report of investigation C-50(70): Hormonal and epidemiological studies in women with carcinoma of the breast. Document Type: Report; Memorandum. Document Date: 24 June 1977

From: Donald C. Van Riper, Lieutenant Colonel, US Air Force, Director of Research To: Clifford J. Buckley, Colonel, US Air Force Medical Corps. Subject: Memorandum requesting the name of the new principal investigator for the study: Hormonal and epidemiological studies in women with carcinoma of the breast. Document Type: Memorandum. Document Date: 17 January 1978

From: Clifford J. Buckley, Colonel, US Air Force Medical Corps, Chairman, Department of Surgery To: Donald C. Van Riper, Lieutenant Colonel, US Air Force, Director of Research, Aerospace Medical Laboratory. Subject: Termination of clinical investigation: Hormonal & epidemiological studies in women with carcinoma of the breast. Document Type: Memorandum. Document Date: 29 March 1978

**AIR FORCE 1944-1974 (CONTINUED)**

**Wilford Hall Medical Center, Lackland AFB, TX (continued)**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1970	CIDS-6	<b>Plasma protein denaturation during cardiopulmonary bypass and the influence of the reticuloendothelial system upon these changes</b>

Abstract: There was no human participation in this event.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1970	CIDI-8	<b>Safety of intravenous contrast material for patients with previous reactions</b>

Abstract: From 1970 to 1971 researchers at Wilford Hall Medical Center, Lackland AFB, TX, studied repeat use of intravenous contrast dye in patients with a previous allergic-type reaction to the dye. Fifty patients whose medical condition required a repeat contrast study participated. Patients were given the usual iodide contrast (Conray 400) and observed for reactions. Results showed that no positive skin tests were noted to iodide or the contrast agents. Most patients developed a 3-5 mm welt to the full strength material. This was similar in all patients and no systematic symptoms developed during skin testing. It was postulated that symptoms were due to direct histamine release by the contrast material, with no antibody involved. Researchers concluded that by using this type of protocol, repeat vascular contrast studies can be accomplished safely in most patients despite previous anaphylactic-type reactions.

Documents: From: WHHMA To: Max I. Michels; E.H. Underwood, Wilford Hall Researchers. Subject: Proposal for clinical investigation: Safety of intravenous contrast material for patients with previous reactions. Document Type: Memorandum; Proposal. Document Date: 27 July 1970

From: Charles A. Coltman, Jr., Lieutenant Colonel, US Air Force, Medical Corps, Department of Medicine To: Wilford Hall Medical Center. Subject: Department of Medicine Research Committee meeting (approval of the study: Safety of intravenous contrast material for patients with previous reactions). Document Type: Memorandum; Minutes. Document Date: 19 August 1970

From: John J. McPhaul, Jr., Lieutenant Colonel, US Air Force, Medical Corps, Acting Chairman, Research Committee To: Wilford Hall Researchers. Subject: Minutes of meeting held on 03 September 1970 (approval of the study entitled: Safety of intravenous contrast material for patients with previous reactions). Document Type: Memorandum; Minutes. Document Date: 03 September 1970

Authors: Max I. Michels. Title: Contrast studies after anaphylaxis. Document Type: Abstract. Document Date: 1970

From: SGS To: Max I. Michels, Colonel, US Air Force Medical Corps. Subject: Progress report for the study: Safety of intravenous contrast material for patients with previous reactions. Document Type: Report; Memorandum. Document Date: 31 June 1971

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1970	CIDI-12	<b>Purification and radioimmunoassay of blood clotting factor IX</b>

Abstract: There was no human participation in this event.

**AIR FORCE 1944-1974 (CONTINUED)**

**Wilford Hall Medical Center, Lackland AFB, TX (continued)**

Start Date      Number      Title

**1970              CIDI-15              Enzyme diagnosis of myocardial infarction (MI) after heart surgery**

Abstract:      This study did not involve human exposure to ionizing radiation.

Start Date      Number      Title

**1971              CIDD-3              Phase I - to investigate the bony changes in the skull incidental to the employment of a fixed maxillary expansion device attached to the posterior maxillary dentition & phase II to investigate the type of forces that can be applied to the maxilla...**

Abstract:      There was no human participation in this event.

Start Date      Number      Title

**1971              CIDC-7(71)              Retrospective clinical and pathologic analysis of over five hundred patients with thyroid carcinoma**

Abstract:      This was a retrospective study and did not involve human exposure to ionizing radiation.

Start Date      Number      Title

**1971              CIDI-36              Radioimmunoassay of human thyrotropin (TSH)**

Abstract:      There was no human participation in this event.

Start Date      Number      Title

**1972              CIDF-17-72              Use of 5-fluorocytosine in mycotic infections**

Abstract:      This study did not involve human exposure to ionizing radiation.

Start Date      Number      Title

**1972              CIDI-23              Evaluation of systemic immunocompetence in patients receiving local irradiation following radical mastectomy**

Abstract:      From 1972 to 1975, researchers at Wilford Hall Medical Center, Lackland AFB, TX, studied whether local irradiation resulted in general immunosuppression of patients with breast cancer. The protocol approximated thirty to forty female participants would take part in the study; however, the final results stated that twenty-six were impaneled. Measures of their immunocompetence (skin tests and blood counts) were performed prior to and following

**AIR FORCE 1944-1974 (CONTINUED)**

**Wilford Hall Medical Center, Lackland AFB, TX (continued)**

standard post mastectomy radiotherapy. Each patient was exposed to 5000 rads of Co-60 as part of her routine care. The researchers reported a trend of decreased immunocompetence.

Documents: To: Research Committee. Subject: Proposal for study entitled: Evaluation of systemic immunocompetency in patients receiving local irradiation following radical mastectomy. Document Type: Proposal. Document Date: 04 June 1971

From: A. B. Cosimi, Major, US Air Force, Medical Corps, General, Surgery Service, SGHSG To: SGS (Research Committee). Subject: Research Proposal entitled: "Evaluation of systemic immunocompetence in patients receiving local irradiation following radical mastectomy." Document Type: Memorandum; Proposal. Document Date: 04 June 1971

Subject: Research proposal regarding "evaluation of systemic immunologic competency in patients receiving local irradiation following radical mastectomy." Document Type: Memorandum; Proposal. Document Date: 04 June 1971

From: Edwin Bradley, Colonel, US Air Force, Medical Corps, Chairman To: SGS, SG. Subject: Minutes of Research Committee meeting (held on 15 June 1971). Document Type: Memorandum; Minutes. Document Date: 20 July 1971

From: John J. McPhaul, Colonel, US Air Force Medical Corps, Director of Research, Aerospace Medical Laboratory To: James F. Culver, Colonel, US Air Force, Office of the Surgeon General. Subject: Enclosing proposal entitled: Evaluation of systemic immunocompetence in patients receiving local irradiation following radical mastectomy. Document Type: Letter. Document Date: 15 September 1971

From: Carl E. Speicher, Lieutenant Colonel, US Air Force Medical Corps, Chief, Clinical Pathology Service To: John J. McPhaul, Jr., Lieutenant Colonel, US Air Force Medical Corps. Subject: Requesting clinical support for study: "Evaluation of systemic immunocompetence following radical mastectomy." Document Type: Memorandum. Document Date: 21 September 1971

From: Gerrit L. Hekhuis, Brigadier General, US Air Force Medical Corps, Director of Professional Services, Office of the Surgeon General To: Commander, Wilford Hall US Air Force Medical Center. Subject: Clinical investigation proposal #339: (Disapproval of) evaluation of systemic immunologic competency in patients receiving local irradiation following radical mastectomy. Document Type: Report; Memorandum. Document Date: 02 November 1971

From: John J. McPhaul, Jr., Colonel, US Air Force, Medical Corps, Director of Research, Aerospace Medical Laboratory To: Anthony B. Cosimi, Major, US Air Force, Medical Corps. Subject: Disapproval by Surgeon General's Office of study entitled: Evaluation of systemic immunocompetence in patients receiving local irradiation following radical mastectomy. Document Type: Memorandum. Document Date: 10 November 1971

From: A. B. Cosimi, Major, US Air Force, Medical Corps, SGHS To: John J. McPhaul, Jr., Colonel, US Air Force, Medical Corps, SGS. Subject: Clinical investigation proposal #339: [Reply to disapproval of: Evaluation of systemic immunocompetence in patients receiving local irradiation following radical mastectomy. Document Type: Memorandum. Document Date: 18 November 1971

From: William T. Kemmerer, Colonel, US Air Force Medical Corps, Chief, General Surgery Service, SGHSG To: John J. McPhaul, Colonel, US Air Force, Medical Corps, Director of Research, Aerospace Medical Laboratory, SGS. Subject: Clinical investigation proposal #339 (includes recommendations for protocol revisions). Document Type: Memorandum. Document Date: 18 November 1971

From: John J. McPhaul, Jr., Colonel, US Air Force Medical Corps, Director of Research, Aerospace Medical Laboratory (Clinical) SGS To: James F. Culver, Colonel, US Air Force Medical Corps, Office of the Surgeon General, SGPARG. Subject: Enclosing reply to questions raised by Surgeon General's research committee. Document Type: Letter. Document Date: 02 December 1971

Subject: Revised protocol for: Evaluation of systemic immunocompetence in patients receiving local irradiation following radical mastectomy. Document Type: Proposal; Excerpt. Document Date: 1971 est.

**AIR FORCE 1944-1974 (CONTINUED)**

**Wilford Hall Medical Center, Lackland AFB, TX (continued)**

From: Gerrit L. Hekhuis, Brigadier General, US Air Force Medical Corps, Director of Professional Services, Office of the Surgeon General To: Commander, Wilford Hall Medical Center. Subject: Clinical investigation proposal number 339: Notice of approval by Clinical Investigation Committee for resubmitted study entitled: Evaluation of systemic immunocompetence in patients receiving local irradiation following radical mastectomy. Document Type: Memorandum. Document Date: 04 January 1972

From: A. B. Cosimi, Major, US Air Force, Medical Corps, Investigator, General Surgery Service, SGHSG To: SGS. Subject: Semi-annual progress report of investigation: Evaluation of systemic immunocompetence in patients receiving local irradiation following radical mastectomy. Document Type: Report; Memorandum. Document Date: 20 June 1972

From: Frank H. Brunstetter, Lieutenant Colonel, US Air Force Medical Corps, Department of Medicine; SGS To: SGS. Subject: Semi-annual progress report of investigation (July - December 1972) I-23 (71): Evaluation of systemic immunocompetence in patients receiving local irradiation following radical mastectomy. Document Type: Report; Memorandum. Document Date: 03 January 1973

From: Frank H. Brunstetter, Lieutenant Colonel, US Air Force Medical Corps, Department of Medicine, SGS To: John J. McPhaul, Jr., Colonel, US Air Force Medical Corps, SGS. Subject: Addendum to semi-annual progress report of investigation: Evaluation of systemic immunocompetence in patients receiving local irradiation following radical mastectomy. Document Type: Memorandum. Document Date: 04 January 1973

From: Frank H. Brunstetter, Lieutenant Colonel, US Air Force Medical Corps, SGS To: John J. McPhaul, Jr., Colonel, US Air Force Medical Corps, SGS. Subject: Semi-annual progress report of investigation (January through June 1973) I-23 (71): Evaluation of systemic immunocompetence in patients receiving local irradiation following radical mastectomy. Document Type: Report; Memorandum. Document Date: 21 June 1973

From: Frank H. Brunstetter, Lieutenant Colonel, US Air Force Medical Corps, SGS To: John J. McPhaul, Jr., Colonel, US Air Force Medical Corps, SGS. Subject: Semi-annual progress report of investigation (July through December 1973) I-23(71): Evaluation of systemic immunocompetence in patients receiving local irradiation following radical mastectomy. Document Type: Report; Memorandum. Document Date: 07 January 1974

From: Frank H. Brunstetter, Lieutenant Colonel, US Air Force Medical Corps, Department of Medicine, SGS To: John J. McPhaul, Jr., Colonel, US Air Force Medical Corps, SGS. Subject: Semi-annual progress report of investigation (January through June 1974) I-23 (71): Evaluation of systemic immunocompetence in patients receiving local irradiation following radical mastectomy. Document Type: Report; Memorandum. Document Date: 17 June 1974

From: Frank H. Brunstetter, Lieutenant Colonel, US Air Force Medical Corps To: John J. McPhaul, Jr., Colonel, US Air Force Medical Corps. Subject: Semi-annual progress report of investigation (July through December 1974) I-23 (71): Evaluation of systemic immunocompetence in patients receiving local irradiation following radical mastectomy. Document Type: Report; Memorandum. Document Date: 13 January 1975

Subject: Signed patient consent for the study "Evaluation of systemic immunologic competency in patients receiving local irradiation following radical mastectomy." Document Type: Form. Document Date: 19 March 1975

From: Frank H. Brunstetter, Lieutenant Colonel, US Air Force Medical Corps To: John J. McPhaul, Jr., Colonel, US Air Force Medical Corps. Subject: Semi annual progress report (January through June 1975) I-23 (71): Evaluation of systemic immunocompetence in patients receiving local irradiation following radical mastectomy. Document Type: Report; Memorandum. Document Date: 23 June 1975

From: Frank H. Brunstetter, Lieutenant Colonel, US Air Force Medical Corps, SGS To: John J. McPhaul, Jr., Colonel, US Air Force Medical Corps, SGS. Subject: Final report of investigation I-23 (71): Evaluation of systemic immunocompetence in patients receiving local irradiation following radical mastectomy. Document Type: Report; Memorandum. Document Date: 10 July 1975

**AIR FORCE 1944-1974 (CONTINUED)**

**Wilford Hall Medical Center, Lackland AFB, TX (continued)**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1972	CIDI-39-72	<b>Development of a radioimmunoassay (in vitro test) for serum triiodothyronine</b>

Abstract: There was no human participation in this event.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1972	CIDI-40-72	<b>Radioimmunoassay of serum human follicle-stimulating hormone (FSH) and luteinizing hormone (LH)</b>

Abstract: This study did not involve human exposure to ionizing radiation.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1972	CIDF-16-72	<b>Measurement of thyroid hormone and thyroid stimulating hormone in pregnancy and early life</b>

Abstract: This study did not involve human exposure to ionizing radiation.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1972	CIDI-38-72	<b>Delineation of abscesses by gallium-67</b>

Abstract: There was no human participation in this event.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1972	CIDF-21-72	<b>Role of thyrotropin (TSH) in the pathophysiology of goiter and thyroid nodules</b>

Abstract: From 1972 to 1974, researchers at Wilford Hall Medical Center, Lackland AFB, TX, studied thyrotropin (TSH) levels in patients with euthyroid goiter and other euthyroid patients without goiter who had similar thyroxine (T4) and free thyroid index (FTI) determinations. All patients had TSH, T4 and triiodothyronine (T3) resin determinations performed and more than 90% had 131-iodine uptake performed. TSH was determined by double antibody radioimmunoassay; T4 by Murphy-Pattee method. All patients had normal T4 or FTI levels. Patients with clinical evidence of thyroiditis were excluded. 150 normals and fifty patients with goiter were studied. Several patients followed serially developed evidence of hypothyroidism. The results supported the long held concept that TSH plays an important role in the genesis of idiopathic goiter. Levels of TSH may be definitely elevated only early in the course of goiter development. The TSH elevation was probably secondary to decrease in circulating thyroid hormone levels undetectable by standard technique.

Documents: From: SGHME To: SGS. Subject: Research protocol: The role of thyrotropin (TSH) in the pathophysiology of goiter and thyroid nodules. Document Type: Memorandum; Protocol. Document Date: 22 December 1971

**AIR FORCE 1944-1974 (CONTINUED)**

**Wilford Hall Medical Center, Lackland AFB, TX (continued)**

From: John J. McPhaul, Jr., Colonel, US Air Force Medical Corps, Recorder To: Research Committee. Subject: Minutes of Research Committee meeting held on 28 March 1972. Document Type: Memorandum; Minutes. Document Date: 28 March 1972

From: John J. McPhaul, Jr, Colonel, US Air Force Medical Corps To: James F. Culver, Colonel, US Air Force, Medical Corps. Subject: Discussion of proposal entitled: Role of thyrotropin (TSH) in the pathophysiology of goiter and thyroid nodules. Document Type: Memorandum. Document Date: 30 March 1972

From: Robert L. Young, Lieutenant Colonel, US Air Force Medical Corps, Chief, Endocrinology-Metabolism Service To: SGS. Subject: Report of project: The role of thyrotropin (TSH) in the pathophysiology of goiter and thyroid nodules. Document Type: Report; Memorandum. Document Date: 24 May 1972

From: Gerrit L. Hekhuis, Brigadier General, US Air Force Medical Corps, Director of Professional Services, Office of the Surgeon General To: Commander, Wilford Hall US Air Force Medical Center. Subject: Clinical investigation proposal #401: The role of thyrotropin (TSH) in the pathophysiology of goiter and thyroid nodules. Document Type: Memorandum. Document Date: 19 June 1972

From: J. N. Steelman, Captain, US Air Force, Chief, Accounting and Finance Division To: Accounting and Finance Office, Lackland Air Force Base. Subject: Authority to disburse funds for research project No. 401. Document Type: Memorandum. Document Date: 23 August 1972

From: Robert L. Young, Lieutenant Colonel, US Air Force Medical Corps, Chief, Endocrine-Metabolism Service, Department of Medicine To: SGS. Subject: Semi-annual progress report of investigations (letter of 15 November 1972): Report on project F-21 (72) "Role of thyrotropin (TSH) in the pathophysiology of goiter and thyroid nodules." Document Type: Report; Memorandum. Document Date: 06 December 1972

From: Robert L. Young, Lieutenant Colonel, US Air Force Medical Corps, Chief, Endocrine-Metabolism Service, Department of Medicine To: SGS. Subject: Semi-annual progress report on investigation. Document Type: Report; Memorandum. Document Date: 29 May 1973

Authors: William C. Harvey; James C. Reynolds; Ernest L. Mazzaferri; Carlos R. Hamilton. Title: Thyroid stimulating hormone in patients with euthyroid goiter and normals with similar total thyroxine. Document Type: Abstract. Document Date: 1973

From: Robert L. Young, Lieutenant Colonel, US Air Force Medical Corps, Chief, Endocrine-Metabolism Service, Department of Medicine To: SGS. Subject: Project F-21: The role of thyrotropin (TSH) in the pathophysiology of goiter and thyroid nodules. Document Type: Memorandum. Document Date: 10 January 1974

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1972	CIDC-9(72)	Spleen in malignancy

Abstract: From 1972 until 1973, researchers at Wilford Hall Medical Center, Lackland AFB, TX, studied splenic function in patients with proven malignancy. The study had two objectives. The first was to determine whether cancer patients with increased acintigraphic spleen activity on colloid liver scan had colloid blood disappearance kinetics different from cancer patients with normal splenic activity. The second was to determine whether spleens with normal activity could be induced to become more avid colloid collectors by giving typhoid vaccine after a normal scan with repetition of the scan at a later date. Twenty-five patients with splenic cancer were studied; fifteen patients had "hot" spleens, the other ten served as normal scan patients. Participants received technetium-99m sulfur colloid scans with internal gamma doses enumerated as: liver 300 millirads, spleen 150 millirads and bone marrow thirty millirads. The typhoid study was never carried out because the researchers were unable to obtain vaccine that could be given

**AIR FORCE 1944-1974 (CONTINUED)**

**Wilford Hall Medical Center, Lackland AFB, TX (continued)**

intradermally. No differences in the scans of normal versus "hot" scan patients were reported. The researchers concluded that there was no difference in removal of colloid from the blood in the two groups of patients.

- Documents: From: William C. Harvey, Lieutenant Colonel, US Air Force, Medical Corps, Chief, Nuclear Medicine Service To: SGS. Subject: Research proposal entitled: Spleen in malignancy. Document Type: Memorandum; Proposal. Document Date: 09 August 1972
- From: Carl E. Speicher, Lieutenant Colonel, US Air Force, Medical Corps, Chief, Clinical Pathology Service, SGHLC To: John McPhaul, Colonel, Director of Research, Aerospace Medical Laboratories, SGS. Subject: Research proposal entitled: Inducing splenic hyperactivity with typhoid vaccine; principal investigator, William C. Harvey (will be supported by Clinical Pathology Service). Document Type: Memorandum. Document Date: 15 August 1972
- From: John J. McPhaul, Lieutenant Colonel, Director of Research, Aerospace Medical Laboratories, SGS To: SGHMAH, SG. Subject: Minutes of research committee meeting on 29 August 1972. Document Type: Memorandum; Minutes. Document Date: 30 August 1972
- From: William C. Harvey, Lieutenant Colonel, US Air Force, Medical Corps, Chief, Nuclear Medicine Service, SGHRI To: SGS. Subject: Semi-annual progress report: The spleen in malignancy. Document Type: Report; Memorandum. Document Date: 24 November 1972
- From: William C. Harvey, Lieutenant Colonel, US Air Force, Medical Corps, Chief, Nuclear Medicine Service, SGHRI To: John McPhaul, Lieutenant Colonel, Director of Research, Aerospace Medical Laboratories. Subject: Modification of research proposal: Behavior of the spleen in malignancy. Document Type: Memorandum. Document Date: 31 January 1973
- From: George E. Reynolds, Brigadier General, US Air Force, Medical Corps, Office of the Surgeon General To: Wilford Hall, US Air Force Medical Center, Surgeon General. Subject: Approval of clinical investigation proposal No. 433: The spleen in malignancy. Document Type: Memorandum. Document Date: 06 February 1973
- From: William C. Harvey, Lieutenant Colonel, US Air Force, Medical Corps, Chief, Nuclear Medicine Service, SGHRI To: SGS. Subject: Progress report: The spleen in malignancy. Document Type: Report; Memorandum. Document Date: 06 June 1973
- From: William C. Harvey, Lieutenant Colonel, Chief, Nuclear Medicine Service, SGHRI To: SGS. Subject: Progress report: The spleen in malignancy. Document Type: Report; Memorandum. Document Date: 06 June 1973
- From: William C. Harvey, Lieutenant Colonel, US Air Force, Medical Corps, Chief, Nuclear Medicine Service, SGHRI To: SGS/Research Committee. Subject: The spleen in malignancy: Final report. Document Type: Report; Memorandum. Document Date: 09 July 1973

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1972	CIDS-17-72	<b>Controlled study to determine the clinical value of asanguineous hypothermic total body perfusion (total body washout or TBW) in the resuscitation and subsequent survival of patients in stage IV hepatic coma</b>

Abstract: This study did not involve human exposure to ionizing radiation.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1972	CIDE-3-72	<b>Angiographic and hemodynamic findings in the young patient with coronary artery disease</b>

Abstract: This was a retrospective study and did not involve human exposure to ionizing radiation.

**AIR FORCE 1944-1974 (CONTINUED)**

**Wilford Hall Medical Center, Lackland AFB, TX (continued)**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1973	CIDI-48	<b>Radioimmunoassay of serum androgens: Testosterone, androstenedione, and dehydroepiandrosterone (DHA)</b>

Abstract: This study did not involve human exposure to ionizing radiation.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1973	CIDI-52-73	<b>Radionuclidic imaging of the pancreas</b>

Abstract: There was no human participation in this event.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1973	CIDI-54-73	<b>Technetium diphosphonate as a bone scanning agent</b>

Abstract: There was no human participation in this event.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1973	CIDI-59-73	<b>Use of sodium iodide I-123 to perform radioiodine uptake and scan</b>

Abstract: From 1973 until a presently undetermined date, researchers from Wilford Hall Medical Center (WHMC), Lackland AFB, TX examined sodium iodide (I-123) as a replacement for iodine-131 (I-131) in thyroid scans. To date, no information is available on the number of participants. The radiation dose to the thyroid was estimated at 0.1 rad and to the whole body at 0.1 mR per 100 microcurie of I-123. The dose was estimated to be thirty times less than that with I-131. Upon review of the protocol, investigators and WHMC Research Committee members indicated that the use of I-123 was not considered to be experimental. The investigation sought to replace an older classic radionuclide with a newer, better one. Results of this study are unavailable at this time.

Documents From: William C. Harvey, Lieutenant Colonel, US Air Force Medical Corps, Chief, Nuclear Medicine Service To: SGHRI. Subject: Use of sodium iodide I-123 to perform radioiodine uptake and scan. Document Type: Report; Memorandum. Document Date: 01 November 1973

From: John J. McPhaul, Jr., Colonel, US Air Force Medical Corps, Director of Research, Recorder To: SGHMAH, SG. Subject: Minutes of Research Committee meeting held on 13 November 1973. Document Type: Memorandum; Minutes. Document Date: 14 November 1973

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1973	CIDI-60-73	<b>Radioimmunoassay of plasma aldosterone</b>

Abstract: This study did not involve human exposure to ionizing radiation.

**AIR FORCE 1944-1974 (CONTINUED)**

**Wilford Hall Medical Center, Lackland AFB, TX (continued)**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1973	CIDI-58-73	<b>Tc-phosphate complexes in the radioisotopic diagnosis of avascular necrosis</b>

Abstract: From 1973 until 1980 researchers from Wilford Hall Medical Center, Lackland AFB, TX, studied the use of 99m-technetium phosphate in the early determination of avascular necrosis. At least nine patients were studied. Researchers felt that the technique would be useful in determining early necrosis in femoral heads, but had too few cases to substantiate this impression. Additionally, the technique was found to be of no value in the study of fractures of the carpal navicular.

Documents: From: Ellis P. Couch, Major, US Air Force Medical Corps, Resident, Orthopedic Surgery To: SGS. Subject: Research proposal entitled "Technetium-phosphate complexes in the radioisotopic diagnosis of avascular necrosis." Document Type: Memorandum; Proposal. Document Date: 27 September 1973

From: SGS To: SGHMAH, SG. Subject: Minutes of Wilford Hall Medical Center Research Committee meeting on 09 October 1973. Document Type: Memorandum; Minutes. Document Date: 09 October 1973

From: John J. Halki, Colonel, US Air Force Medical Corps, Chairman, Human Experimentation Committee To: Surgeon General. Subject: Minutes of Human Experimentation Committee meeting held on 25 October 1973. Document Type: Memorandum; Minutes. Document Date: 25 October 1973

From: John J. McPhaul, Jr., Colonel, US Air Force Medical Corps, Director of Research To: James Clark, Colonel, Chief, Clinical Practice Division, US Air Force. Subject: Enclosing study entitled "Technetium-phosphate complexes in the radioisotopic diagnosis of avascular necrosis." Document Type: Letter. Document Date: 29 October 1973

From: George E. Reynolds, Brigadier General, US Air Force Medical Corps, Director of Professional Services, Office of the Surgeon General To: Wilford Hall Medical Center, Surgeon General. Subject: Clinical investigation proposal, "Technetium-phosphate complexes in the radioisotopic diagnosis of avascular necrosis." Document Type: Memorandum; Proposal. Document Date: 19 November 1973

From: Ellis P. Couch, Major, US Air Force Medical Corps To: Surgeon General Staff. Subject: Semi-annual progress report of investigation entitled "Technetium-phosphate complexes in the radioisotopic diagnosis of avascular necrosis." Document Type: Report; Memorandum. Document Date: 29 November 1973

From: Ellis P. Couch To: John J. McPhaul, Jr., Director of Research. Subject: Semi-annual progress report of investigation "Technetium-phosphate complexes in the radioisotopic diagnosis of avascular necrosis." Document Type: Report. Document Date: 01 January 1974

From: Ellis P. Couch, Major, US Air Force Medical Corps, Resident, Orthopedic Surgery To: John J. McPhaul, Jr., Colonel, US Air Force Medical Corps, Director of Research. Subject: Consent for human volunteers in clinical investigation. Document Type: Directive/Order/Regulation. Document Date: 09 January 1974

From: John J. Halki, Colonel, US Air Force Medical Corps, Director, Hospital Services To: Surgeon General. Subject: Minutes of the Human Experimentation Committee meeting held on 28 March 1974. Document Type: Memorandum; Minutes. Document Date: 28 March 1974

From: Ellis P. Couch, Major, US Air Force Medical Corps To: SGS. Subject: Report on "Technetium-phosphate complexes in the radioisotopic diagnosis of avascular necrosis." Document Type: Report; Memorandum. Document Date: 18 December 1974

From: E. O'Brien; W. Harvey; E. Couch To: Research Committee. Subject: Progress report for "Technetium-phosphate complexes in the avascular necrosis." Document Type: Report. Document Date: 1974

From: Ellis Couch To: SGS. Subject: Progress report for study entitled "Technetium-phosphate complexes in the radioisotopic diagnosis of avascular necrosis." Document Type: Report. Document Date: 1974

**AIR FORCE 1944-1974 (CONTINUED)**

**Wilford Hall Medical Center, Lackland AFB, TX (continued)**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1974	CIDF-40-74	<b>Comparison of continuous catheter spinal anesthesia with single dose spinal anesthesia for transurethral resection of the prostate</b>

Abstract: This study did not involve human exposure to ionizing radiation.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1974	CIDI-70	<b>Radiology of the pliable solid bolus (marshmallow swallow) as a diagnostic tool in evaluation of the esophagus</b>

Abstract: From 1974 to 1978, researchers from Wilford Hall Medical Center, Lackland AFB, TX examined the clinical value of the barium marshmallow swallow in the radiologic diagnosis of esophageal disease. Although researchers proposed the participation of ten normal volunteers and at least twenty patients with esophageal disease, it is unclear how many individuals ultimately took part. The study involved clinical interview, x-ray, swallowing barium, then swallowing a barium coated marshmallow twice under x-ray observation, and in some cases, endoscopy. Results of this study are unavailable at this time.

Documents: From: Darlene G. Casto, Clinical Investigations Program Manager, Clinical and Biomedical Research and Development Division, Air Force Medical Operations Agency, Office of the Surgeon General, Headquarters United States Air Force To: Claud Bailey, Jr., Colonel, Department of Defense; Subject: Documentation for pre-1975 events taking place at Wilford Hall Medical Center. Includes abstract for CIDI-70, "Radiology of the pliable solid bolus (marshmallow swallow) as a diagnostic tool in evaluation of the esophagus." Document Type: Memorandum; Abstract. Document Date: 08 October 1996

**ARMY 1944 - 1974**

**Aberdeen Proving Ground, MD**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
Unknown	<b>CBDCOM001</b>	<b>Attenuation of 1.2 MeV gamma radiation by Soviet and U.S. military vehicles and rail equipment</b>

**Abstract:** From a presently undetermined date until 1953 researchers in the Ordnance Corps at Aberdeen Proving Ground, MD and the Army Chemical & Biological Defense Command, MD studied the shielding capability of certain Soviet and U.S. military vehicles, and U.S. rail equipment against gamma radiation as well as decontamination procedures. Active duty military personnel participated in the study. The contamination was produced by placing 800 cobalt-60 pellets (gamma ray energies of 1.17 and 1.33 Mev) 1/8 of an inch in diameter and 1/8th of an inch long contained in steel capsules two feet apart over an area 160 feet in length and twenty feet wide. Dosage rates at selected sitting positions were measured with live troops riding over contamination in certain vehicles. Results of the research are undetermined to date.

**Documents:** Title: Final Report on the Records Search for Human Radiation Experiments at the U.S. Army Chemical and Biological Defense Command. Includes report on the study "Attenuation of 1.2 Mev gamma radiation by Soviet and US military vehicles and US rail equipment." Document Type: Report; Event Profile; Fact Sheet. Document Date: 1994

**Brooke Army Medical Center, Fort Sam Houston, TX**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1962	<b>ACIR72000-K</b>	<b>Conservative surgery following preoperative radiotherapy of lung cancer</b>

**Abstract:** From 1962 until 1972, researchers at the Brooke Army Medical Center in Fort Sam Houston, San Antonio, TX studied preoperative radiotherapy in lung cancer patients. A total of 205 patients were treated, 183 of which went to surgery. Particular interest had developed in the use of sleeve resections for some lesions permitting conservation of functioning pulmonary parenchyma or resection of the tumor otherwise inoperable. Twelve tracheal sleeve resections and thirty-four bronchial sleeve resections had been performed. Comparisons were to be made in these particular areas with the fifty-seven lobectomies or segmental resections and the eighty pneumonectomies comprising the total resected group. Emphasis was placed on the ability to do anastomoses in the heavily irradiated tissues with a minimum of complications and with satisfactory end results and significant conservation of pulmonary function. The overall survival in this preoperative group had run just short of 30%. The researchers concluded that the combination of irradiation and pulmonary sleeve resection was a justifiable treatment in a very select group of patients. They also found that one of the main advantages of preoperative radiation therapy may have been the conversion of patients with unresectable tumors into candidates for a sleeve resection.

**Documents:** Authors: Virendra S. Saxena. Title: Research project resume: Conservative surgery following preoperative radiotherapy of lung cancer. Document Type: Report. Document Date: 1975

**ARMY 1944 - 1974 (CONTINUED)**

**Brooke Army Medical Center, Fort Sam Houston, TX (continued)**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1964	ACIR64000	<b>Survival rates of testis tumors (Army-wide investigational treatment study)</b>

Abstract: From 1964 until a presently undetermined date, researchers from Brooke General Hospital, Brooke Army Medical Center in Fort Sam Houston, TX sought to prospectively evaluate preoperative irradiation versus irradiation only for the treatment of Class II and IV testis tumors. Preliminary evaluation of twenty-seven patients in each category seemed to indicate that preoperative irradiation gave better results. The estimated completion date was 1975.

Documents: Author: Frank E. Ceccarelli. Title: Research project resume: Survival rates of testis tumors (Part of Army-wide investigation treatment study). Document Type: Report. Document Date: 1975

Subject: Stimson library - OVID system search results for "Some social and medical characteristics of army men with testicular cancer." Document Type: Search Printout. Document Date: 1996

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1972	ACIR72000-N	<b>Seminoma of the testicle: Prophylactic mediastinum irradiation vs periaortic and pelvic irradiation alone</b>

Abstract: This was a retrospective study and did not involve human exposure to ionizing radiation.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1972	ACIR72000-O	<b>Phase I protocol for the evaluation of combined radiotherapy and chemotherapy for stage IIb, IIIa, and IIIb Hodgkin's disease, SWOG</b>

Abstract: From 1972 until a presently undetermined date, researchers from Brooke Army Medical Center, Fort Sam Houston, TX evaluated combined radiotherapy and chemotherapy for Stage II-B, III-A, and III-B Hodgkin's disease. To date, no information is available on the number of study participants. The purpose of the study was to prolong duration of remission and survival of patients with Stages II-B, III-A, and III-B Hodgkin's disease. Initially, the researchers determined patient tolerance to radiotherapy after three courses of mustargen, oncovin, procarbazine, and prednisone (MOPP) chemotherapy. Following this determination, the researchers planned to increase to six courses of MOPP. Results for this study are unavailable at this time.

Documents: Author: John P. Shitecar. Title: Research project resume: Phase I protocol for the evaluation of combined radiotherapy and chemotherapy for stage II-B, III-A and III-B Hodgkin's disease. Document Type: Report. Document Date: 1972 est.

Subject: Stimson library - OVID system search results for "Team approach to management of non-Hodgkin's lymphomas: Past and present." Document Type: Search Printout. Document Date: 1996

Subject: Stimson library - OVID system search results for Hodgkin's disease related articles. Document Type: Search Printout. Document Date: 1996

**ARMY 1944 - 1974 (CONTINUED)**

**Brooke Army Medical Center, Fort Sam Houston, TX (continued)**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1974	<b>ACIR74000-D</b>	<b>Evaluation of combined radiotherapy and chemotherapy for stages IIb, IIIa and IIIb Hodgkin's disease, SWOG 160</b>

**Abstract:** From 1974 until a presently undetermined date, researchers at Brooke Army Medical Center, Fort Sam Houston, TX sought to determine the safety and effectiveness with which total nodal radiotherapy could be given following mustargen, oncovin, procarbazine, and prednisone (MOPP) chemotherapy in patients with II-B, III-A, and III-B Hodgkin's disease. The major criterion for the study was the toxicity in the radiation portion of the protocol. The study was initially begun with three cycles of MOPP, subsequently escalated to four cycles of MOPP and after sufficient experience had been gained it was anticipated to go to six cycles. According to the protocol, a definitive analysis of this study was not accomplished by the Southwest Oncology Group coordinator. However, the radiotherapist from Wilford Hall USAF Medical Center reviewed his experience with the delivery of radiotherapy on this protocol in a total of twenty-three patients. Twelve patients had completed the study after receiving three cycles of MOPP and eleven patients completed the study after receiving four cycles of MOPP. Based on their data, there was no evidence that for a difference in the patients' tolerance to radiation therapy whether three or four cycles of MOPP precedes the radiotherapy. Accordingly, the Wilford Hall Group planned to escalate to five cycles of MOPP in five patients and, if tolerated, to six cycles of MOPP.

**Documents:** Author: Robert P. Bowman. Title: Research project resume: Evaluation of combined radiotherapy and chemotherapy for Stages II-B, III-A and III-B Hodgkin's disease. Document Type: Report. Document Date: 1975 est.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1974	<b>ACIR74000-S</b>	<b>Clinical evaluation of 111-indium bleomycin (MPI Tumor Scintigraphin TM) which is presently in the third phase of investigation</b>

**Abstract:** From 1974 until a presently undetermined date, researchers from the Brooke Army Medical Center Fort Sam Houston, TX evaluated the clinical usefulness of 111-indium Bleomycin as a tumor specific radiopharmaceutical and demonstrated the types of neoplasms for which scintigraphy with 111-indium Bleomycin had a high positive correlation with extent of disease. Patients were to be referred from the Oncology Service because of known or suspected neoplasms. 111-indium Bleomycin was to be administered intravenously with whole body distribution of the radiopharmaceutical which was to be measured using the whole body scintiscan table and dual isotope technique. Images were to be obtained at variable periods of time during the three days following administration of the radiopharmaceutical. To date, no information is available on the number of participants or research results.

**Documents:** Author: Robert P. Bowman. Title: Research project resume: Clinical evaluation of 111-Indium Bleomycin (MPI Tumor Scintigraphin). Document Type: Report. Document Date: 1975

Title: Clinical evaluation of 111-Indium Bleomycin (MPI Tumor Scintigraphin TM) which is presently in the third phase of investigation. Document Type: Search Printout. Document Date: 1996

**ARMY 1944 - 1974 (CONTINUED)**

**Fitzsimons Army Medical Center, Aurora, CO**

Start Date      Number      Title

**1967**            **ACIR67000-C**    **Regional ventilation perfusion relationships of the lung, its measurement of 133-xenon and a linear scanner**

Abstract: From 1967 until 1975, researchers from the Fitzsimons Army Medical Center, Aurora, CO studied regional ventilation perfusion relationships of the lung. Regional ventilation-perfusion ratios were determined in twelve healthy individuals, sixteen patients with pulmonary embolism, and twenty-two patients with chronic obstructive lung disease. The ventilation-perfusion ratios were determined from xenon-133 ventilation studies and 99-Tc-m-labeled particle perfusion scans, using either the fractional exchange of air or the relative distribution of tidal volume per unit volume as the numerator of the ratio. A comparison of these two methods showed comparable distributions of regional ventilation-perfusion relationships in the healthy individuals and patients with pulmonary embolism. However, in the patients with chronic obstructive pulmonary disease, the fractional exchange method clearly separated this group of patients from the others.

Documents: Subject: Stimson library - OVID system search results for "Regional ventilation-perfusion relationships." Document Type: Search Printout; Abstract. Document Date: 1996

Start Date      Number      Title

**1968**            **ACIR68000**      **Effects of selective coronary arteriography on myocardial blood flow in man**

Abstract: From 1968 until 1972, researchers at the Fitzsimons Army Medical Center, Aurora, CO and the University of Oregon Medical School, Portland, OR studied the effects of coronary arteriography on myocardial blood flow. Twenty-two patients participated in this study. Left coronary flow was estimated by the radioactive inert-gas (xenon-133) washout technic (sic) using precordial detection. Duplicate control studies were obtained before radioccontrast injection, and test studies were performed at one minute and three, five or seven minutes after angiography. Eleven patients received a single 7ml injection of methylglucamine diatrizoate and eleven were given a series of injections with the test blood flow studies after the final injection. Myocardial flow increased in every patient one minute after contrast injection. Blood flow increased further in seven of ten studied at three minutes and remained elevated at five and seven minutes. Systemic pressure was unchanged from the control level, so coronary vascular resistance decreased in proportion to the increase in flow. Blood flow responses in patients with coronary artery disease were no different from normal subjects. Sham injections of normal saline produced no increase in coronary flow. Selective coronary arteriography resulted in a prompt increase in myocardial blood flow which persisted for several minutes. The probable mechanism was coronary vasodilatation produced by the markedly hypertonic contrast material.

Documents: Authors: Frank E. Koster; W. Glenn Friesen; Gerald S. Green; Melvin P. Judkins. Title: Effects of coronary arteriography on myocardial blood flow. Journal: *Circulation*, vol. XLVI. Document Type: Journal Article. Document Date: September 1972

Subject: Stimson Library - OVID System search results for "Effects of coronary arteriography on myocardial blood flow." Document Type: Search Printout. Document Date: 1996

**ARMY 1944-1974 (CONTINUED)**

**Fitzsimons Army Medical Center, Aurora, CO (continued)**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1974	<b>ACIR74000-C</b>	<b>Radiologic identification of common cardiac prosthetic valves and their associated complications, FAMC 74/105</b>

**Abstract:** From 1974 until 1977, researchers from Fitzsimons Army Medical Center, Aurora, CO studied radiologic identification of common cardiac prosthetic valves and their associated complications. The development of prosthetic valves had been an important advance in the treatment of patients with serious valvular cardiac disease. Because there were many types of prosthetic valves, the researchers prepared a diagram of the valves and listed their potential complications. Prosthetic valves were identified according to photographic and radiologic features, valve replacement location, and reported associated complications. To date, no information is available on the number of participants. Data was compiled in tabular form for quick reference; valves were identified according to valve base, cage, and poppet. They may have been categorized as caged-ball or low-profile valves. Such information helped to provide recognition of the valve that had been inserted and permitted the clinician or radiologist to be alert to possible complications with the various prosthetic devices.

**Documents:** Subject: Stimson library - OVID System search results for "Common cardiac prosthetic valves. Radiological identification and associated complications." Document Type: Search Printout; Abstract. Document Date: 1996

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
<b>Unknown</b>	<b>ACIR54000-A</b>	<b>Observations on the mechanism of the renal clearance of 131-I</b>

**Abstract:** From a presently undetermined date until 1953, researchers from Fitzsimons Army Hospital, Aurora, CO studied the mechanism of iodide excretion in patients with varying states of thyroid and renal function. Fifty-eight clearance studies were performed on forty-nine patients. Patients were classified into four groups: (1) euthyroid subjects with normal renal function; (2) euthyroid subjects with renal disease; (3) hyperthyroid patients; and (4) myxedema patients. Simultaneous determinations of the clearances of inulin, p-aminohippurate and iodine-131 were performed in all cases. In addition, the excretion rates, glomerular filtration rates, and plasma levels of sodium, potassium and chlorine were determined during each clearance period. Researchers ultimately concluded that iodide in the human kidney is filtered at the glomerulus and partially reabsorbed by the tubules and that it is reabsorbed primarily by passive back-diffusion.

**Documents:** Authors: Neal S. Bricker; Charles J. Hlad, Jr.. Title: Observations on the mechanism of the renal clearance of 131-I. Document Type: Paper. Document Date: 30 October 1953

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
<b>Unknown</b>	<b>ACIR54000-B</b>	<b>Renal function and 131-I clearance in hyperthyroidism and myxedema</b>

**Abstract:** From a presently undetermined date until 1954, researchers from Fitzsimons Army Hospital, Aurora, CO studied the effect of thyroid activity on renal excretion through the use of twenty-four hour thyroidal uptake studies. Eleven patients with either hyperthyroidism, primary myxedema or

**ARMY 1944-1974 (CONTINUED)**

**Fitzsimons Army Medical Center, Aurora, CO (continued)**

panhypopituitarism with probable hypothyroidism participated in this study. Glomerular filtration rate, renal plasma flow, inulin clearance, p-aminohippurate (PAH) clearance, the maximum rate of tubular transport of PAH, and iodine-131 (I-131) clearance were determined using standard continuous infusion clearance techniques. The total administration of I-131 used in the uptake studies did not exceed 125 microcuries. Researchers determined that the state of thyroid activity exerts a definite effect on renal hemodynamics and tubular function. Additionally, researchers felt that the activity probably influences the renal excretion of iodide indirectly through a filtration-rate effect, but that there is no apparent specific influence of thyroid or thyrotropic hormone at the tubular level.

Documents: Authors: Charles J. Hlad, Jr.; Neal S. Bricker. Title: Renal function and 131-I clearance in hyperthyroidism and myxedema. Journal: *Journal of Clinical Endocrinology*, vol. 14. Document Type: Journal Article. Document Date: 1954

**Marshall Islands**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1957	MRDC030	<b>Determination of internally deposited radioactive isotope in the Marshallese people by excretion analysis</b>

Abstract: From 1957 until 1959 researchers from the Walter Reed Army Institute of Research (WRAIR), Walter Reed Army Medical Center, Washington, DC measured residual radioactivity in the urine samples taken in 1954, 1957 and 1958 from a group of 141 Marshallese people who had been exposed to radioactive fallout from a thermonuclear device test in 1954. The contamination was from fallout and contamination of air and locally produced foods. The researchers measured zinc-65, cesium-137, and strontium-90 in the urine. From these data, the researchers estimated excretion rates, equilibrium body burden, and daily intake. Two hundred thirty-nine Marshallese people were relocated to different islands following the detonation of the thermonuclear device and 141 submitted samples.

Documents: Title: Annual progress report, Department of Biophysics, Division of Nuclear Medicine and Chemistry, Walter Reed Army Institute of Research, Washington, D.C. Document Type: Abstract. Document Date: 30 June 1959

Authors: Kent T. Woodward; Ariel G. Schrod; James E. Anderson; Harry A. Claypool; James B. Hartgering. Title: Determination of internally deposited radioactive isotopes in the Marshallese people by excretion analysis. Document Type: Report. Document Date: 1962

**Roswell Park Memorial Institute, Buffalo, NY**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1970	ACIR70000-D	<b>Treatment of women with advanced cervical cancer confined to the pelvis with hydroxyurea or placebo both in combination with radiation</b>

Abstract: From 1970 until 1974 researchers from the Roswell Park Memorial Institute, Buffalo, NY and the Walter Reed Army Medical Center, Washington, DC evaluated the combination of hydroxyurea

**ARMY 1944-1974 (CONTINUED)**

**Roswell Park Memorial Institute, Buffalo, NY (continued)**

(HU) and irradiation therapy for patients with advanced cervical cancer. Thirty-seven women with Stage IIB and IIIB cervical cancer participated in the study. After completing the pre-therapy evaluation, patients were randomly assigned to the HU or placebo group. HU was administered at 80 mg per kilogram body weight every third day starting on the first day of radiation therapy and continued for twelve weeks. All patients received megavoltage radiation therapy to the pelvis at a dose rate of 1,000 rads per week with 200 rads per fraction. Intracavitary and vaginal radium were subsequently employed to give an additional 3,000 to 4,500 rads for a combined total with external irradiation of approximately 8,500 rads to the paracervical area. All patients had a minimum of two years' follow-up. For patients with Stage IIB cancer, 46.1% of the women in the placebo group were without evidence of disease (NED) as compared to 77.7% in the HU group after two years. For patients with Stage IIIB cancer, 11.1% of the placebo group were NED for two years as compared to 50% of the HU group. Of the total women that received HU, 66.6% were NED at two years versus 31.8% of the placebo group.

Documents: Authors: M. Steven Piver; Joseph J. Barlow; Vitune Vongtama; John Webster. Title: Hydroxyurea and radiation therapy in advanced cervical cancer. Journal: *American Journal of Obstetrics and Gynecology*, vol. 120. Document Type: Journal Article. Document Date: 14 March 1974

Subject: Stimson Library - OVID System search results for "Hydroxyurea and radiation therapy in advanced cervical cancer." Document Type: Search Printout. Document Date: 1996

**Tripler Army Medical Center, Honolulu, HI**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1973	ACIR73000-K	<b>Use of gallium-67 citrate for tumor scanning (1973)</b>

Abstract: This was a retrospective study and did not involve human exposure to ionizing radiation.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1973	ACIR73000-S	<b>Use of gallium-67 citrate for tumor scanning</b>

Abstract: This study is a duplicate of ACIR73000-K.

**University of California, San Diego, CA**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1973	ACIR73000-K	<b>Use of gallium-67 citrate for tumor scanning (1973)</b>

(For abstract and documentation see Tripler Army Medical Center, Honolulu, HI)

**ARMY 1944-1974 (CONTINUED)**

**University of California, San Diego, CA (continued)**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1973	ACIR73000-S	Use of gallium-67 citrate for tumor scanning

*(For abstract and documentation see Tripler Army Medical Center, Honolulu, HI)*

**University of Oregon Medical School, Portland, OR**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1968	ACIR68000	Effects of selective coronary arteriography on myocardial blood flow in man

*(For abstract and documentation see Fitzsimons Army Medical Center, Aurora, CO)*

**Veterans Administration Hospital, San Diego, CA**

<u>Start Date</u>	<u>Number</u>	<u>Title:</u>
1973	ACIR73000-K	Use of gallium-67 citrate for tumor scanning (1973)

*(For abstract and documentation see Tripler Army Medical Center, Honolulu, HI)*

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1973	ACIR73000-S	Use of gallium-67 citrate for tumor scanning

*(For abstract and documentation see Tripler Army Medical Center, Honolulu, HI)*

**Walter Reed Army Hospital, Washington, DC**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1962	MRDC029	Annual progress report, Department of Biophysics, Division of Nuclear Medicine and Chemistry, Walter Reed Army Institute of Research, Washington D.C.

Abstract: From 1962 until 1963 researchers from the Walter Reed Army Institute of Research (WRAIR), Walter Reed Army Medical Center, Washington, DC studied the ways individuals metabolize xenon-133 (Xe-133) and krypton-85 (Kr-85). Eighty-five occupationally exposed workers were followed up for an internal dose assessment using a sodium iodide (NaI) crystal whole body counting facility. There were thirty-two participants from the Corps of Engineers Reactor Group,

**ARMY 1944-1974 (CONTINUED)**

**Walter Reed Army Hospital, Washington, DC (continued)**

forty-three participants from the Army Chemical Center at Edgewood, MD and the rest were Reactor Personnel at WRAIR. The radionuclide measurements of the eighty-five occupationally exposed radiation workers were found to be at levels which were either normal or below the maximum permissible levels. In addition, metabolic studies were started on individuals who had been injected or inhaled Xe-133 and Kr-85. The rates of elimination were studied. The amounts of Xe-133 and Kr-85 either injected or inhaled are currently unknown, and the location and number of these participants was unavailable. No results were given on these injection or inhalation studies.

Documents: From: Department of the Army To: HQDA, (DASG-RDZ/Major Burke), Washington, DC. Subject: Monthly radiation records search report, part II: Annual progress report, Department of Biophysics, Division of Nuclear Medicine and Chemistry, Walter Reed Institute of Research, Washington, DC. Document Type: Event Profile. Document Date: 01 March 1994

Subject: [Information regarding a study from the annual progress report of the Department of Biophysics Division of Nuclear Medicine and Chemistry of Walter Reed Army Institute of Research]. Document Type: Abstract. Document Date: 1996

**Walter Reed Army Medical Center, Washington, DC**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1970	ACIR70000-B	<b>Postoperative treatment of women with resectable ovarian cancer with radiotherapy, chlorambucil or no further treatment</b>

Abstract: From 1970 until 1975, researchers from Walter Reed Army Medical Center, Washington, DC studied the treatment of women with resectable ovarian cancer. It was one of three prospective, controlled, ongoing Gynecologic Oncology Group studies in ovarian carcinoma. Seventy-seven patients participated in this study. The researchers reported that although there was a trend favoring chemotherapy, the differences were not statistically significant.

Documents: Subject: Stimson library - OVID system search results for "Results of the gynecological oncology group trials on ovarian cancer: Preliminary report." Document Type: Search Printout; Abstract. Document Date: 1996

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1970	ACIR70000-D	<b>Treatment of women with advanced cervical cancer confined to the pelvis with hydroxyurea or placebo both in combination with radiation</b>

*(For abstract and documentation see Roswell Park Memorial Institute, Buffalo, NY)*

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1973	ACIR73000-A	<b>Study of 99m-Tc sulfide colloid as an agent for radioisotope lymphography</b>

Abstract: From 1973 until 1979 researchers from the Walter Reed Army Medical Center, Washington, DC studied radioisotope lymphography. A comparison of stannous phytate and antimony sulfide

**ARMY 1944-1974 (CONTINUED)**

**Walter Reed Army Medical Center, Washington, DC (continued)**

colloid, both labeled with technetium-99m (Tc-99m), was conducted during the performance of internal mammary lymphoscintigraphy in forty-six patients. Thirteen of these patients were randomized to receive both radiotracers in two consecutive studies. The results indicated a statistical difference between agents; Tc-99m antimony sulfide allowed visualization of a greater number of more intense nodes, better delineation of the total length of the internal mammary lymph-node chain, and a more consistent visualization of supraclavicular nodes. Although previously published animal data suggested utility of Tc-99m stannous phytate for lymph-node imaging, Tc-99m antimony sulfide provided, in this clinical comparison, a more reliable representation of lymph-node anatomy.

Documents: Subject: Stimson library - OVID system search results for "A comparison of two technetium-99m-labeled radiopharmaceuticals for lymphoscintigraphy: Concise communication." Document Type: Search Printout; Abstract. Document Date: 1996

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1973	ACIR73000-D	<b>Treatment of small cell carcinoma of lung: Combination chemotherapy + radiation vs single agent chemotherapy + radiation with and w/o prophylactic whole brain radiation. Comparison of cyclophos + vincristine + methotrex vs cyclophosph, CALGB 7283</b>

Abstract: From 1973 until 1982 researchers from the Walter Reed Army Medical Center, Washington, DC studied treatment options for small cell carcinoma of the lung. This study was one of three protocols on lung cancer evaluated by the Cancer and Leukemia Group B. It was a randomized comparison between four arms: high dose cyclophosphamide alone, cyclophosphamide plus methotrexate, cyclophosphamide plus methotrexate plus vincristine, and cyclophosphamide plus high-dose methotrexate plus vincristine. To date, no information is available on the number of participants. Brain metastases are very common in most cases of lung cancer; therefore, prophylactic brain radiotherapy was included as part of the treatments for lung cancer. Response rate and survival were not significantly different among the four arms. Effectiveness of prophylactic brain radiotherapy and usefulness of maintenance chemotherapy were demonstrated.

Documents: Subject: Stimson library - OVID System search results for "Small cell anaplastic carcinoma of the lung. The cancer and leukemia group B experience." Document Type: Search Printout; Abstract. Document Date: 1996

**William Beaumont Army Medical Center, El Paso, TX**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1968	ACIR70000-A	<b>Mottling on the colloidal radiogold liver scan</b>

Abstract: This was a retrospective study and did not involve human exposure to ionizing radiation.

**ARMY 1944-1974 (CONTINUED)**

**William Beaumont Army Medical Center, El Paso, TX (continued)**

Star Date      Number      Title

**1969**            **ACIR69000-C**    **Use of RISA blood volume determination to determine red cell volume, Cr-51**

Abstract:        From 1969 to 1970, researchers from the William Beaumont General Hospital, El Paso, TX compared estimations of blood volume obtained via the radioactive iodinated human serum albumin (RISA) method, to direct measurements with chromium-51 (Cr-51) labeling techniques. Thirty-three consecutive determinations were made on patients whose hematologic status was stable during the period of the study. The red cell volumes were determined using a modified Sterling and Gray method with autologous blood. RISA blood volumes were determined on ten minute postinjection whole blood samples in a Picker Hemoliter and the red cell volume was determined using the corrected venous hematocrit. Researchers observed an extremely high degree of correlation between both methods and determined that the RISA method was simpler and very adequate for most clinical purposes.

Documents:      Authors: Martin L. Nusynowitz; Wilbur J. Strader, III; Jerome A. Waliszewski. Title: Predictability of red cell volume from RISA blood volume. Journal: *American Journal of Roentgenology and Radium Therapy*, vol. 109. Document Type: Journal Article. Document Date: August 1970

Start Date      Number      Title

**1973**            **ACIR73000-N**    **Use of technetium-99m polyphosphate in the diagnosis of bone disease**

Abstract:        From 1973 until 1974 researchers from the William Beaumont Army Medical Center, El Paso, TX studied the use of technetium-99m (Tc99m) polyphosphate in the diagnosis of bone disease. Researchers compared the use of Tc99m with other imaging agents such as strontium-85 and fluorine-18. They found that its shorter half-life produced lower radiation exposure, allowing larger dose administration. This resulted in a faster scanning time and permitted scanning of patients with benign disease. In addition, Tc99m was less expensive and the lower gamma photon energy was better suited for imaging with the gamma scintillation camera. To date, no information is available on the number of participants.

Documents:      Authors: Ralph Blumhardt; Martin Nusynowitz. Title: A guide to bone scanning. Journal: *American Family Physician*, vol. 9, issue 1. Document Type: Journal Article. Document Date: January 1974

**NAVY 1944-1974**

**Beth Israel Hospital, Boston, MA**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1947	ONR-39	<b>The use of I-131 in treatment of heart diseases and long term radiation effects of I-131 in man</b>

Abstract: From 1947 to 1952 researchers at Beth Israel Hospital in Boston, MA conducted studies to establish the possible dosage range of iodine-131 (I-131) without causing functional or anatomical changes in the thyroid gland and the dosage range producing functional and anatomical changes, but associated with reversible phenomena. Additionally, the researchers sought to identify the dosage range producing permanent functional and pathological change in the thyroid and other organs. Continued observations of the long term radiation effects on euthyroid cardiac patients were to be carried out. Results of this study and information on the number of participants are not available at this time.

Documents: Authors: Herman L. Blumgard; A. Stone Freedberg; George S. Kurland. Title: Notice of research project: The use of I-131 in treatment of heart diseases and long term radiation effects (support terminated). Document Type: Report. Document Date: December 1952

**Cairo University, Cairo, Egypt**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
Unknown	NMRU3-03	<b>Bilharzial splenomegaly and refractory anemia</b>

Abstract: From a presently undetermined date until 1966, researchers at Cairo University and Kasr-el-Aini Hospital in Cairo, Egypt, studied bilharzial splenomegaly and refractory anemia. The participants involved in the study were a twelve year-old Egyptian boy and a sixty-one year-old Egyptian man. Chromium-51 tagged red blood cells were used to demonstrate the occurrence of hypersplenism and hypervolemia in the splenomegaly stage of the parasitic disease schistosomiasis.

Documents: Subject: Research study resulting in ionizing radiation exposure to human research subjects through study entitled: Bilharzial splenomegaly and refractory anemia. Document Type: Search Printout; Abstract. Document Date: 1994

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
Unknown	NMRU3-24	<b>Bilharzial splenomegaly and refractory anemia</b>

Abstract: This event is a duplicate of NMRU3-03

**NAVY 1944-1974 (CONTINUED)****Cairo University Hospital, Cairo, Egypt**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1956	NMRU3-06	<b>Schistosomiasis of the liver: Clinical, pathological and laboratory studies in Egyptian cases</b>

**Abstract:** In 1956, researchers from the Naval Medical Research Unit 3, Cairo, Egypt and Cairo University Hospital, Cairo, Egypt studied schistosomiasis of the liver. The objectives of the investigation were to study the clinical aspects of schistosomiasis of the liver, to study the histopathology in material obtained by needle biopsy, to study liver functions by available tests, and to see if a correlation could be made between clinical study, histopathology, and liver function tests. The study population was 115 male and ten female Egyptians with the parasitic disease schistosomiasis. Participants were studied clinically by liver biopsy and laboratory tests of liver function. X-ray examination of the lower esophagus by barium paste was performed to demonstrate varices and evacuation films with air distention were done in cases demonstrating growths by sigmoidoscopy. *Schistosoma hematobium* ova were found in ninety-four cases and *schistosoma mansoni* ova in forty-nine cases. They were combined in eighteen cases. In twenty-five cases, *schistosoma hematobium* was demonstrated in the bowel, and in seventy-six cases, *schistosoma hematobium* alone was demonstrated. The cases were divided into ascitic and non-ascitic cases. In general, the largest livers and spleens were in the ascitic cases, which may have confirmed the supposition that the ascitic cases were more advanced than the non-ascitic cases. Sigmoidoscopic lesions were found in 89% of cases; papillomas were present in 18.4% of cases. Satisfactory needle biopsy was obtained in seventy-eight cases. The liver function tests were abnormal in the majority of cases. The only strong correlation noted was that between the degree of fibrosis and Bromsulfalein retention.

**Documents:** Author: Moufid Ragheb, M.D. Title: Schistosomiasis of the liver: Clinical, pathologic and laboratory studies in Egyptian cases. Journal: *Gastroenterology*, vol. 30, issue 4. Document Type: Journal Article. Document Date: April 1956

**Children's Hospital, San Francisco, CA**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1963	ONR-29	<b>Clinical studies on the use of PVP preserved blood</b>

**Abstract:** From 1963 to 1964 researchers from the Presbyterian Medical Center, San Francisco, CA and Children's Hospital, San Francisco, CA, evaluated the clinical use of blood frozen and preserved by the Linde method employing polyvinylpyrrolidone as the preservative to freezing. Researchers administered over twenty-five single units of blood which was prepared with seven percent polyvinylpyrrolidone and frozen with liquid nitrogen techniques. The number of participants involved with this study is presently undetermined. A portion of blood was labeled with chromium-51, and studied in vivo for cell survival rates. Initial survival averaged eighty percent in the first twenty-four to forty-eight hours following the administration of the thawed blood, with normal survival thereafter. In summary, researchers felt that the recovery of frozen cells in 500cc units following freezing and thawing with liquid nitrogen techniques was approximately ninety-six percent.

**Documents:** Authors: Arthur Rinfret; Mark Hayes. Title: Proposal for clinical studies on PVP preserved blood. Document Type: Proposal. Document Date: 13 August 1962

**NAVY 1944-1974 (CONTINUED)**

**Children's Hospital, San Francisco, CA (continued)**

From: APR To: Victor Richards, Chief of Surgery, Presbyterian Medical Center. Subject: Found satisfactory tubing in high density polyethylene for cross matching tubes to be subjected to freezing. Document Type: Letter. Document Date: 27 June 1963

From: Victor Richards To: Joseph F. Saunders. Subject: Progress report on research being conducted by the group at Wisconsin, under the direction of Dr. Bjorsten. Study of the effect of liquid nitrogen preservation of blood. Document Type: Letter. Document Date: 20 July 1963

Author: Victor Richards. Title: Clinical studies on the use of PVP preserved blood. Document Type: Report. Document Date: 1963 est.

Title: Study ONR-29: Clinical studies on the use of PVP preserved blood. Document Type: Report. Document Date: 14 January 1964

From: Victor Richards, Chief of Surgery To: H.W. Whitcher, Colonel, Royal Army Medical Corps. Subject: Blood preservation; planned studies. Document Type: Letter. Document Date: 06 April 1964

Authors: Herbert A. Perkins, Mary R. Rolfs, Caroline Thacher; Victor Richards. Title: Effect of polyvinylpyrrolidone on plasma coagulation factors. Document Type: Report. Document Date: 1964 est.

**Department of Public Health, Philippines**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1970	NMRU2-08	<b>Clinical studies of Capillariasis philippinensis</b>

**Abstract:** From 1970 until 1972, researchers from the Naval Medical Research Unit No. 2, Taipei, Taiwan and the Department of Health, Philippines conducted clinical studies of capillariasis philippinensis, a newly discovered intestinal disease that causes a sprue-like syndrome with diarrhea, malabsorption, weight loss and mineral depletion. The purpose of the study was to determine if further investigation at different stages of the disease from the initial infection to the advanced stages would provide information on its pathogenesis. Twenty-eight capillaria-positive patients and eight controls participated in this study. Clinical studies described the signs and symptoms of the disease and extensive laboratory studies demonstrated a marked protein-losing enteropathy with impaired digestion and absorption of fats, proteins and carbohydrates. The protein-losing enteropathy was demonstrated through the use of chromium-51 (Cr-51). Both symptomatic and asymptomatic patients lost about four times more of the Cr-51 label in their stool over a five day period than did the controls. Treatment with thiabendazole over a period of several weeks eliminated capillariasis philippinensis ova from the faeces and reversed the clinical and biochemical changes. However, relapse was frequent and complete eradication of the infection was difficult.

**Documents:** Authors: R. H. Watten; W.M. Beckner; J.H., Cross; J. J. Gunning; J. Jarimillo. Title: Clinical studies of capillariasis philippinensis. Journal: *Royal Society of Tropical Medicine and Hygiene*, vol. 66, issue 6. Document Type: Journal Article. Document Date: 1972

Title: Clinical studies of capillariasis philippinensis (intestinal diseases, parasitic drug therapy). Document Type: Abstract. Document Date: 1972

**NAVY 1944-1974 (CONTINUED)**

**George William Hooper Foundation, College of Dentistry, University of California, San Francisco, CA**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1950	ONR-44	<b>Oral and alimentary effects of ingestion of radioactive elements</b>

Abstract: From 1950 until 1954 researchers at the George William Hooper Foundation, College of Dentistry, University of California, San Francisco, CA studied oral and alimentary effects of ingestion of radioactive elements. The purpose of the study was to investigate local and systemic effects of irradiation of the alimentary canal and oral cavity. Findings were to include: 1) description of gross pathological changes, 2) description of histopathological changes, 3) biochemical analysis of gastric, intestinal and salivary secretions, and 4) radioautographic survey of the localization of the isotopes in the gastrointestinal canal and mouth. To date, no information is available on the number of participants or research results.

Documents: Title: Notice of research project: Oral and alimentary effects of ingestion of radioactive elements (support terminated). Document Type: Report. Document Date: September 1954

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1950	ONR-45	<b>Oral and alimentary effects of ingestion of radioactive elements</b>

Abstract: This study is a duplicate of ONR-44

**Harlem City Hospital, New York, NY**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1950	ONR-23	<b>Radiation injury to the capillary wall</b>

Abstract: From 1950 until a presently undetermined date, researchers at the Harlem City Hospital, New York, NY studied radiation injury to the capillary wall. The purpose of the investigation was to study injury to the capillary system to see if there were some way to protect it from radiation injury. To date, no information is available on the number of participants or research results.

Documents: Author: Isidore Arons. Title: A report on the clinical investigation: The protective action of flavonoids against radiation injury. Document Type: Report. Document Date: 22 June 1950

From: Boris Sokoloff, Director of Research, Florida Southern College To: F. H. Quimby, Acting Head Physiology Branch. Subject: Project funding approval "Radiation Injury to the capillary wall;" discussion regarding first clinical report from Department of Radiotherapy, Harlem City Hospital. Document Type: Letter. Document Date: July 1950

**NAVY 1944-1974 (CONTINUED)**

**Indiana University Medical Center, Indianapolis, IN**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
<b>Unknown</b>	<b>ONR-13</b>	<b>Functional venography of the lower extremities</b>

**Abstract:** From a presently undetermined date until 1954, researchers from the Indiana University Medical Center, Indianapolis, IN evaluated methods of obtaining functional venography of the lower extremities by percutaneous injection of a radiopaque material into the femoral vein in the groin, into the popliteal vein and into a superficial vein in the thigh, leg or foot. Observations were based on 115 separate venographic studies, in 115 patients, before and after exercise of the dependent limb. X-rays were taken to see the distribution of the radiopaque material. Participants included twenty-three presumably normal individuals without signs or symptoms of venous disorder, and ninety-two patients with signs and symptoms of venous stasis, unexplained edema, or lymphatic blockade. Researchers believed that functional venography would be maximally useful in further clinical investigations aimed at examining normal and pathologic venous states and the effect of treatment. Additionally, researchers felt that the procedure would prove valuable in the study of patients with superficial varicosities before and after treatment.

**Documents:** Authors: Harris B. Shumacker, Jr.; Thomas C. Moore; J.A. Campbell. Title: Functional venography of the lower extremities. Journal: *Surgery, Gynecology and Obstetrics*, vol. 98. Document Type: Journal Article. Document Date: March 1954

**Kasr-el-Aini Hospital, Cairo, Egypt**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
<b>Unknown</b>	<b>NMRU3-03</b>	<b>Bilharzial splenomegaly and refractory anemia</b>

*(For abstract and documentation see Cairo University, Cairo, Egypt)*

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
<b>Unknown</b>	<b>NMRU3-24</b>	<b>Bilharzial splenomegaly and refractory anemia</b>

*(For abstract and documentation see Cairo University, Cairo, Egypt)*

**Long Island Jewish Hospital, New Hyde Park, NY**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
<b>Unknown</b>	<b>NHSTALB-14</b>	<b>Influence of chelates on the metabolism of radioyttrium</b>

**Abstract:** From a presently undetermined date until 1958, researchers from the Naval Hospital, St. Albans, NY and the Long Island Jewish Hospital, New Hyde Park, NY undertook an autoradiographic

**NAVY 1944-1974 (CONTINUED)****Long Island Jewish Hospital, New Hyde Park, NY (continued)**

study of the localization of radioyttrium (Y-90) in normal and healing bone as well as the distribution of Y-90 in patients, when Y-90 was used as a tracer chelated with an excess of N-hydroxy ethylenediamine triacetic acid (ED-ol). Studies were done on rabbits, dogs and six terminally ill patients. In order to determine the distribution of Y in humans and to compare it with that found in animals, the six terminally ill patients were administered, intravenously, two millicuries Y-90, chelated with ED-ol in a carrier dose of 0.05 to 0.20 milligrams Y-89 per kilogram. Autopsies were obtained in three of these patients, at which time representative samples of various tissues were removed and the relative Y-90 content determined. In the two patients given a carrier dose of 0.20 milligrams of Y-89 per kilogram, the major localization was in the liver and the spleen, whereas the patient given a carrier dose of 0.05 milligrams of Y-89 per kilogram showed significant localization in bone. Based on the results of the study, researchers suggested that Y-90 ED-ol, at low carrier concentration, may be useful in the management of malignant conditions involving the marrow and/or bone.

Documents: Authors: H. C. Dudley; Joseph Greenberg. Title: Influence of chelates on the metabolism of radioyttrium (Y-90). Journal: *Journal of Laboratory & Clinical Medicine*, vol. 52, issue 4. Document Type: Journal Article. Document Date: 01 October 1958

**National Naval Medical Center, Bethesda, MD**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1952	NNMC-003	Practical radioisotope therapy

Abstract: This was a retrospective study and did not involve human exposure to ionizing radiation.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
Unknown	NNMC-001	Preliminary report on the use of gallium-72 in clinical tracer studies

Abstract: From a presently undetermined date until 1952, researchers from the National Naval Medical Center in Bethesda, MD evaluated gallium-72 (Ga-72) as a diagnostic tool in the determination of the spread of primary bone tumors to areas other than the primary site and the size and extent of early bone metastasis from malignant lesions in soft tissues. Seventy-two tracer studies were performed on sixty-three patients with cancer likely to metastasize to bone. Tracer doses of 0.5 millicurie of Ga-72 citrate were administered intravenously and Geiger tube counts were taken six, twenty-four, and forty-eight hours following injection. Ga-72 tracer studies were repeated at three to six month intervals along with routine bone surveys at corresponding periods. These clinical tracer studies demonstrated increased gallium localization in eight of fourteen patients with definite bone metastases. Overall, researchers did not believe that Ga-72 would be a promising diagnostic tool for the future.

Documents: Authors: E. R. King; M. W. Mason; H. B. Messinger; H. C. Dudley. Title: A preliminary report on the use of use of gallium in clinical tracer studies. Document Type: Report. Document Date: January 1952

**NAVY 1944-1974 (CONTINUED)**

**National Naval Medical Center, Bethesda, MD (continued)**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
Unknown	NNMC-005	<b>Evaluation of pancreatic exocrine function and intestinal absorption with radioactive fat</b>

**Abstract:** From a presently undetermined date until 1957, researchers from the National Naval Medical Center, Bethesda, MD studied a method of evaluating intestinal and pancreatic function involving fat (triolein) tagged with radioiodine (I-131). Failure to absorb the entire dose of the I-131 labeled fat would result in the appearance of I-131 fat in the stool, and would ultimately indicate deficient pancreatic exocrine function or insufficient intestinal absorption. Thirty participants drank a suspension of ten drops of Lugol's solution and an indicator mixed in water. Participants then drank a triolein-I-131 and carrier mixture. Stool samples were tested until the marker no longer showed, typically for several days. Researchers believed that the test was easily performed, inexpensive and useful in evaluating deficiencies of pancreatic exocrine function and errors in alimentary absorption.

**Documents:** Authors: Richard P. Spencer; Charles R. Henkelman; E. Richard King. Title: Evaluation of pancreatic exocrine function and intestinal absorption with radioactive fat. Journal: *US Armed Forces Medical Journal*, vol. VIII, issue 5. Document Type: Journal Article. Document Date: 1957

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
Unknown	NNMC-007	<b>Use of radioisotopes in diagnostic hematological procedures. [Part I]. The Application of the B-12 Co-60 test in the diagnosis of macrocytic anemias and malabsorption states</b>

**Abstract:** From a presently undetermined date until 1956, researchers from the National Naval Medical Center, Bethesda, MD studied the use of cobalt-60 (Co-60) labeled B-12 to diagnose peripheral neuropathies, macrocytic anemias and certain malabsorption syndromes of the gastrointestinal tract. Seventeen patients participated in the study. A capsule containing approximately 0.5 microcuries of Co-60 labeled vitamin B-12 was administered orally to fasting patients. Two hours after the ingestion, a "flushing" dose of 1000 micrograms of B-12 was injected subcutaneously. Urine was collected during the twenty-four hours after the administration of the labeled B-12. In addition to the Co-60, one patient required an additional test (with iodine-131 labeled triolein) to complete the diagnosis. Researchers presented details concerning participant's treatment.

**Documents:** Authors: E. Richard King; Thomas G. Mitchell; Richard P. Spencer. Title: The use of radioisotopes in diagnostic hematologic procedures: The application of the B-12 Co-60 test in the diagnosis of macrocytic anemias and malabsorption states. Journal: *American Journal of Clinical Pathology*, vol. 28, issue 2. Document Type: Journal Article. Document Date: August 1957

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
Unknown	NNMC-008	<b>Use of radioisotopes in diagnostic hematologic procedures, Fe-59 erythrokinetic studies</b>

**Abstract:** From a presently undetermined date until 1956, researchers from the National Naval Medical Center, Bethesda, MD evaluated diseases of the hematopoietic system using plasma labeled

**NAVY 1944-1974 (CONTINUED)**

**National Naval Medical Center, Bethesda, MD (continued)**

with radioactive iron (Fe-59). Investigators determined the rate of disappearance of Fe-59 from the plasma, its incorporation into red blood cells, and its localization in selected sites of the body. Six individuals participated in this study. Twenty millimeters of venous blood were withdrawn from each patient; five milliliters were retained to determine the ambient iron content. Seven to eight milliliters of the plasma from the blood were combined with forty microcuries of Fe-59 in ferrous citrate. Six milliliters of the labeled plasma were injected into the patient, with one milliliter retained as a standard. Blood was then withdrawn ten minutes later, several additional times during that day and twice weekly for three weeks. Plasma volume was also measured by labeling red blood cells with chromium-51 for comparison to the Fe-59 method. Researchers determined that the rate of disappearance of Fe-59 from plasma, the incorporation of radioactive iron into the erythrocytes, and the localization of the Fe-59 in the bone marrow, and the liver and the spleen may be assayed relatively easily.

Documents: Authors: Richard P. Spencer; Thomas G. Mitchell and E. Richard King. Title: The use of radioisotopes in diagnostic hematologic procedures: Fe-59 erythrokinetic studies. Journal: *American Journal of Clinical Pathology*, vol. 28, issue 2. Document Type: Journal Article. Document Date: August 1957

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
Unknown	NNMC-009	<b>Use of radioisotopes in diagnostic hematologic procedures, simultaneous Cr-51 and Fe-59 studies</b>

Abstract: From a presently undetermined date until 1956, researchers from the National Naval Medical Center, Bethesda, MD evaluated simultaneous chromium-51 (Cr-51) and iron-59 (Fe-59) tracing by using gamma-ray spectrometry for determining red blood cell volume, survival time of circulating erythrocytes, plasma iron turnover, and utilization of iron by red blood cells for evaluation of diseases of the blood. Participants included one healthy individual (to determine normal levels), and six patients with various hematologic diseases including aplastic anemia, polycythemia vera, and untreated chronic myelocytic leukemia. A forty-five milliliter blood sample was drawn from each participant. Five milliliters were reserved and permitted to clot, fifteen milliliters were labeled with forty microcuries of Fe-59, and twenty-five milliliters were labeled with fifty microcuries of Cr-51. After preparation of the samples, six milliliters of each solution were injected into the participants. A series of blood samples were withdrawn beginning five minutes following the injections. The samples were withdrawn for the first three weeks after the injections. Researchers determined that gamma-ray spectrometry permitted differentiation between two gamma-emitting isotopes, based on differences of their emissions. These differences allowed simultaneous use of radiochromium and radioiron. Additionally, conducting studies simultaneously reduced testing time and expedited the process of obtaining information about a patient's conditions.

Documents: Authors: Thomas G. Mitchell; Richard P. Spencer; E. Richard King. Title: The use of radioisotopes in diagnostic hematologic procedures: III simultaneous Cr-51 and Fe-59 studies. Journal: *American Journal of Clinical Pathology*, vol. 28, issue 5. Document Type: Journal Article. Document Date: 15 July 1957

**NAVY 1944-1974 (CONTINUED)**

**Naval Hospital, Charleston, SC**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
Unknown	NHCHA-002	<b>Double blind prospective study of aerosolized steroids in croup</b>

Abstract: This study was never approved.

**Naval Hospital, Great Lakes, IL**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1972	NHGL-070	<b>Dynamic scintiphotography in the evaluation of renal disease</b>

Abstract: From 1972 until a presently undetermined date, researchers from the Naval Hospital, Great Lakes, IL assessed the value of dynamic scintiphotography in diagnosing renal (kidney) disease. Eighteen patients participated in this study. Eight millimeter movie films were prepared of technetium-99m (Tc-99m) pertechnetate, iodine-131 Hippuran and Tc-99m DTPA images for various periods following injection. In seven cases, scintigraphic work positively influenced patient management; in six it had no effect and in five, it helped stimulate more invasive procedures with an eventual diagnosis of normal. In eight cases, the scintigraphic work confirmed lesions seen at intravenous pyelogram (IVP) and in two cases it helped the urologist plan surgery by substantiating residual function in kidneys not seen by IVP. (This study is a duplicate of NNMC-028)

Documents: Title: Dynamic scintiphotography in the evaluation of renal disease. Document Type: Abstract. Document Date: 1972

Author: G. J. Weir, Jr. Title: Dynamic scintiphotography in the evaluation of renal disease: Journal: US Navy Medicine. Document Type: Abstract. Document Date: 1972 est.

Author: G. John Weir, Jr. Title: Dynamic scintiphotography in the evaluation of renal disease. Document Type: Excerpt. Document Date: 1972 est.

Author: G. J. Weir, Jr. Title: Dynamic scintiphotography in the evaluation of renal disease. Journal: US Navy Medicine. Document Type: Abstract. Document Date: 1972 est.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1972	NNMC-026	<b>Diagnosis of early arthritis by joint scintiphotography</b>

Abstract: From 1972 until a presently undetermined date, researchers at the Naval Hospital, Great Lakes, IL evaluated the possibility of diagnosing joint disease six to twenty-four months earlier. Thirty-one patients participated in this study. Researchers sought to develop a method to aid in the earlier identification of military personnel with significant joint disease, thus preventing induction or enlistment of personnel with potential disabling illness. Technetium-99 (99mTc) scintiphotography of joints was performed on personnel with known arthritic disease and on personnel with arthralgias of undetermined etiology. Studies of patients with known disease

**NAVY 1944-1974 (CONTINUED)**

**Naval Hospital, Great Lakes, IL (continued)**

were conducted to determine the optimum times and methods of study. Personnel with undiagnosed joint symptoms were studied and followed clinically until a diagnosis was established. After diagnoses were established, the original scintiphotos were reviewed for evidence of characteristics which distinguish between benign, self-limited, and chronic systemic diseases. Preliminary findings demonstrated that scintiphotography is normal in patients with arthralgia, and thus not helpful as a diagnostic aid for individuals in this group.

Documents: Title: Diagnosis of early arthritis by joint scintiphotography. Document Type: Protocol. Document Date: 1972  
 Authors: G. J. Weir, Jr.; R. E. Easterday. Title: Diagnosis of early arthritis by joint scintiphotography. Document Type: Protocol. Document Date: 1972 est.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1972	NNMC-027	Diagnosis of urinary tract obstruction by scintiphotography

Abstract: From 1972 until a presently undetermined date, researchers at the Naval Hospital, Great Lakes, IL attempted to diagnose urinary tract obstructions using scintiphotography. Researchers sought to develop a diagnostic method involving less radiation exposure than intravenous pyelography (IVP). It is unclear how many individuals participated in this study. Patients with clinical indication of urinary tract obstruction were studied using rectilinear scanning in addition to scintiphotography using a variety of radionuclides including 99m technetium pertechnetate, iodine-131 Hippuran and /or 99m Tc-iron-DTPA. Scintiphotos were compared to IVP in their ability to detect and localize obstruction.

Documents: Author: G. J. Weir, Jr. Title: Procedural guidelines for preparing study proposal: Diagnosis of urinary tract obstruction by scintiphotography. Document Type: Proposal. Document Date: 1972  
 Author: G. J. Weir, Jr. Title: Diagnosis of urinary tract obstruction by scintiphotography. Document Type: Abstract. Document Date: 1972  
 Authors: G. J. Weir, Jr.; K. R. Hutchins; J. E. Keeton. Title: Diagnosis of urinary tract obstruction by scintiphotography. Document Type: Abstract. Document Date: 1972

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1972	NNMC-028	Dynamic scintiphotography in the evaluation of renal disease

Abstract: This event is a duplicate of NHGL-070

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1972	NHGL-072	Radioisotopic determination of glomerular filtration rate (GFR) and effective renal plasma flow (ERPF)

Abstract: From 1972 until a presently undetermined date, researchers at the Naval Hospital Great Lakes, IL studied the radioisotopic determination of glomerular filtration rate (GFR) and effective renal plasma flow (ERPF). Researchers sought to develop a proven method of renal function testing,

**NAVY 1944-1974 (CONTINUED)**

**Naval Hospital, Great Lakes, IL (continued)**

decrease incidence of erroneous laboratory studies by substituting less complex methods of determining renal function, provide more precise methods of determining GFR, and provide a means of determining ERPF. Seventeen individuals, including hospital staff and the primary researcher, participated in the study. Twenty-five measurements in seventeen participants were made. Iodine-125 Na iothalamate and iodine-131 orthoidohippuran were used for diagnosis of renal disease and evaluation of renal function. Researchers compared GFR determinations to creatinine clearance to assess accuracy and applicability. ERPF determinations were performed in various disease states to assess the utility of this study in diagnosing and following clinical renal function.

Documents: Author: G. John Weir, Jr. Title: Radioisotopic determination of glomerular filtration rate (GFR) and effective renal plasma flow (ERPF). Document Type: Proposal. Document Date: 1972  
 Title: Radioisotopic determination of glomerular filtration rate (GFR) and effective renal plasma flow (ERPF). Document Type: Abstract. Document Date: 1973 est.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
Unknown	NNMC-025	<b>Evaluation of role of thyrotrophic hormone (TSH) in simple and multinodular goiter and thyroid carcinoma</b>

Abstract: The inclusive dates for this study are presently undetermined. Researchers at the Naval Hospital, Great Lakes, IL investigated the role of thyrotrophic hormone in simple and multinodular goiter. It is unclear how many individuals participated in this study. Investigators intended to develop a radioimmunoassay for (Thyrotrophic Hormone) TSH to be used in the evaluation of the role of TSH in the pathogenesis of goiter and to evaluate the efficacy of thyroid replacement therapy. Six attempts were made to iodinate TSH samples using the standard iodination procedure of oxidation with chloramine-T; however, these attempts were unsuccessful. The researchers then evaluated an alternative method of iodination. Separation of the labeled material utilizing Sephadex chromatography resulted in uniform spread of radioactivity instead of the expected double peak.

Documents: Authors: G. J. Weir, Jr.; R. W. Spath. Title: The role of thyrotrophic hormone (TSH) in simple and multinodular goiter and in thyroid carcinoma. Document Type: Abstract. Document Date: 1972  
 Title: Evaluation of the role of thyrotrophic hormone in simple and multinodular goiter. Document Type: Protocol. Document Date: 1972 est.

**Naval Hospital, Oakland, CA**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
Unknown	ONR-28	<b>An evaluation of rapid weight reduction in obesity; body composition during therapy in diabetes mellitus</b>

Abstract: The inclusive dates for this study conducted at the University of California San Francisco Medical Center, San Francisco, CA and the Naval Hospital, Oakland, CA are presently

**NAVY 1944-1974 (CONTINUED)**

**Naval Hospital, Oakland, CA (continued)**

undetermined. The purpose of the study was to investigate radiopotassium and radiothyroxine turnover in obesity and changes in body composition during weight reduction in obesity. In addition, patients with non-insulin-dependent diabetes mellitus (obese and non-obese) were to be studied in order to define the course of changes in body composition during therapy in diabetes mellitus. To date, no information is available on the number of study participants or research results.

Documents: Title: University of California, San Francisco annual summary report for period 01 October 1966 to 30 September 1967. (abstract of "An evaluation of rapid weight reduction in obesity: Body composition during therapy). Document Type: Report; Excerpt. Document Date: 30 September 1967

**Naval Hospital, Pensacola, FL**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
Unknown	NHPEN-001	<b>Alterations in renal clearance of digoxin as modified by volume loading, alkalinization and diuretics and measured by radioimmunoassay technique</b>

Abstract: The inclusive dates for this study conducted at the Naval Hospital, Pensacola, FL are presently undetermined. Researchers investigated the kidney's handling and excretion of digoxin, a widely used cardiac drug. Seven patients participated. Radiation exposures and results of this study are not available at this time.

Documents: Author: Donald D. Brown. Title: Alterations in the renal clearance of digoxin as modified by volume loading, alkalinization and diuretics and measured by a radioimmunoassay technique. Document Type: Protocol. Document Date: 1957 est.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
Unknown	NHPEN-002	<b>Clinical study of intraocular lenses</b>

Abstract: This study did not involve human exposure to ionizing radiation.

**Naval Hospital, Philadelphia, PA**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1972	NHPHIL-002	<b>Preventive control of hyperlipemia in Naval personnel</b>

Abstract: From 1972 to 1975, researchers at the Naval Hospital, Philadelphia, PA examined the combined therapeutic effect of D-thyroxin (DT-4) and propranolol (P) in the treatment of patients with hyperlipemia (HL) and angina pectoris (AP). Twenty-eight male patients with HL and AP participated in this study. After diagnostic catheterization studies, each patient's anginal syndrome was controlled with P. Following appropriate dietary restrictions and body weight

**NAVY 1944-1974 (CONTINUED)**

**Naval Hospital, Philadelphia, PA (continued)**

reduction, serum cholesterol and triglycerides stabilized. After 21.7 months treatment with DT-4, serum cholesterol and triglycerides decreased significantly. Five patients were restudied with coronary angiography, a procedure that uses a contrast agent in combination with x-rays. Coronary angiographic abnormalities progressed in one of these five patients which was related to persistent HL. Researchers determined that DT-4 could be safely utilized in AP patients, when its undesirable effects were blocked with P.

Documents: Authors: C. J. Pepine; S. J. Schang. Title: Augmentation of lipid reduction action of D-Thy-Roxin (DT4) without factitial hyperthyroidism. Document Type: Abstract. Document Date: 1973 est.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
<b>1973</b>	<b>NMCSD-153</b>	<b>Evaluation of upper gastrointestinal (UGI) bleeding in military personnel utilizing duodenoscopy</b>

Abstract: From 1973 until a presently undetermined date, researchers at the Naval Medical Center in San Diego, CA and the Naval Hospital in Philadelphia, PA assessed fiberduodenoscopy (visual examination of the duodenum) in the diagnosis of patients with upper gastrointestinal (UGI) bleeding. Patients were evaluated within forty-eight hours of admittance by barium contrast radiography, esophagogastrosocopy and duodenoscopy. Preliminary data indicated that duodenoscopy should be performed on all patients with UGI bleeding due to the frequency of radiographically recognized duodenal ulceration. A vigorous diagnostic approach in the evaluation of patients with acute UGI hemorrhage should localize the site of bleeding in essentially 100% of patients. Study participants were fifty patients with acute UGI bleeding; sixty-five percent were veterans or retired military personnel. The average participant was forty-seven years old. A pathologic lesion was found in all patients.

Documents: Authors: O. T. Nebel; D. O. Castell. Title: Duodenoscopy and the diagnosis of upper gastrointestinal bleeding. Document Type: Abstract. Document Date: 1973 est.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
<b>Unknown</b>	<b>NNMC-032</b>	<b>Clinical evaluation of a tin electron filter for cobalt-60 radiation therapy utilizing a thermoluminescence dosimetry system effect on skin sparing</b>

Abstract: From a presently undetermined date until 1972, researchers at the Naval Hospital, Philadelphia, PA examined the effectiveness of the tin electron filter, as used in conjunction with a thermoluminescent dosimeter reader in skin-sparing as related to hair loss. Researchers anticipated that twenty patients, who were awaiting whole-brain irradiation, would participate in the study; however, the actual number of study participants is unknown. Investigators postulated that the hair under the unshielded portion of the treatment port would epilate sooner than that of the shielded portion. Preliminary results indicated that there was a significant skin-sparing effect gained by employing a tin electron filter in radiation therapy treatments.

Documents: Author: J. L. Murray. Title: Clinical evaluation of a tin electron filter for cobalt-60 radiation therapy utilizing a thermoluminescence dosimetry system effect on skin sparing. Document Type: Abstract. Document Date: 1972

**NAVY 1944-1974 (CONTINUED)**

**Naval Hospital, Philadelphia, PA (continued)**

Author: J. L. Murray. Title: Clinical evaluation of a tin electron filter for cobalt-60 radiation therapy utilizing a thermoluminescence dosimetry system effect on skin sparing. Journal: *U.S. Navy Medicine*. Document Type: Abstract. Document Date: 1972

Author: Saul Silverman. Title: Clinical evaluation of a tin electron filter for cobalt-60 radiation therapy utilizing a thermoluminescence dosimetry system effect on skin sparing. Document Type: Proposal. Document Date: 1972 est.

Author: Saul Silverman. Title: Clinical evaluation of a tin electron filter for cobalt-60 radiation therapy utilizing a thermoluminescence dosimetry system effect on skin sparing. Document Type: Abstract. Document Date: 1972

**Naval Hospital, Portsmouth, VA**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
Unknown	NHPTS-94	<b>Inhibition of thyroidal I-131 uptake by parabromdylamine maleate</b>

Abstract: From a presently undetermined date until 1960, researchers from the Naval Hospital, Portsmouth, VA evaluated the effect of parabromdylamine maleate on the thyroidal uptake of radioiodine (I-131) in untreated hyperthyroid and euthyroid patients. Twenty-two patients were studied; thirteen were hospitalized patients and nine were out-patients. The thyroidal uptake of I-131 was determined after administration of ten microcuries, using a collimated 2.5 x 2.5 centimeter thallium-activated sodium iodide crystal placed twenty-five centimeters from the neck. Following the initial uptake measurements, parabromdylamine was administered orally in a dosage of sixteen milligrams daily to five patients, and twenty-four milligrams daily to seventeen patients for a period of seven days. On the eighth day, the I-131 uptake was determined again. In the two hyperthyroid and eight euthyroid patients in whom there was a reduction of thyroidal I-131 uptake, no side effects manifested from parabromdylamine. There was no significant difference between the degree of inhibition induced by the sixteen milligram dosage and that induced by the twenty-four milligram dosage.

Documents: Author: Alton R. Sharpe, Jr. Title: Inhibition of thyroidal I-131 uptake by parabromdylamine maleate. Journal: Unknown, vol. 21. Document Type: Journal Article. Document Date: June 1961

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
Unknown	NHPTS-95	<b>Analysis of time and concentration components and cardiac output determination obtained from precordial isotope-dilution curves</b>

Abstract: From a presently undetermined date until 1959, researchers from the Naval Hospital, Portsmouth, VA compared precordial isotope-dilution cardiac output values with those obtained by the Fick method. Ninety precordial isotope-dilution curves (determinations of cardiac output) in forty-two patients with no evidence of cardiac disease were analyzed. Radioactive iodinated human serum albumin (RIHSA) was delivered through a three-way stopcock attached to an indwelling needle placed in an anticubital vein. Ten minutes after injection, a final concentration was recorded over a one minute period. Patients received from five to forty-five microcuries. In some patients, the blood volume was determined by the RIHSA method, and in others the blood

**NAVY 1944-1974 (CONTINUED)**

**Naval Hospital, Portsmouth, VA (continued)**

volumes were estimated from normal standards. Researchers determined that the precordial measured cardiac outputs showed good agreement with the consecutive Fick determinations.

Documents: Author: Alton R. Sharpe, Jr.; William Shapiro. Title: Analysis of time and concentration components and cardiac output determination obtained from precordial isotope-dilution curves. Journal: *American Heart Journal*, vol. 61, issue 5. Document Type: Journal Article. Document Date: May 1961

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
<b>Unknown</b>	<b>NHPTS-96</b>	<b>Simple isotope method for recording the Achilles' tendon reflex in myxedema</b>

Abstract: From a presently undetermined date until 1960, researchers from the Naval Hospital, Portsmouth, VA studied tendon reflexes as a diagnostic aid in myxedematous patients. Diagnosis was determined by history, physical examination, five and twenty-four hour iodine-131 (I-131) uptake, protein bound iodine, and red cell I-131 uptake. A fifteen microcurie source of I-131, shielded with lead to minimize radiation to the patient, was attached to the foot. A sodium iodide thallium activated crystal was connected to a ratemeter with time constant set at 0.5 second and count range at 30K, and readings were taken. To date, no information is available on the number of participants.

Documents: Author: A. R. Sharpe, Jr. Title: A simple isotope method for recording the Achilles' tendon reflex in myxedema. Journal: *Journal of Laboratory and Clinical Medicine*, vol. 57. Document Type: Journal Article. Document Date: January 1961

**Naval Hospital, St. Albans, NY**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
<b>1958</b>	<b>NHSTALB-12</b>	<b>Use of femoral arteriography in assessment of bleeding in pregnancy</b>

Abstract: From 1958 until 1960, researchers from the Naval Hospital, St. Albans, NY studied the use of percutaneous retrograde femoral arteriography as a diagnostic tool in the management of twenty-one patients presented with unexplained vaginal bleeding during pregnancy. Arteriography was employed in cases where no local cause for bleeding was found during speculum examination. In order to illuminate the placenta, hypaque was used as a contrast agent, and following injection of the agent, x-rays were taken immediately. Researchers concluded that arteriography was helpful in determining the existence and site of the placenta and the presence of abruptio placentae. In total, 250 patients were seen by researchers during the course of the three year study.

Documents: Author: Richard L. Bernstine. Title: Use of femoral arteriography in assessment of bleeding in pregnancy. Journal: *American Journal of Obstetrics and Gynecology*, vol. 80, issue 6. Document Type: Journal Article. Document Date: December 1960

**NAVY 1944-1974 (CONTINUED)**

**Naval Hospital, St. Albans, NY (continued)**

Start Date      Number      Title

**1959**            **NHSTALB-11**    **Findings on retrograde femoral arteriography in choriocarcinoma**

Abstract: From 1959 until 1961 researchers from the Naval Hospital, St. Albans, NY studied the case of a twenty-three year old woman who was diagnosed with choriocarcinoma. This case was of particular interest to researchers because of the occurrence of arteriovenous fistulas in a patient with histologically proven choriocarcinoma. The fistulas were demonstrated radiologically within the location of a palpable pelvic mass. It was possible to demonstrate by arteriography (a procedure involving injection of a contrast agent followed by x-rays), the regression of the mass in response to amethopterin therapy. Researchers postulated that retrograde femoral arteriography would prove useful in diagnosing trophoblastic tumors where the wall of the uterus is involved deep into the endometrium, and that it could be used as an adjunct to ultimately follow the course of a lesion.

Documents: Author: Nicholas A. Garcia, III; James H. Nelson, Jr.; Richard L. Bernstine; J. Wilson Huston; Charles Gartenlaub. Title: Findings of retrograde femoral arteriography in choriocarcinoma. Journal: *American Journal of Obstetrics and Gynecology*, vol. 81, issue 4. Document Type: Journal Article. Document Date: April 1961

Start Date      Number      Title

**Unknown**        **NHSTALB-13**    **External recording method for estimating hepatic blood flow with use of radiogold**

Abstract: From a presently undetermined date until 1958, researchers from the Naval Hospital, St. Albans, NY undertook this study to identify a simple percutaneous method of measuring hepatic blood flow for clinical use. Fifty-one individuals participated in this study. Radioactive colloidal gold (Au-198) was chosen because of its favorable characteristics. The short half-life of Au-198 yielded only a small dose of radiation to the liver following administration of fifteen microcuries. Dogs were studied first to determine the smallest dose of Au-198 that could be measured quantitatively by the available equipment, and to compare the disappearance of radioactivity from blood samples with the disappearance curves measured by external counting over large vessels. To establish a normal range for hepatic blood flow, the external counting method was used to make measurements on normal human participants as well. Patients with cirrhosis and hepatitis were also studied. Researchers determined that the percutaneous method was satisfactory for clinical measurements of hepatic blood flow.

Documents: Author: Joseph S. Burkle; Marvin L. Gliedman. Title: External recording method for estimating hepatic blood flow with the use of radiogold. Journal: *Gastroenterology*, vol. 36, issue 1. Document type: Journal Article. Document date: January 1959

Start Date      Number      Title

**Unknown**        **NHSTALB-14**    **Influence of chelates on the metabolism of radiotritium**

(For abstract and documentation see Long Island Jewish Hospital, New Hyde Park, NY)

**NAVY 1944-1974 (CONTINUED)**

**Naval Hospital/Medical Center, San Diego, CA**

Start Date      Number      Title

**1973**            **NMCSD-015**    **Endoscopic electrosurgical polypectomy**

**Abstract:**      From 1973 until a presently undetermined date, researchers from the Naval Hospital/Naval Medical Center, San Diego, CA studied endoscopic electrosurgical polypectomy (EEP), the removal of small bumps from the colon or small intestine, and schistosomal polyposis. Fifteen patients with schistosomal colonic polyposis were evaluated and treated with niridazole. Post-treatment studies were completed at three, six, and twelve months. All patients were symptom free and showed marked improvement in physical status, laboratory studies, barium enema, and colonoscopy. The innumerable fungating, necrotic, polypoid masses gradually regressed, while stool cultures and colonic biopsy showed no viable eggs. These data supported the efficacy of medical therapy in the treatment of schistosomal polyposis and indicated that the polyposis may have been a reversible lesion.

**Documents:**      Title: Endoscopic electrosurgical polypectomy. Document Type: Proposal. Document Date: 25 June 1973

Author: O. T. Nebel. Title: Endoscopic electrosurgical polypectomy. Document Type: Abstract. Document Date: 1973 est.

Author: O. T. Nebel, Lieutenant Commander, Medical Corps. Title: Schistosomal polyposis: Endoscopic and histologic evaluation of medical therapy. Document Type: Report. Document Date: 1973 est.

Start Date      Number      Title

**1973**            **NMCSD-016**    **Recurrent lower urinary tract infection in woman: Effect of urethral dilation**

**Abstract:**      From 1973 to 1975 researchers from the Naval Hospital/Naval Medical Center, San Diego, CA studied the effect of urethral dilation on recurrent lower urinary tract infections in women. Patients were examined roentgenologically for the presence of upper urinary tract abnormality before being permitted to participate in the study. Twenty-five patients participated in this study. Results of this study are unavailable at this time.

**Documents:**      From: John P. Sands, Jr. LCDR MC USNR To: Human Use Committee. Subject: Revision of research CIC from 6500/1, number 347, date 24 May 1973. Document Type: Memorandum. Document Date: 26 September 1973

Title: Study #NMCSD-16: Recurrent lower urinary tract infections in woman: The effect of urethral dilation. Document Type: Event Profile. Document Date: 1994

Start Date      Number      Title

**1973**            **NMCSD-153**    **Evaluation of upper gastrointestinal (UGI) bleeding in military personnel utilizing duodenoscopy**

*(For abstract and documentation see Naval Hospital, Philadelphia, PA)*

**NAVY 1944-1974 (CONTINUED)**

**Naval Medical Research Unit 2, Taipei, Taiwan**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1967	NMRU2-14	<b>Preliminary observations on a new disease in man - intestinal capillariasis</b>

Abstract: This study did not involve human exposure to ionizing radiation.

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1970	NMRU2-08	<b>Clinical studies of Capillariasis philippinensis</b>

(For abstract and documentation see Department of Public Health, Philippines)

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
Unknown	NMRU2-04	<b>Abnormalities of physiology of copper in Wilson's disease: The whole-body turnover of copper</b>

Abstract: From a presently undetermined date until 1970, researchers from the Naval Medical Research Unit 2, Taipei, Taiwan and the Clinical Study Center at the San Francisco General Hospital, San Francisco, CA measured the whole-body turnover of copper, using copper-67 (Cu-67) and the whole body counter. Studies were carried out on a total of seventy-nine individuals from two populations: one Chinese and the other American. Included were normal controls, control patients with cirrhosis of the liver, patients convalescing from other illnesses, patients with Wilson's disease, and relatives of those patients, either parents or siblings. Each patient received intravenously 15 to 150 microcuries of carrier-free cupric chloride Cu-67. Whole body radioactivity was measured daily or twice daily in the whole body counter at each institution. Researchers found that in the absence of clinical or laboratory evidence of cirrhosis, prolonged whole body retention of copper could be used to identify the genetic defect of Wilson's disease, either homozygous or heterozygous.

Documents: Title: Current research in medical physics department. Journal: *NAMRUGRAM - Naval Medical Research Unit No. 2*, vol. 5, issue 3. Document Type: Journal/Newsletter. Document Date: March 1971

Authors: Sean O'Reilly; Thomas Strickland, Jr; Paul M. Weber; William M. Beckner; Leroy Shipley. Title: Abnormalities of the physiology of Copper in Wilson's disease. Journal: *Arch Neuro*, vol. 24. Document Type: Journal Article. Document Date: May 1971

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
Unknown	NMRU2-07	<b>Turnover studies of copper and homozygotes and heterozygotes for Wilson's disease and controls: Isotope tracer studies using copper-67 and copper-64</b>

Abstract: From a presently undetermined date until 1972, researchers from the Naval Medical Research Unit 2, Taipei, Taiwan studied turnover and absorption rates of copper in patients with Wilson's disease (WD). The researchers conducted some studies using copper-67 (Cu-67) only and others using Cu-67 and copper-64 (Cu-64). Studies using Cu-67 only were carried out on sixty-

**NAVY 1944-1974 (CONTINUED)**

**Naval Medical Research Unit 2, Taipei, Taiwan (continued)**

two Chinese patients (thirteen patients with WD, twenty-nine of their parents and siblings, thirteen normal individuals, and seven patients with cirrhosis of the liver.) Controls and five siblings of patients with WD generally excreted more than 15% of the dose of Cu-67 in their five-day stool collections, had normal liver/thigh radioactivity ratio patterns, and whole-body biological Cu-67 half-times of less than 40 days. The remaining twenty-four family members, including all twelve parents, and the patients with WD generally excreted less than 15% of the dose of Cu-67 in their five-day stool collections, had abnormal liver/thigh radioactivity ratio patterns, and had whole-body biological Cu-67 half-times greater than 40 days. The data demonstrated a normal Cu-67 biological half-time of 28 days and faecal excretion of 22% in 5 days, and suggested a decreased biliary excretion of copper in both homozygous and heterozygous individuals with WD. In studies using Cu-67 and Cu-64, absorption of copper was determined by the simultaneous administration of Cu-64 orally and Cu-67 intravenously to six patients with WD, eighteen of their parents and siblings, four normal individuals, and three patients with cirrhosis of the liver. The total-body counting and faecal methods for determining copper absorption agreed with each other, demonstrating that the normal absorption of copper was 40-70% of the administered activity and that absorption was not influenced by cirrhosis of the liver, age, or sex; but it appeared to be inversely related to the amount of carrier copper. The absorption of copper in both homozygotes and heterozygotes for WD did not differ significantly from that of the controls. Therefore, the increased body burden of copper in WD did not appear to be due to over absorption, but rather to decreased biliary excretion of copper.

Documents: Authors: G. T. Strickland, W. M. Beckner and Mei-Ling Leu. Title: Absorption of Copper in homozygotes and heterozygotes for Wilson's disease and controls: Isotope tracer studies with 67 Cu and 64 Cu. Journal: *Clinical Science*, vol. 43. Document Type: Journal Article. Document Date: 26 April 1972

Authors: G. T. Strickland; W. M. Beckner; Mei-Ling Leu; S. O'Reilly. Title: Turnover studies of Copper in homozygotes and heterozygotes for Wilson's disease and controls: Isotope tracer studies with 67 Cu. Journal: *Clinical Science*, vol. 43. Document Type: Journal Article. Document Date: 26 April 1972

Subject: Regarding study: Turnover studies of Copper in homozygotes and heterozygotes for Wilson's disease and controls: Isotope tracer studies with 67 Cu (1966 - 1980). Document Type: Abstract. Document Date: 1980

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
Unknown	NMRU2-12	Iodine-131 studies in schistosomiasis

Abstract: The inclusive dates for this study conducted at the Naval Medical Research Unit 2 stationed in Taipei, Taiwan are presently undetermined. Researchers investigated changes in physiology and blood plasma due to schistosomal infection. To date no information is available on the number of study participants. Tracers used in the study were iodine-131 labeled albumin, chromium-51 and cobalt-60 labeled vitamin B-12. Radiation exposures and results of this study are unavailable at this time.

Documents: Title: Iodine-131 studies in schistosomiasis. Document Type: Event Profile. Document Date: 1994

**NAVY 1944-1974 (CONTINUED)**

**Naval Medical Research Unit 3, Cairo, Egypt**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1956	NMRU3-06	<b>Schistosomiasis of the liver: Clinical, pathological and laboratory studies in Egyptian cases</b>

*(For abstract and documentation see Cairo University Hospital, Cairo, Egypt)*

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
Unknown	NMRU3-04	<b>Radioactive renography in schistosomal obstructive uropathy</b>

**Abstract:** From a presently undetermined date until 1973 researchers at the Naval Medical Research Unit 3, Cairo, Egypt, studied radioactive renography in schistosomal obstructive uropathy. Ten Egyptian male patients with obstructive uropathy secondary to schistosoma haematobium and with associated bacteriuria were evaluated with serial urograms, renograms (using iodine-131 iodohippurate) and renal function tests (endogenous creatinine clearance, maximal urinary concentration, and total hydrogen ion excretion) before and after medical treatment.

**Documents:** Title: Radioactive renography in schistosomal obstructive uropathy. Document Type: Search Printout; Abstract. Document Date: 1994

**Naval Regional Medical Center, Oakland, CA**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1974	NHOAK-007	<b>Early determination of the incidence and healing of aseptic necrosis of femoral head following trauma utilizing radioisotope scan</b>

**Abstract:** From 1974 to 1977 researchers from the Naval Regional Medical Center, Oakland, CA studied the incidence and healing of aseptic necrosis of the femoral head following trauma utilizing radioisotope scan. Eight patients with intracapsular femoral neck fractures, traumatic hip dislocations, or fractures of the acetabulum participated. Patients were injected with up to ten millicuries of a technetium-99m bone scanning agent 2.5-2.75 hours before scanning.

**Documents:** Title: Early determination of the incidence and healing of aseptic necrosis of the femoral head following trauma utilizing radioisotope scan. Document Type: Protocol; Excerpt. Document Date: 1974

**Ohio State University Research Foundation, Columbus, OH**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1948	ONR-36	<b>Radioautographs</b>

**Abstract:** From 1948 until 1951 researchers from Ohio State University, Columbus, OH studied radioautographs. The purpose of the study was to investigate the effect of strong magnetic fields

**NAVY 1944-1974 (CONTINUED)**

**Ohio State University Research Foundation, Columbus, OH (continued)**

in increasing the resolution of radioautographs. Beta-rays, monoenergetic electrons and alpha particles were used in the investigation. To date no information is available on the number of participants, radiation exposures, or research results.

Documents: Author: M. L. Pool. Title: Notice of research project: Bio-sciences information exchange: Radio-autographs (supported terminated). Document Type: Report. Document Date: September 1951

**Presbyterian Medical Center, San Francisco, CA**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1963	ONR-29	Clinical studies on the use of PVP preserved blood

*(For abstract and documentation see Children's Hospital, San Francisco, CA)*

**San Francisco General Hospital, San Francisco, CA**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
Unknown	NMRU2-04	Abnormalities of physiology of copper in Wilson's disease: The whole-body turnover of copper

*(For abstract and documentation see Naval Medical Research Unit 2, Taipei, Taiwan)*

**San Lazaro Hospital, Philippines**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1967	NMRU2-14	Preliminary observations on a new disease in man - intestinal capillariasis

*(For abstract and documentation see Naval Medical Research Unit 2, Taipei, Taiwan)*

**Strong Memorial Hospital, Rochester, NY**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1946	ONR-14	Immunologic studies on red blood cells

Abstract: From 1946 until 1951, researchers at the Strong Memorial Hospital, University of Rochester, Rochester, NY conducted studies on red blood cells (RBC). The purpose of the study was to

**NAVY 1944-1974 (CONTINUED)**

**Strong Memorial Hospital, Rochester, NY (continued)**

investigate the immunologic mechanisms by which red blood cells are destroyed in humans and in dogs under both normal and abnormal conditions. Twenty-eight patients afflicted with hereditary spherocytosis, an inherited condition in which RBC have an abnormal spherical shape, participated in the study. The researchers found that incubation of sterile defibrinated blood from these individuals produced a greater increase in both osmotic and mechanical fragilities of their RBC than of normal red cells. The incubation test proved valuable in detecting otherwise unclear or questionable abnormalities of the RBC and in charting the hereditary pattern of this disease. In addition, it appeared that red cells standing at body temperature *in vitro* may have undergone changes similar to those taking place in the splenic pulp, in which site red cells were known to be sequestered from active circulation. Skeletal deformities, leg ulcers and abnormal pigmentation, described in some cases of hereditary spherocytosis were not observed in the group under consideration. X-rays of bones in five of the twenty-eight cases proved negative.

Documents:

From: Lawrence E. Young, Responsible Investigator, Strong Memorial Hospital To: Arthur J. Vorwald, Captain, US Naval Research, Medical Corps. Subject: Contract N6-ori-126, Task V, Immunological studies of red blood cells, semi-annual report on. Document Type: Memorandum. Document Date: 28 December 1946

From: Lawrence E. Young, Responsible Investigator, University of Rochester, Strong Memorial Hospital To: Arthur J. Vorwald, Captain, Medical Corps, US Naval Research, Medical Sciences Branch, Planning Division. Subject: Contract N6-ori-126, Task V: Immunological studies of red blood cells. Document Type: Memorandum. Document Date: 28 December 1946

From: Arthur J. Vorwald To: Lawrence E. Young, University of Rochester, Strong Memorial Hospital. Subject: Confirmation letter describing the acceptance of the 1st semi-annual progress report from University of Rochester dated 28 December 1946. Document Type: Letter. Document Date: 1946 est.

From: Lawrence E. Young and William S. McCann To: Medical Sciences Branch. Subject: Contract N6-ori-126 Task Order V, Immunological studies on red blood cells, progress report on. Document Type: Letter. Document Date: 01 January 1948

From: Lawrence E. Young and William S. McCann To: Medical Sciences Branch. Subject: Contract N6-ori-126 Task Order V, Immunologic studies on red blood cells, status report on. Document Type: Letter. Document Date: 31 August 1948

From: Lawrence E. Young; William S. McCann To: Chief of Naval Research, Medical Sciences Branch. Subject: Contract N6-ori-126 Task Order V, Immunologic studies on red blood cells, progress report. Document Type: Letter. Document Date: 03 February 1949

From: Lawrence E. Young To: Medical Sciences Branch. Subject: Contract N6-ori-126, Task Order V (NR131-174), Immunologic studies on red blood cells, request for extension (includes copy of progress report on subject contract, dated 3 February 1949). Document Type: Letter. Document Date: 08 March 1949

From: Lawrence E. Young, Responsible Investigator To: Chief of Naval Research. Subject: Contact N6-ori-126, Task V, technical reports on (includes copy of manuscripts Hereditary Spherocytosis I and II, accepted for publication in *Blood*). Document Type: Memorandum. Document Date: 19 May 1951

Authors: Lawrence E. Young; Mary Jane Isso; Richard F. Platser. Title: Hereditary spherocytosis (Part II). Document Type: Report. Document Date: May 1951 est.

Authors: Lawrence E. Young; Mary Jane Isso; Richard F. Platser. Title: Hereditary spherocytosis (Part I). Document Type: Report. Document Date: May 1951 est.

**NAVY 1944-1974 (CONTINUED)**

**Tulane University, School of Medicine, New Orleans, LA**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
<b>1947</b>	<b>ONR-40</b>	<b>Mass spectrometer development and application</b>

Abstract: From 1947 to 1958 researchers at Tulane University, New Orleans, LA studied the rate of nitrogen utilization as a function of nitrogen intake as influenced by adrenocorticotrophic hormone and testosterone. Participants were to include healthy individuals and patients with Addison's disease. Nitrogen-15 was used in this study to calculate rates of nitrogen utilization as a function of nitrogen intake and as influenced by A.C.T.H., and testosterone in "normal" man, and in some cases of Addison's disease. Results of the study and information on the number of participants are not available at this time.

Documents: Title: Mass spectrometer development and application. Document Type: Report. Document Date: December 1958

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
<b>Unknown</b>	<b>ONR-32</b>	<b>Investigation of protein synthesis by use of the isotope N-15</b>

Abstract: The inclusive dates for this study are presently undetermined. Researchers from Tulane University, New Orleans, LA proposed to continue a preliminary investigation into protein metabolism in man through the measurement of nitrogen excretion. Human participants, kept in nitrogen equilibrium, were fed a single test meal containing glycine labeled with an excess of nitrogen-15 (N-15). The subsequent excretion of N-15 was to be followed over a three to five day period. The measured dilution of the N-15 excreted was then to be compared with the N-15 dilution predicated on a number of assumptions. Researchers planned to involve laboratory personnel as controls. It is unknown whether or not this study was conducted.

Documents: Title: Proposal for the investigation of protein synthesis by use of the isotope N-15 at Tulane University. Document Type: Proposal. Document Date: 1948 est.

**University of California, San Francisco Medical Center, San Francisco, CA**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
<b>Unknown</b>	<b>ONR-28</b>	<b>An evaluation of rapid weight reduction in obesity; body composition during therapy in diabetes mellitus</b>

*(For abstract and documentation see Naval Hospital, Oakland)*

**University of Rochester, Rochester, NY**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
<b>1946</b>	<b>ONR-14</b>	<b>Immunologic studies on red blood cells</b>

*(For abstract and documentation see Strong Memorial Hospital, Rochester, NY)*

**NAVY 1944-1974 (CONTINUED)**

**Unknown**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1951	ONR-30	<b>The study of the plasma substitute, dextran</b>

Abstract: From 1951 to a presently undetermined date, researchers at an unknown location evaluated Dextran as a plasma substitute. To date, the number of participants has not been determined. Pre-operative or convalescent patients with relatively normal blood studies were administered 500-1000 cc of Dextran. Additionally, control patients were treated with 1000 cc of saline and another group of patients were given no intravenous injections. The patients were observed for changes in blood pressure, plasma volume, intracellular volume, blood and urine levels of Dextran and toxic reactions. Plasma volume was measured using T-1824 and albumin tagged with iodine-131. Preliminary findings indicated that Dextran increased blood volume by an amount equal to or greater than the amount of Dextran administered and that an augmentation of plasma volume was sustained for twelve to twenty-four hours. In addition, researchers noted that there were no changes in the red cell volume after the injection of Dextran and that there were no toxic reactions.

Documents: Author: Joan Humphrey-Long. Title: Application for the renewal of Naval Research grant NR 102-043 [NONR-211(00)] on the study of the plasma substitute, Dextran. Document Type: Proposal; Report. Document Date: Unknown

**Wake Forest College, Winston-Salem, NC**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1948	ONR-31	<b>Distribution and turnover of sodium and potassium in acute infections</b>

Abstract: From 1948 until 1949 researchers from Wake Forest College, Winston-Salem, NC proposed to study distribution and turnover of sodium and potassium in acute infections. The investigation was to begin with animal studies and progress to humans. Studies in human beings with certain diseases had shown a drop in the blood volume and a rise in the thiocyanate extravascular space. It was not known whether edema was within or between cells. Knowledge of the reactions and their causes were to be obtained through this study. It is unknown whether or not this study was conducted.

Documents: Title: Procurement justification for: Distribution and turnover of sodium and potassium in acute infections. Document Type: Form. Document Date: May 1948 est.

**Yale University School of Medicine, New Haven, CT**

<u>Start Date</u>	<u>Number</u>	<u>Title</u>
1954	ONR-20	<b>Endocrine interrelations in man's metabolic response to trauma</b>

Abstract: From 1954 until 1961, researchers from the Yale University School of Medicine, New Haven, CT studied human metabolic response to trauma. The objectives of the study were to determine

**NAVY 1944-1974 (CONTINUED)**

**Yale University School of Medicine, New Haven, CT (continued)**

whether other endocrine glands were involved by depression or activation of function in human metabolic response to trauma; to evaluate the activity of other endocrine glands in relation to the adrenal cortex as to how the metabolic response of the latter may be modified; to determine alterations in normal convalescence and in the period after trauma that were not characterized as part of the endocrine response to trauma; to seek out and to apply improved methods of managing derangements in humans during and after trauma. The number of study participants is unknown at this time. This investigation was a combination of many smaller studies. Three studies examined the role of the thyroid in human response to trauma. The first study demonstrated an increase in circulating thyroid hormone in a group of patients during operative trauma. Patients who had chronic illness or recent acute stress prior to the study did not show this increase during operation. This study suggested that thyroid activity played an important role in the endocrine metabolic response to operative trauma. Results from the second thyroid study were much the same as those noted from this first study. The third thyroid study demonstrated a significant increase in erythrocyte uptake of iodine-131 in those patients for whom chronic disease or recent acute stress was absent. This study demonstrated thyroid participation in the response to human trauma by yet another parameter. In addition to thyroid research, investigators also studied endocrine mechanisms involved in water and sodium metabolism during operative trauma, alterations in gastrointestinal absorptive mechanisms after trauma, and urinary excretion of 17-ketosteroids in surgical stress.

Documents: Author: Mark A. Hayes. Title: Endocrine interrelations in man's metabolic response to trauma. Document Type: Report. Document Date: 1956

Authors: Ira S. Goldenberg; Paul J. Rosenbaum; Colin White; Mark A. Hayes. Title: The effect of operative trauma on the utilization of thyroid hormone. Journal: *Surgery, Gynecology and Obstetrics*. Document Type: Journal Article. Document Date: March 1957

Author: Mark A. Hayes. Title: Endocrine interrelations in man's metabolic response to trauma. Document Type: Report. Document Date: 1957 est.

Author: Mark A. Hayes. Title: Endocrine interrelations in man's metabolic response to trauma. Document Type: Report. Document Date: 10 January 1960

From: Yale University School of Medicine To: Office of Naval Research. Subject: Contract renewal request and report on studies for NR-105057-NONR-60a(10). Document Type: Letter. Document Date: 01 February 1961