13471

Box 7

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Not for publication or publication reference

NOTICE OF RESEARCH PROJECT

RTO-MEDICAL SCIENCES INFORMATION EXCHANGE
NATIONAL ACADEMY OF SCIENCES — NATIONAL RESEARCH COUNCIL

PROJECT NO. (Do not use this space): GAA-155 AF-AFOSR(300)-[illegible]

Department of the Air Force

SUPPORTING AGENCY: Arctic Aeromedical Laboratory

SUPPORT FROM THIS SOURCE TERMINATED Proj. No. 7-0180-0 10/55

TITLE OF PROJECT:

Studies of Fat Metabolism

Give names, departments, and official titles of PRINCIPAL INVESTIGATOR(S) and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

R. P. Geyer, Ph. D., Assistant Professor of Nutrition
W. R. Waddell, M. D., Instructor in Surgery
F. J. Stare, M. D., Professor of Nutrition

NAME AND ADDRESS OF INSTITUTION:

Department of Nutrition, Harvard School of Public Health
695 Huntington Avenue, Boston 15, Massachusetts

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

The researches supported under this grant correlate and supplement other studies on fat metabolism in this department. These researches deal with the following:

1. Intermediary fat metabolism - utilizing C^{14} labeled fatty acids with emphasis on the nature of the aceto acetate formed and the mechanism of its formation.

2. Ketone body formation and disappearance on high fat intakes from both oral and intravenously administered fat.

3. Gastric physiology following high fat intake particularly with regard to overcoming the distressing side effects of high fat intakes.

SIGNATURE OF PRINCIPAL INVESTIGATOR: Robert P. Geyer, W. R. Waddell, Fredrick J Stare

Grant No.	Period of Operation	Amt. Approved
GAA 155	11/52 - 10/53	$48,298
155 C1	11/53 - 10/54	48,298
155 C2	11/54 - 10/55	48,298

SUPPORT FROM THIS SOURCE TERMINATED 10/55

Not for publication or publication reference

NOTICE OF RESEARCH PROJECT

BIOLOGICAL SCIENCES INFORMATION EXCHANGE
NATIONAL ACADEMY OF SCIENCES — NATIONAL RESEARCH COUNCIL

PROJECT NO. (Do not use this space)
GAA-579 thru C3
AF-18(600)-579

SUPPORTING AGENCY: Department of the Air Force
Arctic Aeromedical Laboratory

TITLE OF PROJECT: Proj. No. 7-0180 - 06

The Effect of Environmental Factors on the Metabolism of Plasma Proteins

Give names, departments, and official titles of PRINCIPAL INVESTIGATOR(S) and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Richard J. Winzler
Professor and Head of Department of Biological Chemistry

NAME AND ADDRESS OF INSTITUTION:

University of Illinois College of Medicine
1853 W. Polk Street, Chicago 12, Ill.

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

The rates of plasma protein synthesis and degradation are being determined by following the rates at which C^{14} or S^{35}-labeled amino acids are incorporated into the plasma proteins, and the subsequent rates at which the radioactivity disappears from the proteins. Initially most of the studies are being carried out with S^{35}-labeled L-methionine. The plasma proteins are being separated into their individual electrophoretic components by two methods--electrophoresis on filter paper, and fractional precipitation with alcohol at low temperature and ionic strength. The effect of various experimental procedures on the turnover times of the individual plasma protein fractions is being studied. Particular attention is being paid to the influence of temperature, activity, starvation, dietary deficiencies or imbalances, and stress-producing situations on these turnover times.

It is hoped that such studies may be of help in assessing the significance of the changes in the concentrations of the plasma proteins noted under various experimental and clinical conditions. The work should also give information bearing on the metabolism and functions of some of the plasma proteins.

SIGNATURE OF PRINCIPAL INVESTIGATOR: Richard J. Winzler

Resubmitted November 1955

Grant No.	Period of Operation	Amount Approved
GAA 579	12/52 - 1/54	$15,078
579 C1	1/54 - 6/54	No add. funds appr.
579 C2	7/54 - 6/55	15,078
579 C3	7/55 - 6/56	11,234

NOTICE OF RESEARCH PROJECT
Medical Sciences Information Exchange
Not for Publication

Supporting Agency: The Surgeon General, DA — Project No. GF-302

Title of Project: A Study to Correlate Total Body Radiation in Humans with Bone Marrow Depression as Reflected by the Plasma Iron Turnover Rate.

Professional Personnel: Dr. V. P. Collins, M.D. - Director of Radiotherapy Dept.
R. Kenneth Loeffler, M.D. - Fellow Amer. Cancer Society, Dept. of Radiotherapy
George A. Hyman, M.D. - Hematologist, Dept. of Pathology
Rene Mastrovito, M.A. - Isotope Physicist, Dept. of Physics

Name of Institution: Francis Delafield Hospital, Columbia University, Medical Center, 99 Fort Washington Ave., N. Y. City

Summary of Proposed Work:

Cancer patients who will be receiving therapeutic levels of total body radiation will be studied intensely from the laboratory viewpoint. The radiation in general will be given in one treatment. The laboratory data to be obtained are pre-radiation white blood count differential reticulocytes, platelets, red blood count, hematocrit, hemoglobin, gastric analysis, serum proteins, icteric index, urine urobilinogen plasma iron concentration, plasma iron turnover rate, plasma and blood volumes and bone marrow aspiration morphology. The studies will be repeated after irradiation as often as possible and indicated, and correlated against symptomatology and clinical conditions of the patient. Attempt will be made to correlate these studies with similar studies on patients receiving other therapeutic agents which are known to be bone marrow depressants, such as the nitrogen mustard derivatives. The plasma iron turnover and assimilation of this iron by the red blood cells, will be followed using radioiron - 59 as a tracer.

Grant No.	Period of Operation	Amt. Approved
GF-302	1/1/52 - 6/30/52	~~$5,090~~ 5,122

SUPPORT FROM THIS SOURCE TERMINATED 6/52

NOTICE OF RESEARCH PROJECT
Bio-Sciences Information Exchange
Not for Publication
C O P Y

Project No. GF-428

Supporting Agency: Department of the Army
Office of the Surgeon General

Title of Project: A Study of the Effects of Total and Partial Body Radiation on Iron Metabolism and Hematopoiesis

Professional Personnel: Vincent P. Collins, M.D., Professor and Chairman, Radiology Department
R. Kenneth Loeffler, M.D., Assistant Professor, Radiology Department
Donald A. Rappoport, Ph.D., Instructor, Departments of Radiology and Biochemistry
Rene C. Mastrovito, M.Sc., Instructor (Physics), Radiology Department

Name of Institution: Baylor University
Waco, Texas

Summary of Proposed Work:

Previously, these investigators compared the depressant effects of therapeutic doses of total body radiation and of nitrogen mustard in cancer patients on the hematopoietic system. Repeated determinations were made on each patient of routine blood counts as well as of plasma iron concentrations and turnover rates. Conventional therapeutic doses of nitrogen mustard and TEM had a much greater depressant effect than did total body radiation in the dosage range of 50 to 150r. The data indicated that tolerance to acute total body radiation is probably greater than has generally been assumed. These first studies indicated that alterations in the metabolism of plasma iron were earlier and more prominent following radiation than were alterations of any of the other blood tests studied.

The present investigation is designed to extend these studies in patients therapeutically receiving single exposure total body radiation, fractionated total body radiation, and tolerance dosages to various local areas of the body, including such sensitive areas as the upper abdomen. In addition, animal experimentation will be carried out on ferritin metabolism with special interest to the reported release of ferritin into the bloodstream following acute total body radiation. Findings in animals will be confirmed in humans whenever feasible.

Grant No.	Period of Operation	Amt. Approved
GF-428	3/1/53 - 8/31/54	$75,000
428 01	9/54 - 8/55	21,800

NOT FOR PUBLICATION OR PUBLICATION REFERENCE

BIO-SCIENCES INFORMATION EXCHANGE
SMITHSONIAN INSTITUTION

PROJECT NO. (Do not use this space)
~~GF-428 C2~~

SUPPORTING AGENCY:

TITLE OF PROJECT: ~~Department of the Army, Office of the Surgeon General~~

A study of the effects of total and partial body radiation on iron metabolism and ~~hematopoiesis~~

and names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Vincent P. Collins, M.D., Professor and Chairman of the Dept. of Radiology
D. A. Rappoport, Ph.D., Asst. Prof. of Radiol. (Biochem.)
H. Tivey, M.D., Asst. Prof. of Radiol.
R. T. Reinke, M.D., Asst. Prof. of Radiol.

NAME AND ADDRESS OF INSTITUTION:

Baylor University
College of Medicine
Houston, Texas

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Bio-Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in the bio-sciences and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Radiol. prof. personnel continued:
C. T. Teng, M.D., Instructor in Radiol.
W. D. West, M.Sc., Instructor in Radiol. (Physics)

The initial investigations dealt with a comparison of effects of nitrogen mustard and total body radiation from the point of view of therapeutic effect, systemic reaction, and depression of blood forming tissues. The results indicated that tolerance to radiation under these circumstances compared favorably with tolerance to the chemotherapeutic agent. Radioiron tracer studies demonstrated that hematopoietic function was an early indicator of agents having a depressant effect on bone marrow. Extended studies explore the therapeutic effects and systemic response infractionated or prolonged low level radiation exposures with particular attention to unmasking sub-clinical biologic effects.

Approved

SIGNATURE OF PRINCIPAL INVESTIGATOR: V. P. Collins

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL: Baylor Univ. Coll. of Med.

~~Submitted March 1956~~

INVESTIGATOR—DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
GF-428	3/53 - 8/54	$75,000
428 C1	9/54 - 12/55	21,800
428 C2	1/56 - 8/56	(31,725-Armed Forces
		$46,965 (-special project
		(15,240-Dept. of Army

NOT FOR PUBLICATION OR PUBLICATION REFERENCE

NOTICE OF RESEARCH PROJECT

BIO-SCIENCES INFORMATION EXCHANGE

SMITHSONIAN INSTITUTION

PROJECT NO (Do not use this space) #

GF-428 C1

SUPPORTING AGENCY: Dept. of the Army, Office of the Surgeon General

TITLE OF PROJECT

A Study of the Effects of Total and Partial Body Radiation on Iron Metabolism and Hematopoiesis.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Vincent P. Collins, M.D., Professor and Chairman of the Dep't., Radiology
R. Kenneth Loeffler, M.D., Associate Professor, Radiology
D. A. Rappoport, Ph.D., Assistant Professor, Radiology (Radiochemistry)

NAME AND ADDRESS OF INSTITUTION

Baylor University, Dept. of Radiology, Houston, Texas

SUMMARY OF PROPOSED WORK— (200 words or less — Omit Confidential data.)

In the Bio-Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in the bio-sciences and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Previously, these investigators compared the depressant effects of therapeutic doses of total body radiation and of nitrogen mustard in cancer patients on the hematopoietic system. Repeated determinations were made on each patient of routine blood counts as well as of plasma iron concentrations and turnover rates. Conventional therapeutic doses of nitrogen mustard and TEM had a much greater depressant effect than did total body radiation in the dosage range of 50 to 150r. The data indicated that tolerance to acute total body radiation is probably greater than has generally been assumed. These first studies indicated that alterations in the metabolism of plasma iron were earlier and more prominent following radiation than were alterations of any of the other blood tests studied.

The present investigation is designed to extend these studies in patients therapeutically receiving single exposure total body radiation, fractionated total body radiation, and tolerance dosages to various local areas of the body, including such sensitive areas as the upper abdomen. Lasting effects of radiation on hematopoiesis four to six months after total body irradiation will be studied in patients and animals. An effort is made to identify biochemical changes in the hematopoietic system which might be induced by amounts of radiation far below the tolerance dose and which might be attended by no evident clinical signs or symptoms.

SIGNATURE OF PRINCIPAL INVESTIGATOR: Vincent P. Collins

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified

SCHOOL: Baylor Univ. Coll. of Med.

Submitted 3/55

INVESTIGATOR—DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. App.
GF-428	3/53 - 8/54	$70,000
428 C1	9/54 - 12/55	21,000
428 C2	1/56 - 8/56	(31,725 - Armed Forces Special Proje

$46,905

Form Approved

NOT FOR PUBLICATION OR PUBLICATION REFERENCE

MEDICAL SCIENCES INFORMATION EXCHANGE
NATIONAL ACADEMY OF SCIENCES — NATIONAL RESEARCH COUNCIL

(DO NOT USE this space) CF-533
Followed by GF669

SUPPORTING AGENCY The Surgeon General, DA SUPPORT FROM THIS SOURCE TERMINATED

TITLE OF PROJECT

Study of the Post-Irradiation Syndrome in Humans

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

James J. Nickson, M.D., Chief, Dept. of Radiation Therapy, Memorial Center; Head, Section of Radiobiology; Member, Sloan-Kettering Institute
Henry J. Koch, Jr., M.D., Head, Experimental Hematology Section; Assistant, Sloan-Kettering Institute.
Henry M. Bane, Ph.D., Assistant, Sloan-Kettering Institute

NAME AND ADDRESS OF AGENCY OR INSTITUTION

Sloan-Kettering Institute for Cancer Research
410 East 68th Street, New York 21, New York

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

The purpose of this project is to study the post-irradiation syndrome in man: (1) to establish a reliable diagnostic and prognostic test of extent of radiation damage; (2) to delineate some of the basic physiology of the syndrome.

Persons with generalized malignant disease but in good metabolic condition, after appropriate base line studies, will be given total body exposure to x-rays from a G.E. 1000 kv generator. Doses will range from 20 r to at least 150 r and will be given in a single exposure. Routine hematologic procedures will be conducted for 14 days or until any observed abnormality is corrected. A bone marrow aspiration will be done before irradiation and on the 10th post-irradiation day. Coproporphyrin excretion will be followed. Blood lipoprotein levels will be determined before irradiation and on days 1, 3, 6, 12 post-irradiation or until no further change is observed. Immediate changes in electrolytic balances, even during irradiation, will be measured on these patients.

A few dogs will be given larger doses and will be followed for fluid imbalances, and others will be specially prepared for physiological measurements of intestinal damage.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL Sloan-Kett. Div. of Cornell Univ. Med. Coll.

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.
CF 533

Period of Operation
1 April 1954 - 31 March 1955

Amt. Appd.
~~$15,346~~ 13,661

SUPPORT FROM THIS SOURCE TERMINATED 3/55

NOT FOR PUBLICATION OR PUBLICATION REFERENCE

BIO-SCIENCES INFORMATION EXCHANGE
SMITHSONIAN INSTITUTION

PROJECT NO. (Do not use this space)
GF-611

SUPPORTING AGENCY Dept. of the Army, Office of the Surgeon General
Army Medical Service

TITLE OF PROJECT:

Isotopically Labeled Intermediates of Red Cell Metabolism

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Mr. David R. Schwarz, Principal Investigator, Vice President
Louis Laufer, Senior Research Chemist
Sidney Gutcho, Radiochemist

NAME AND ADDRESS OF INSTITUTION:

Schwarz Laboratories, Inc., 230 Washington Street, Mount Vernon, N. Y.

SUMMARY OF PROPOSED WORK— (200 words or less — Omit Confidential data.)

In the Bio-Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in the bio-sciences and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Development of methods for the preparation of isotopically labeled intermediates of red cell metabolism, with particular emphasis on the following: adenosine labeled with the ribose moiety only, fructose-1,6-diphosphate, glucose-6-phosphate, ribose-5-phosphate, 2,3-diphosphoglycerate, and the 5' phosphorylated adenosines. Efforts will be made to label these compounds with P^{32} and C^{14}.

Compounds prepared under this grant will be made available to research teams studying red cell metabolism.

SIGNATURE OF PRINCIPAL INVESTIGATOR David R. Schwarz

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL

Submitted 2/55

INVESTIGATOR—DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
GF-611	4/55 - 3/56	$12,750
611 C1	4/56 - 3/57	15,370

NOT FOR PUBLICATION OR PUBLICATION REFERENCE

NOTICE OF RESEARCH PROJECT

BIO-SCIENCES INFORMATION EXCHANGE

SMITHSONIAN INSTITUTION

PROJECT NO (Do not use this space)

GF-611 C1

SUPPORTING AGENCY: Department of the Army, Office of the Surgeon General

TITLE OF PROJECT:

Isotopically labeled intermediates of red cell metabolism

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Mr. David R. Schwarz, Vice President , Principal Investigator
Louis Laufer, Senior Research Chemist
Sidney Gutcho, Radiochemist

NAME AND ADDRESS OF INSTITUTION:

Schwarz Laboratories, Inc.
230 Washington Street
Mount Vernon, New York

SUMMARY OF PROPOSED WORK— (200 words or less — Omit Confidential data.)

In the Bio-Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in the bio-sciences and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Development of methods for the preparation of isotopically labeled intermediates of red cell metabolism, with particular emphasis on the following: adenosine labeled with the ribose moiety only, fructose-1,6-diphosphate, glucose-6-phosphate, ribose-5-phosphate, 2,3-diphosphoglycerate, and the 5' phosphorylated adenosines. Efforts will be made to label these compounds with P^{32} and C^{14}.

Compounds prepared under this grant will be made available to research teams studying red cell metabolism.

Also included in the scope of the work is the study of the physical chemical properties of inosine and hypoxanthine, and related compounds, and their behavior in solutions suitable for use in preserving whole blood.

SIGNATURE OF PRINCIPAL INVESTIGATOR: David R. Schwarz

Submitted April 1956

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL

INVESTIGATOR—DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amount Approved
GF 611	4/55 - 3/56	$12,750
611 C1	4/56 - 3/57	15,370

NOT FOR PUBLICATION OR PUBLICATION REFERENCE

BIO-SCIENCES INFORMATION EXCHANGE
SMITHSONIAN INSTITUTION

PROJECT NO (Do not use this space)
GF-662

SUPPORTING AGENCY: Department of the Army: Office of the Surgeon General

TITLE OF PROJECT:

Studies on Lipid Metabolism Using C^{14} Labeled Materials

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

William W. Burr, Jr., Department of Biochemistry, Associate Professor.

William A. Wood, Department of Biochemistry, Technician.

NAME AND ADDRESS OF INSTITUTION:

The University of Texas Southwestern Medical School, Dallas, Texas

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

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In earlier studies the chylomicrograph following feeding of a labeled lipid has been related to changes in blood radioactivity. It would now be of interest to follow the distribution of the label in the various plasma lipid fractions. The proposed project would undertake this through chromatographic and electrophoretic techniques. In each case preliminary studies will be done on synthetically prepared mixtures to work out experimental details and required modifications which will allow the application of the technique to this problem. The first method is that of paper and column chromatography. Special glass fiber filter paper which has been modified by pretreatment will be employed. It is hoped that with minimum modifications existing methods now in the literature can be used. Column work will follow the paper studies. The second approach planned is that of paper electrophoresis.

Distribution in other lipids including those washed from the G.I. tract would also be studied. This should contribute fundamental information on phases of lipid transport and deposition.

use in preservation of whole blood.

SIGNATURE OF PRINCIPAL INVESTIGATOR: William W. Burr, Jr.

Identify the Professional School (medical, dental, public health, graduate or other) with which this project should be identified:

SCHOOL: medical

Submitted August 1955

INVESTIGATOR—DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. App.
GF-662	9/55 - 8/56	$2,700

NOT FOR PUBLICATION OR PUBLICATION REFERENCE

NOTICE OF RESEARCH PROJECT

BIO-SCIENCES INFORMATION EXCHANGE
SMITHSONIAN INSTITUTION

#

PROJECT NO. (Do not use this space)
GF-669
(Preceded by GF-533)

SUPPORTING AGENCY: Department of the Army, Office of the Surgeon General

TITLE OF PROJECT:

To Study the Post-irradiation Syndrome in Humans

Support from this source terminated 3/56

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Dr. James J. Nickson - Director of Radiation Therapy

NAME AND ADDRESS OF INSTITUTION:

Sloan-Kettering Institute for Cancer Research, New York, New York

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Bio-Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in the bio-sciences and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Summary same as that provided for, Department of the Army, Office of the Surgeon General Research Project GF-533.

The purpose of this project is to study the post-irradiation syndrome in man; (1) to establish a reliable diagnostic and prognostic test of extent of radiation damage; (2) to delineate some of the basic physiology of the syndrome.

Persons with generalized malignant disease but in good metabolic condition, after appropriate base line studies, will be given total body exposure to x-rays from a G. E. 1000 kv generator. Doses will range from 20 r to at least 150 r and will be given in a single exposure. Routine hematologic procedures will be conducted for 14 days or until any observed abnormality is corrected. A bone marrow aspiration will be done before irradiation and on the 10th post-irradiation day. Coproporphyrin excretion will be followed. Blood lipoprotein levels will be determined before irradiation and on days 1, 3, 6, 12 post-irradiation or until no further change is observed. Immediate changes in electrolytic balances, even during irradiation, will be measured on these patients.

A few dogs will be given larger doses and will be followed for fluid imbalances, and others will be specially prepared for physiological measurements of intestinal damage.

Resubmitted as summary for GF-669-8/23/55

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL

INVESTIGATOR—DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
GF-669	7/55 - 3/56	$19,977

Support from this source terminated 3/56

NOT FOR PUBLICATION OR PUBLICATION REFERENCE

BIO-SCIENCES INFORMATION EXCHANGE
SMITHSONIAN INSTITUTION

PROJECT NO (Do not use this space)
GF 700

SUPPORTING AGENCY Department of the Army, Office of the Surgeon General

TITLE OF PROJECT.
Investigation of a human brain extract in the treatment of Thrombocytopenic states.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Dr. Warren N. Bell, Director of Laboratories and Associate Professor of Medicine, University of Mississippi, - Principal investigator.

Miss Carolyn Slater, Research Assistant, Department of Hematology, University of Mississippi.

NAME AND ADDRESS OF INSTITUTION

University of Mississippi Medical Center
Jackson, Mississippi

SUMMARY OF PROPOSED WORK— (200 words or less — Omit Confidential data.)

In the Bio-Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in the bio-sciences and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Previous work with a chloroform extract of human brain has shown that a storage and heat stable material with platelet-like activity may be obtained. Preliminary results of chemical analysis have shown that this is a protein-free phospholipid whose activity may be completely nullified by cadmium chloride. Nineteen patients bleeding with acute leukemia have shown encouraging results with intravenous administration of this extract. Further work contemplated is as follows:

1. Further attempts at purification by use of the extract-cadmium chloride combination on an Amberlite MB3 column. Purity may be checked by determination of the N : P ratio.

2. Since this phospholipid may be a lecithin, which group often produces hemolytic phemonema, it is planned to study the effect of the extract on normal red cells in vitro by means of the osmotic, mechanical and lysolecithin fragility tests and in vivo in rabbits and humans. No undue hemolysis has heretofore been noted.

3. Since saturation of the unsaturated fatty acids of the extract has been shown not to impair the activity, it is planned to tag extract with I^{131} and follow the distribution of the extract in the living body.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL University of Mississippi Medical School

Submitted January 1956

INVESTIGATOR—DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amount Approved
GF 700	1/56 - 12/56	$6,284

NOT FOR PUBLICATION OR PUBLICATION REFERENCE

BIO-SCIENCES INFORMATION EXCHANGE
SMITHSONIAN INSTITUTION

PROJECT NO (Do not use this space)
GF 701

SUPPORTING AGENCY Office of The Surgeon General, Department of the Army

TITLE OF PROJECT.

Study of Platelet Physiology

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Frank H. Gardner, Hematology Laboratory
Associate in Medicine, Peter Bent Brigham Hospital
Assistant in Medicine - Harvard Medical School

NAME AND ADDRESS OF INSTITUTION.

Peter Bent Brigham Hospital, 721 Huntington Avenue, Boston 15, Mass.

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Bio-Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in the bio-sciences and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Present studies will be directed to further evaluation of plastic equipment for the preparation, preservation, and transfusion of human blood platelets. To facilitate methods of preservation, efforts will be made to tag platelets with radioactive Sodium Chromate. Such a procedure will allow evaluation of platelet preparations in normal control subjects. Other methods of tagging platelets with radioactive material will be explored.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL

Submitted December 1955

INVESTIGATOR—DO NOT USE THIS SPACE

GF-701 1 January 1956 to 31 December 1956 $20,000.00

NOTICE OF RESEARCH PROJECT
Bio-Sciences Information Exchange
Not for Publication

SUPPORT FROM THIS SOURCE TERMINATED

Project No. # GF-10425
(preceded by GF-236)

Supporting Agency: The Surgeon General, DA

Title of Project: A Proposal for the Study of C^{14} Labelled Blood Substitutes

Professional Personnel: Leon Hellman, M.D., Assistant, Sloan-Kettering Institute
David Becker, M.D., Research Fellow, Sloan-Kettering Institute
R. W. Rawson, M.D., Member, Sloan-Kettering Institute, Chief, Division of Clinical Investigation; Attending Physician, Medical Service, Memorial Hospital

Name of Institution: Sloan-Kettering Institute for Cancer Research, Memorial Center for Cancer and Allied Diseases, 444 E. 68th St., New York, N.Y.

Summary of proposed work:

Through the labeling of plasma substitutes with carbon 14 a method has become available whereby certain aspects of the behavior of these materials may be uniquely studied. Preliminary studies in this laboratory and elsewhere have demonstrated the feasibility of measuring the concentration of C^{14} in body fluids. It has also been demonstrated in this laboratory and elsewhere that no significant conversion of C^{14} PVP to CO_2 occurs in the human.

The following plan of study is proposed in an effort to clarify the behavior of PVP in the body.

Outline of proposed study:

1) PVP will be serially isolated from the urine and characterized and its activity measured. If no significant fragmentation and excretion of such fragments into the urine occurs, then the residual after the removal of the PVP, should be free of activity. If it can be demonstrated that it is possible to account for all of the activity in terms of PVP then radioactivity measurements may be treated as directly equivalent to PVP measurement.

2) A sufficient number of patients will be studied until a clear pattern emerges as to the distribution of PBP in the blood, urine and stool. Possible conversion to CO_2 will be followed and gas counting equipment is available for counting breath samples of low C^{14} activity.

3) The distribution of PVP in the various body fluids, cerebrospinal fluid, sweat, ascitic and edema fluid will be studied in appropriate patients.

PRINCIPAL

Grant No.	Period of Operation	Amt. Appr.
GF-10425	11/52 - 10/53	$16,340
10425 C1	11/53 - 1/54	4,200
10425 C2	2/54 - 10/54	12,600
GF-10425 C3	11/54 - 10/55	$11,000

SUPPORT FROM THIS SOURCE TERMINATED 10/55

NOTICE OF RESEARCH PROJECT
Bio-Sciences Information Exchange
Not for Publication
C O P Y

SUPPORT FROM THIS SOURCE TERMINATED

Project No. GAC-20493
AF33 (038) 20493
21-3501-0003
Followed by GAC-926

Supporting Agency: U.S. Air Force, School of Aviation Medicine

Title of Project: "Study of Intellectual etc. Abilities Following Radio-Therapy"

Professional Personnel: Dr. R. Lee Clark, Jr. Principal Investigator
Gilbert H. Fletcher, M.D., Radiologist
John F. Dillon, M.D., Radiologist
Clifton D. Howe, M.D., Internist
Jack B. Trunnell, M.D., Endocrinologist
C.C. Shullenberger, M.D., Hematologist
Peter Wooton, B.S., Physicist
Arthur Cole, B.A., Physicist

Name of Institution: University of Texas
M.D. Anderson Hospital for Cancer Research
2310 Baldwin Street
Houston, Texas

Summary of proposed work:

The psychomotor testing of patients undergoing total body irradiation ranging from 10 to 50 roentgens over a period of 10 hours. In addition to this basic project, psychomotor testing may be carried out at various periods during patients' treatment.

Subsidiary Projects:
1) Study of synergic action of chemotherapeutical agents in total body irradiation in generalized lymphomas
2) Study of synergic action of hormones and total body irradiation in the treatment of generalized breast metastasis.
3) Study of certain blood enzymes changes following total body irradiation.

Grant No.	Period of Operation	Amt. App.
GAC-20493	2/51 - 2/52	$15,930
20493 C1	3/52 - 2/53	15,930
20493 C2	3/53 - 5/54	32,160

SUPPORT FROM THIS SOURCE TERMINATED

NOTICE OF RESEARCH PROJECT
Bio Sciences Information Exchange
Not for Publication

COPY

#

Project No. GF-93
(Preceded by GF-425)

Supporting Agency: Department of the Army
Office of the Surgeon General

Title of Project: "Ionization effects on experimental animals and human subjects"

Professional Personnel: J. Garrot Allen, M.D., Prof. of Surgery

Name of Institution: University of Chicago, School of Medicine, Chicago 37, Ill.

Summary of Proposed Work:

To study injuries incident to irradiation, the physiological and biological effects following such irradiation, and the development of therapeutic methods to combat irradiation injuries.

The objective of this project is to study the effect of ionization on experimental animals and human subjects. Specifically, local injuries incident to irradiation, fluid balance, hemorrhage and infection following irradiation with x-rays, and possibly with radioactive isotopes, will be studied. Observations will include pathological, physiological and biochemical factors influencing tissue necrosis and Keloid formations; nutritional studies; immunochemical studies and immunity factors; and studies on shock and fluid balance as complicated by irradiation.

Grant No.	Period of Operation	Amt. Approved
GF-93	11/1/50 - 10/31/51	$65,750
93 C1	11/1/51 - 10/31/52	61,282
93 C2	11/1/52 - 1/31/53	16,500
93 C3	2/1/53 - 9/53	27,200
93 C4	10/53 - 12/53	7,000
93 C5	1/54 - 12/54	33,862
93 C6	1/55 - 12/55	33,790
93 C7	1/56 - 12/56	38,930

NOT FOR PUBLICATION OR PUBLICATION REFERENCE

NOTICE OF RESEARCH PROJECT

BIOMEDICAL SCIENCES INFORMATION EXCHANGE

NATIONAL ACADEMY OF SCIENCES — NATIONAL RESEARCH COUNCIL

COPY

PROJECT NO. (Do not use this space)
GF-191
(Preceded by GF 365)

SUPPORTING AGENCY Dept. of the Army, Office of the Surgeon General

TITLE OF PROJECT

Observation of radiobiological effects in animals and humans

The names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project

Dr. Eugene P. Pendergrass, Prof. of Radiology
Dr. I. S. Ravdin, Prof. of Surgery
Dr. Richard H. Chamberlain
Dr. Henry P. Royster
Dr. Warner F. Sheldon
Dr. Paul Dumke
Dr. Britton Chance
Dr. Henry C. Blount
Dr. Ralph Jones
Dr. Paul Gyorgy
Dr. Wm. J. Tuddenham

NAME AND ADDRESS OF AGENCY OR INSTITUTION

Hospital of the University of Pennsylvania

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

An investigation in the methods of action of radiation on mammalian tissue is conducted with rats with particular reference to protection from ionizing radiation. Portions of the body are irradiated most often rather than employing whole body experiments. One hind leg and testicular tissue have been selectively irradiated and chosen for biochemical investigation under the influence of a variety of anoxic and pharmacological agents which alter the radiation sensitivity. This work is elaborated with studies of human skin, in vivo, irradiated with extremely superficial beryllium window radiation for correlation of the protective effects of the same drugs and agents in man.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL

INVESTIGATOR—DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.	Grant No.	Period of Operation	Amt. Appr.
GF 191	6/51 - 5/52	$25,086	GF 191 C3	6/54 - 5/55	$1,000
191 C1	6/52 - 5/53	10,000	191 C4	6/55 - 5/56	1,000
191 C2	6/53 - 5/54	No. add. funds appr.	191 C5	6/56 - 5/57	1,000

NOTICE OF RESEARCH PROJECT

BIO-SCIENCES INFORMATION EXCHANGE
SMITHSONIAN INSTITUTION

NOT FOR PUBLICATION OR PUBLICATION REFERENCE

PROJECT NO. (Do not use this space)
GF-191 C3 & C4
(Preceded by GF-365)

SUPPORTING AGENCY: Dept. of the Army, Office of the Surgeon General

TITLE OF PROJECT:
Observation of Radiobiological effects in humans.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Dr. Eugene P. Pendergrass, Prof. of Radiology
Dr. I. S. Ravdin, Prof. of Surgery
Dr. Richard H. Chamberlain
Dr. Henry P. Royster
Dr. Warner F. Sheldon
Dr. Antolin Raventos

NAME AND ADDRESS OF INSTITUTION:
Hospital of the University of Pennsylvania, Philadelphia 4, Pennsylvania

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Bio-Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in the bio-sciences and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

A clinical and pathological study of the actions of radiation on human skin was undertaken in 1942. Areas of normal skin on the thighs of human volunteers were irradiated with a number of x-ray techniques. At the present time, no further exposures are being made, but a concerted effort is made to main contact with these individuals. Records are kept of clinical observations of the post-irradiation changes, and from time to time biopsies are performed for histologic study. Some of the areas have shown changes which were considered to be potentially dangerous, and these have been excised completely.

SIGNATURE OF PRINCIPAL INVESTIGATOR: Eugene P. Pendergrass

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL

Resubmitted January 1956

Submitted 2/55

INVESTIGATOR—DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. App.
GF-191	6/51 - 5/52	$25,086
191 C1	6/52 - 5/53	10,000
191 C2	6/53 - 5/54	No add. funds app.
191 C3	6/54 - 5/55	1,000

Grant No.	Period of operation	Amt. App.
GF-191 C4	6/55 - 5/56	$1,000
191 C5	6/56 - 5/57	1,000

NOT FOR PUBLICATION OR PUBLICATION REFERENCE

NOTICE OF RESEARCH PROJECT

BIO-SCIENCES INFORMATION EXCHANGE
SMITHSONIAN INSTITUTION

PROJECT NO (Do not use this space)
GF-236
Followed by GF-10425

SUPPORTING AGENCY: The Surgeon General, DA — Support from this source terminated 10/52

TITLE OF PROJECT:

A Proposal for the Study of C^{14} Labelled Blood Substitutes

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Leon Hellman, M.D., Assistant, Sloan-Kettering Institute
David Becker, M.D., Research Fellow, Sloan-Kettering Institute
R.W. Rawson, M.D., Member, Sloan-Kettering Institute; Chief, Division of Clinical Investigation; Attending Physician, Medical Service, Memorial Hospital.

NAME AND ADDRESS OF INSTITUTION

Sloan-Kettering Institute for Cancer Research
Memorial Center for Cancer and Allied Diseases, 444 E. 68th St., New York, N.Y.

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Bio-Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in the bio-sciences and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Through the labeling of plasma substitutes with carbon 14 a method has become available whereby certain aspects of the behavior of these materials may be uniquely studied. Preliminary studies in this laboratory and elsewhere have demonstrated the feasibility of measuring the concentration of C^{14} in body fluids. It has also been demonstrated in this laboratory and elsewhere that no significant conversion of C^{14} PVP to CO_2 occurs in the human.

The following plan of study is proposed in an effort to clarify the behavior of PVP in the body.

Outline of proposed study:

1) PVP will be serially isolated from the urine and characterized and its activity measured. If no significant fragmentation and excretion of such fragments into the urine occurs, then the residual after the removal of the PVP, should be free of activity. If it can be demonstrated that it is possible to account for all of the activity in terms of PVP then radioactivity measurements may be treated as directly equivalent to PVP measurement.

2) A sufficient number of patients will be studied until a clear pattern emerges as to the distribution of PVP in the blood, urine and stool. Possible conversion to CO_2 will be followed and gas counting equipment is available for counting breath samples of low C^{14} activity.

3) The distribution of PVP in the various body fluids, cerebrospinal fluid, sweat, ascitic and edema fluid will be studied in appropriate patients.

SIGNATURE OF PRINCIPAL INVESTIGATOR: Leon Hellman

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL

Submitted 12/51

INVESTIGATOR—DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Approved
GF-236	11/51 - 10/52	$15,950

Support from this source terminated 10/52

Project terminated
approx. F. Y. 1952

NOTICE OF RESEARCH PROJECT
Medical Sciences Information Exchange
Not for Publication

Agency: Public Health Service, Bureau of State Services, Environmental Health Center, Cincinnati, Ohio

Project No. ZHZ 06-24 (FS-2-a)

Title of Research Problem: Columbia River Radiological Studies

Professional Personnel: M. LeBosquet, Jr.

Summary of Research Problem:

At the Hanford Works of the Atomic Energy Commission, the waters of the Columbia River are used for reactor cooling and for receiving the effluent water which has passed through the reactor. For both purposes, it is important that the stream water characteristics be understood. Efficient and economical pretreatment and use of the river water for both domestic and industrial purposes depends upon such knowledge.

The discharge of radioactive effluent into the river introduces a type of contamination which is of concern to stream users and to all agencies responsible for public health measures. The Public Health Service and the Atomic Energy Commission have agreed that a pooling of their respective competencies allows a rational approach to and rapid attainment of solutions to these problems. This also enables each agency to better discharge its responsibilities under the Water Pollution Control Act of 1948 and the Atomic Energy Act of 1946, respectively.

Cooperation Received:

Atomic Energy Commission

Active Fiscal Year 1951

Project terminated approximately F. Y. 1952

Project terminated
approx. F. Y. 1952

NOTICE OF RESEARCH PROJECT
Medical Sciences Information Exchange
Not for Publication

Agency: Public Health Service, Bureau of Medical Services, Division of Hospitals
Tumor Clinic, U. S. Marine Hospital,
Baltimore, Maryland

Project No. ZHY 01-56 (66)

Title of Research Problem: Correlation of Beta ray intensities measured by equipment in project e. as compared with biological reaction in humans.

Professional Personnel: Mr. Robert W. Swain, Physicist

Summary of Research Problem:

Objective: To determine the effect of the thickness of the bulb wall on dosage or radiation.

Method: Exposure of three small areas of the skin of the forearm of a minimum of 20 patients.

Findings: None, to date

Cooperation Received: Funds and personnel furnished by National Cancer Institute, facilities by Hospital Division.

Active Fiscal Year 1951

Project terminated approximately F. Y. 1952

NOTICE OF RESEARCH PROJECT
Medical Sciences Information Exchange
Not for Publication

Project terminated approx. F. Y. 1952

Agency: Public Health Service, National Institutes of Health, National Heart Institute

Project No. ZHH 11 (LS-11)

Title of Research Problem: Choline

Professional Personnel: Bernard B. Brodie
Bert N. La Du

Summary of Research Problem:

Although many studies have been made concerning the role of choline in nutrition and in the transmethylation processes, little is known as to its intermediary metabolism. A chemical method for the determination of micro amounts of choline has been developed and now makes it possible to pursue this problem.

Specific methods have also been devised for the determination of lecithin and sphingomyelin, the choline-containing phospholipids.

The pattern of plasma phospholipids has been found to be fairly constant in normal and abnormal individuals. Although phospholipid content was increased in biliary cirrhosis and decreased in rheumatic fever, the relative amount of each fraction remained constant.

Plasma choline levels in different individuals vary widely; that of an individual remains constant over a period of months. After the injection of choline, the level quickly returns to the equilibrium value.

Proposed Studies

The role of the kidney and the tissues in maintaining the constancy of the choline plasma level will be studied. The partition of choline between free choline, choline compounds such as phosphoryl-choline, and phospholipids will be studied. The distribution of injected choline among these fractions may lead to understanding of the intermediary metabolism of choline in the body. C^{14} choline will also be used to elucidate other pathways of metabolism.

The intermediary metabolism of choline will be compared in normal subject and in individuals with liver disease and arteriosclerosis.

The "cephalin" phospholipids in blood are being investigated, in the [illegible] of identifying certain unknown "cephalin" phospholipids.

Active Fiscal Year 1951

Project terminated approximately F. Y. 1952

Project terminated approx. F. Y. 1952

NOTICE OF RESEARCH PROJECT
Medical Sciences Information Exchange
Not for Publication

Agency: Public Health Service, National Institutes of Health, National Heart Institute

Project No. ZHH 10 (LS-10)

Title of Research Problem: Use of isotope labelled drugs in metabolic studies

Professional Personnel: Elwood Titus

Summary of Research Problem:

Many organic compounds are transformed in vivo to substances not amenable to isolation and identification with ordinary chemical procedures. Tagging of the parent compound with an isotope makes it possible to trace the metabolism in the body. However, the isotopic dilution technique commonly used in tracer studies requires assumptions concerning the structure of the metabolite.

An attempt is being made to develop a new technic which avoids assumptions concerning the structure of the metabolites. C^{14} pentothal will be the first compound to be synthesized and studied, but the technic will later be applied to more general problems in intermediary metabolism.

Active Fiscal Year 1951

Project terminated approximately F. Y. 1952

Project terminated
approx. F. Y. 1952

NOTICE OF RESEARCH PROJECT
Medical Sciences Information Exchange
Not for Publication

Agency: Public Health Service, National Institutes of Health, National Microbiological Institute — Project No. ZHE-23 (TD-8)

Title of Research Problem: Chemotherapy

Professional Personnel: Dr. G. R. Coatney, Dr. Willard T. Haskins, Dr. Joseph Greenberg, Dr. Edward S. Josephson, Dr. George W. Luttermoser

Summary of Research Problem:

This project in the chemotherapy of tropical diseases provides for the synthesis of certain potentially effective compounds; a systematic search (screening tests) for new agents, studies of their physiological disposition, excretion, pharmacology, and mode of action in lower animals; for clinical and/or field trials of selected compounds against such diseases as malaria, amoebiasis, and schistosomiasis. The most significant recent findings are the isolation and identification of a biologically active metabolite of pamaquine, the discovery of the pronounced effectiveness of two antibiotics against experimental amoebiasis, and the demonstration of the effectiveness of two suppressive agents against vivax malaria in a native population

Active Fiscal Year, 1951

Project terminated approximately F. Y. 1952

NOTICE OF RESEARCH PROJECT
Medical Sciences Information Exchange
Not for Publication

Project terminated approx. F. Y. 1952

Agency: Public Health Service, National Institutes of Health, National Institute of Dental Research

Project No. ZHD 9 (306)

Title of Research Problem: Oral Physiology: Application of radioactive tracers to studies of the physiology of teeth, periodontium and salivary glands.

Professional Personnel: Dr. Herbert J. Bartelstone

Summary of Research Problem:

A. Permeability of enamel, dentin, and cementum. To obtain information related to the internal environment (possible tissue fluid) of teeth and the mechanisms which may influence it. The variations in the internal environment of the tooth may be one of the etiological factors in the caries process. To establish the relationship of the erupted tooth to systemic physiology.

1. Test permeability of teeth, in vivo, by means of radioisotopes and drugs.
2. Establish permeability data with regard to (a) time, (b) amount of substance, (c) molecular size, (d) charge, (e) age of tooth, (f) normal and pathological teeth, etc.
3. Study the effect of caries inhibitors, on permeability patterns: viz: sodium fluoride, Iodoacetic acid, ammonium ion, urea, zinc ferrocyanide.
4. Mechanism of penetration: (a) correlation with electron microscopy (b) variations in osmotic pressure (influence of sugars) (c) hydrostatic pressure (d) diffusion gradients (e) capillary action (f) ion exchange.

Methods: administrations of reagents to tooth by "dipping" and capillary-pipette technique. Standard pharmacological procedures. Geiger counter and radioautographic techniques.

Findings: The investigator has reported permeability of the enamel, dentin, cementum, and bone with radioiodine. The internal environment may be influenced by salivary constituents and plasma constituents. These findings should be more fully elucidated and expanded.

B. To study the influence of salivary constituents as they may influence the physiology of the periodontal membrane through the medium of the tooth. The objective being to develop the recently reported finding that I 131 placed on the enamel surface enters the periodontum. This may be a lead in considering the obscure etiology of periodontosis (pyorrhea).

C. This investigator has observed marked changes in salivary output in patients under I 131 therapy for thyroid adenoma. In these patients the result is Xerostomia (dry mouth) and rampant caries.

NOTICE OF RESEARCH PROJECT
Bio-Sciences Information Exchange
Not for Publication

Support from this Source Terminated 6/53

Project No. 6G-2888F(C)

Supporting Agency: Public Health Service

Title of Project: Study of the purification and properties of a soluble enzyme system which incorporates C^{14} -labeled lysine into liver proteins.

Professional Personnel: Henry Borsook, Prof. of Biochemistry, Dept. of Bio.
Richard S. Schweet, Res. Fellow, Dept. of Bio.

Name of Institution: California Institute of Technology, Pasadena, Calif.

Summary of proposed work:

The immediate purpose of this work is the purification and study of a soluble enzyme which incorporates lysine into protein [Borsook and co-workers, j. Biol. Chem., 184, 529 (1950)]. No soluble system which incorporates amino acids into protein has previously been reported.

Our work to date has resulted in fiftyfold purification of the system; only lysine is incorporated of a number of amino acids tested; a reliable assay system has been developed; the amount of lysine incorporation is 500-1000 times greater than any yet reported in the literature; and certain kinetic studies have led to hypotheses concerning the mechanism of the reaction.

The availability of this simplified system should lead to information about the detailed mechanism of protein synthesis which could not possibly be obtained from studies of the usual homogenates from in vivo work. Particularly, further purification should clarify the questions of nucleic acid and other co-factor participation, how the energy requirements are satisfied and whether any peptide intermediates are formed in the reaction. Finally, the availability of a purified, highly-radioactive protein containing all the radioactivity in the lysine will be used for studies of protein structure.

Grant No.	Period of Operation	Amt. App.
6G-2888	6/10/51 - 6/9/52	$540
6G-2888 C1	6/10/52 - 6/9/53	540

Support From This Source Terminated 6/53

Prepared for the Medical Sciences Information Exchange.
Not for publication or publication reference.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6H-5708
HF-5708

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Controlled evaluation of the factors concerned with the Metabolism of Steroids by Human Skin.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Herbert Mescon, M. D. Principal Investigator, Professor of Dermatology
Henry M. Lemon, M. D. Consultant. Chief Hormone Research Lab. B.U.S.M.
Herbert H. Wotiz, Ph.D. Consultant. Ass't Prof. Biochemistry
G. Robert Baler, M. D., Research Fellow in Dermatology

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Boston University School of Medicine
80 E. Concord Street, Boston, Massachusetts

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

The proposed plan of investigation would be to contact volunteers and patients and, using a high speed electric punch without anesthesia, to obtain biopsies of skin from various parts of the body: from malignant, pre-malignant and non-malignant skin tumors and from areas treated with ultraviolet or X-radiation as well as from adjacent normal control sites. These portions of tissue would then be subject to two general groups of tests, as follows: 1. Metabolism - Here the tissues would be incubated in C_{14} labeled testosterone, extracted to obtain the residual testosterone and its metabolites, purification would be undertaken with paper chromatography, and analysis would be undertaken using the ultraviolet absorption spectrum as well as by superimposing the chromatograms on a piece of non-screen x-ray film. 2. Histochemistry - Portions of the above tissue would be subjected to histochemical examination, and determinations made for desoxyribosenucleic acid, sulfhydryl groups, glycogen, acid, and alkaline phosphatases, cholesterol, fatty acids and phospholpids, etc. In this procedure a modification of the Atomstone Taylor frozen section technique would be used.

Submitted for period beginning July 1955

SIGNATURE OF PRINCIPAL INVESTIGATOR: Herbert Mescon
Herbert Mescon, M. D.

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL: Medical

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6H-5708	7/6/55 - 7/5/56	$500

THIS IS A GRANT TO A USPHS FELLOW

PHS 166

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Prepared for the Medical Sciences Information Exchange.
Not for publication or publication reference.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6H-5698F

HF-5698

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Long-term Preservation of Red Blood Cells

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Dr. Ivan W. Brown, Jr., Associate Professor of Surgery, Duke University
Dr. G. S. Eadie, Professor of Physiology and Pharmacology, Duke University
Dr. Wilmer C. Hewitt, USPHS Postdoctorate Research Fellow

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Duke University, Durham, North Carolina

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

It is proposed to continue with studies on the low-temperature, long-term preservation of the cellular elements of the blood according to methods already under investigation in the laboratory of Dr. Ivan W. Brown, Jr. at Duke University. It is proposed to include in these studies the practical feasibility of preserving packed red blood cells for transfusion purposes for periods up to 1-2 years using glycerol and low temperature storage. It is proposed to continue further work on more practical methods for the rapid removal of glycerol from the cells post-storage.

New suspension media are under investigation which it is hoped will permit the use of lower glycerol concentrations and the recovery of a greater percentage of viable cells post-freezing. It is proposed to continue with in vivo survival studies with stored cells employing the method of chromium 51 tagging.

SIGNATURE OF PRINCIPAL INVESTIGATOR: Ivan W. Brown, Jr.

Submitted for period beginning- July 1955

Identify the Professional School (medical, dental, public health graduate, or other) with which this project should be identified:

SCHOOL: School of Medicine

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6H-5698F	7/55 - 6/56	$500

THIS IS A GRANT TO A USPHS FELLOW

PHS 166
REV 10-52

Form Approved
Budget Bureau No. 82-R001.2

Prepared for the Medical Sciences Information Exchange.
Not for publication or publication reference.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6H-5673
HF-5673

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Radiocardiography in Pediatric Cardiac Patients.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sponsor: Dan G. McNamara, M.D.; Director, Cardiac Clinic, Texas Childrenls Hospital, in behalf of Josppph R. Latson, M.D.; Research Fellow.
Associates: Denton A. Cooley, M.D.; Associate Professor Surgery, Baylor University College of Medicine.
Kenneth Loeffler, M.D.; Director of Radiotherapy and Radioisotopes, Department of Radiology, Baylor University College of Medicine.

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Texas Children's Hospital.

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Dye dilution curves will be obtained utilizing radioactive iodinated albumin and a continuous external recording system over the intact brachial artery, and in all cases, from another site simultaneously.

Radioactive iodine, .5 microcurie per pound body weight will be rapidly injected into the right antecubital vein. A dual scintillation system will record continuous time-concentration curves from the left brachial artery and one other site. In some cases, the isotope will be injected during cardiac catheterization and simultaneous Fick cardiac outputs will be calculated for comparison. Blood volume determinations will be done on all patients. In a few patients, multiple arterial samples will be obtained for comparison and continuous recordings will be made through the cannula as these samples are being obtained. All such procedures, however, will be done as a check on the method of obtaining accurate dye dilution curves externally over the brachial artery.

The patients in this study will be taken from the cardiac clinic of the Texas Children's Hospital, in most instances.

Submitted for period beginning - July 1955

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified.

SCHOOL Baylor University College of Medicine.

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6H-5673	7/55 -6/56	$500

THIS IS A GRANT TO A USPHS FELLOW

PHS 166
REV. 10-53

Form Approved
Budget Bureau No. 68-R03.1

Prepared for the Medical Sciences Information Exchange.
Not for publication or publication reference.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6H-5538
HF-5538

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Studies of Red Cells Survival in Hemolytic Anemias As Determined by Concomitant Measurement by Radioactive Chromium and N_{15}.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

G. Watson James, III, M. D., Assoc. Prof. of Med.; Chief, Dept. of Hematology
John H. Moon, M. D.

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Medical College of Virginia, Richmond, Virginia

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

This investigation is for the purpose of utilizing heavy nitrogen techniques to study red cell survival in the various anemias, particularly in the mechanisms of the congenital or acquired hemolytic anemias and in anemias where overt hemolysis is not grossly evident.

We propose to do radioactive chromium studies concomitantly with the heavy nitrogen studies and determine the effect of this material on the erythrocytes by determination of fecal stercobilin N_{15}.

Submitted for period beginning - July 1955

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified.

SCHOOL Med. Coll. of Va., School of Medici

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6H-5538	7/55 - 6/56	$500

THIS IS A GRANT TO A USPHS FELLOW

PHS 416

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Prepared for the Medical Sciences Information Exchange.
Not for publication or publication reference.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6H-5426

HF-5426

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Study of Blood Platelets by Radioactive Techniques.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sponsor: Dr. William Dameshek, Director, Blood Research Laboratory, New England Center Hospital, Boston 11, Mass.

Dr. W. Harrison Reeves, Blood Research Laboratory, New England Center Hospital, Harrison Ave. & Bennet St., Boston 11, Mass.

NAME AND ADDRESS OF APPLICANT INSTITUTION.

New England Center Hospital, Harrison Ave. & Bennet St., Boston 11, Mass.

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Attempts have been made to study the life span of human platelets by various means. Outstanding among them is the in vivo technique of injecting blood (or platelet suspensions) from patients with excessive numbers of platelets into normals. More recently blood platelets have been tagged in vitro using radioactive isotopes. By these methods the life span of platelets has been estimated at 3 to 6 days. Currently, one of the major difficulties in this work on platelet survival is the absence of information on platelet metabolism and the assurance that the platelets that are counted in the survival studies are, in fact, viable.

It is the purpose of this investigation to evaluate critically the various media used in handling platelets, and then to study platelet survival time in vitro and in vivo using radioactive isotopes. In our clinic we have access to many patients with polycythemia vera and thrombocytosis who would serve this experiment. We have a large series of patients with leukemia and lymphoma. An extensive study is already in progress in our laboratory on platelet metabolism using cytochemical techniques, and this work will take advantage of information and technical help already here.

We have sufficient equipment to facilitate radioactive investigation, including Geiger and scintillation counters, health monitoring device, and the help of both a physicist and a chemist who are trained in the isotope procedures.

SIGNATURE OF PRINCIPAL INVESTIGATOR William B. Dameshek, M.D.

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL

Submitted for period beginning - July 1955

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6H-5426	7/55 - 6/56	$500

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FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO. (Do not use this space)
6H-5265
HF-5265

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Studies on Body Composition in Patients with Hyponatremia with Special Reference to Total Exchangeable Sodium, Total Exchangeable Potassium and Total Body Water.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

I. S. Edelman, M.D., Associate Professor of Medicine - Principal Investigator

Lee F. Birkenfeld, M.D., Research Fellow in Medicine

NAME AND ADDRESS OF APPLICANT INSTITUTION:

School of Medicine, University of California
San Francisco 22, California

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

It has been demonstrated that the serum sodium concentration does not correlate with total body sodium content. There is evidence to indicate that either primary potassium depletion or primary excess of body water may contribute to the genesis of hyponatremia. The purpose of this study is to elucidate the relations among serum sodium concentration, total body sodium content, total body potassium content, and total body water. Patients with hyponatremia will be studied before and after therapy. Using the isotope dilution method, we will estimate total exchangeable sodium, potassium and total body water. Attempts to correlate serum sodium concentrations with these parameters of body composition will then be made.

Submitted for period beginning - July 1955

SIGNATURE OF PRINCIPAL INVESTIGATOR I. S. Edelman, M.D.

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL of Medicine, University of California

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6H-5265	7/55 - 6/56	$500

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PHS-166
REV. 10-52

Form Approved
Budget Bureau No. 82-R001.2

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DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6H 4922 C1 *
HF-49c2-C

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Blood and Plasma Volumes, Intracellular and Extracellular Compartments in Premature and Newborn Infants

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Lawrence B. Slobody, M.D. - Professor and Director of Pediatrics
in behalf of Miriam Lending, M.D.

SUPPORT FROM THIS SOURCE TERMINATED 5/56

NAME AND ADDRESS OF APPLICANT INSTITUTION:

New York Medical College -
1 East 105th Street, New York 29, N. Y.

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

This investigation aims to determine and compare the distribution of body fluids in premature with full term infants. An indwelling polyethylene umbilical catheter is used to secure blood samples. Blood and plasma volumes are being measured in premature and full term newborn infants using radioactive iodinated human serum albumin. Tagged red cells will be utilized in subsequent studies.

The effects of hypoxia on the blood and plasma volumes in the puppy and newborn infant are also being studied. Hypoxia is induced with varying mixtures of nitrogen and oxygen in the animal experiments.

In both human and animal experiments, a measured amount of radioactive iodinated serum albumin is injected and several heparinized blood samples obtained at intervals for measurement in the well type scintillation counter.

SIGNATURE OF PRINCIPAL INVESTIGATOR Lawrence B Slobody

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL New York Medical College

Submitted for period beginning - June 1955

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Approved
* 6H 4922 C1	6/55 - 5/56	$500

THIS IS A GRANT TO A USPHS FELLOW

SUPPORT FROM THIS SOURCE TERMINATED 5/56

PHS 166
REV. 10-52

* First Supply Grant Awarded

Form Approved
Budget Bureau No. 72-R001.2

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FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6H -4920 C1

HF-4920-C

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Nitrogen Reduction in Bacteria; Lipid Metabolism

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

D. Rittenberg, Professor of Biochemistry - Sponsor - In behalf of: Dr. Gerald B. Phillips, US PHS Special Research Fellow

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Columbia University

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

The mechanism of nitrate reduction by bacteria is being investigated using potassium nitroprusside labeled with N^{15} as substrate. In addition, studies relating to the transport of isotopically labeled fatty acids in the plasma, the protein-lipid relationships in plasma, and the role of the phospholipids in fat metabolism are being initiated.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL **Columbia University Medical School**

Submitted for period beginning September 1955

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6H-4920	9/54 - 8/55	$500
4920 C1	9/55 - 8/56	500

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PHS 166

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FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6H-4856F

6HF-4856

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Studies on Digitalis Glycosides and Other Agents in Congestive Failure

SUPPORT FROM THIS SOURCE TERMINATED

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

***Harry Gold, M.D., Professor of Clinical Pharmacology of Cornell University Medical College, principal investigator.**
****Aaron Gans, M.D., Assistant Investigator**
Susan Otto, B.A., research assistant
6 research assistants and hospital clinic personnel
Research carried out at Cornell University Medical College, and Cardiovascular Research Unit of the Beth Israel Hospital, and Cardiology Service of the Hospital for Joint Diseases

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Cornell University Medical College, 1300 York Avenue, New York 21, New York

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

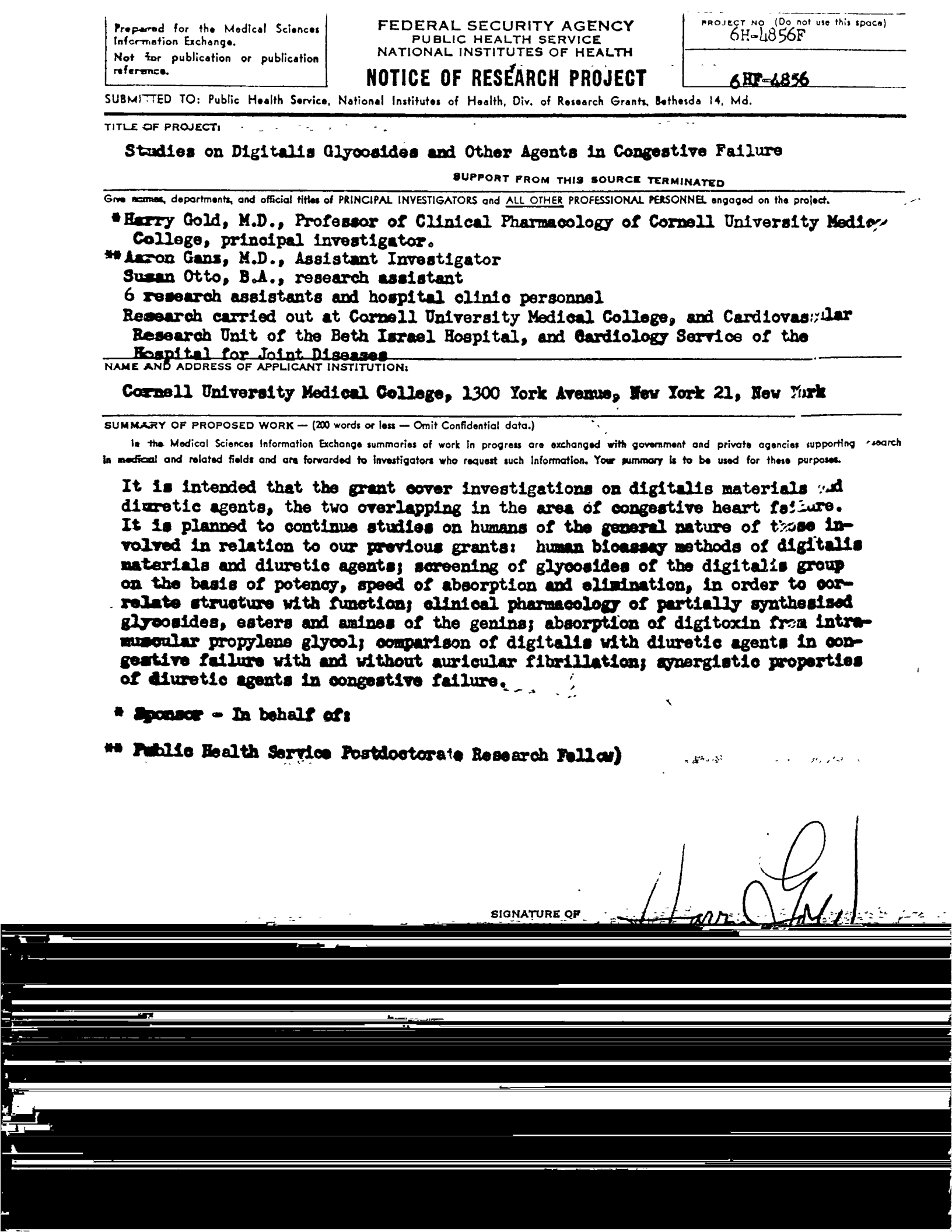
In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

It is intended that the grant cover investigations on digitalis materials and diuretic agents, the two overlapping in the area of congestive heart failure. It is planned to continue studies on humans of the general nature of those involved in relation to our previous grants: human bioassay methods of digitalis materials and diuretic agents; screening of glycosides of the digitalis group on the basis of potency, speed of absorption and elimination, in order to correlate structure with function; clinical pharmacology of partially synthesized glycosides, esters and amines of the genins; absorption of digitoxin from intramuscular propylene glycol; comparison of digitalis with diuretic agents in congestive failure with and without auricular fibrillation; synergistic properties of diuretic agents in congestive failure.

*** Sponsor - In behalf of:**

**** Public Health Service Postdoctorate Research Fellow)**

SIGNATURE OF



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PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6H-4820F

6HF-4820

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

SUPPORT FROM THIS SOURCE TERMINATED

The Effects of Cobalt in the Anemia of Uremic Patients

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sponsor: Dr. E. Donnall Thomas, Instructor, Department of Medicine, Harvard University

Dr. Barton P. Smith, Research Fellow, Department of Medicine, Harvard University

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Harvard Medical School

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Ballistocardiograms and Master's tests will be done to determine if there are any demonstrable effects due to cobalt therapy for anemia in uremic patients.

Also red cell mass and plasma volume determinations, myeloid-erythroid ratios and other hematological studies will be done to determine, if possible, the nature of the bone marrow response in these subjects.

SIGNATURE OF PRINCIPAL INVESTIGATOR: E. Donnall Thomas

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL: Harvard Medical School

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Apor.
6H-4820F	7/54 - 6/55	$500

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REV. 10-52

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FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space) 6H-4676F

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT: The effect of carbonic anhydrase inhibition on fluid and electrolyte metabolism.

SEP 8 1953

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Isidore S. Edelman, M.D., Established Investigator of the American Heart Association and Assistant Professor of Medicine

Judith Nadell, M.D., Research Fellow in Medicine,
Department of Medicine

NAME AND ADDRESS OF APPLICANT INSTITUTION:

School of Medicine, University of California,
San Francisco 22, California

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Carbonic anhydrase inhibition will be carried out by the administration of "6063" to humans and animals. In humans with various clinical conditions characterized by edema formation, the effects of this inhibitor on body composition will be evaluated by studies on total exchangeable sodium, total exchangeable potassium, total body water and acid-base equilibrium. The tracers to be employed are Na^{24}, K^{42} and D_2O. In animals (rabbits), the effects of depression of carbonic anhydrase activity on the internal distribution of water, sodium, potassium and chloride will be assessed. In particular, the partition of these substances between bone, carcass, and the gastro-intestinal tract will be investigated.

SIGNATURE OF PRINCIPAL INVESTIGATOR Isidore S. Edelman

DATE

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL University of California

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6H-4676F	8/53 - 7/54	$486

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PHS 166
REV. 10-52

Form Approved
Budget Bureau No. 92 R001.2

Prepared for the Medical Sciences Information Exchange.
Not for publication or publication reference.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6H-h62hF C1
HF-4624-C

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Mechanisms of Hemolytic Anemia

SUPPORT FROM THIS SOURCE TERMINATED

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Thomas Hale Ham, Professor of Medicine and Sponsor - In behalf of: *
Russell Weisman, Jr., Instructor in Medicine
* Carl F. Hinz, Jr., Public Health Service Postdoctorate Research Fellow
Anne V. Lenihan, Research Assistant

NAME AND ADDRESS OF APPLICANT INSTITUTION:

School of Medicine, Western Reserve University, Cleveland 6, Ohio

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

1. Properdin in Paroxysmal Nocturnal Hemoglobinuria (PNH) Studies being conducted currently with Dr. Louis Pillemer in the Institute of Pathology, and Dr. W. S. Jordan in the Department of Preventive Medicine indicate that properdin, a recently described normal serum protein, is essential to PNH hemolysis in-vitro. Further studies are proposed regarding the nature of the serum system, the relation of that system to complement and properdin, and the variations in the serum system in the patient. Investigations on the enzymatic nature of the hemolytic system are in progress; and clinical studies on 4 patients with PNH are continuing, especially regarding factors causing crisis and remission.

2. Spleen in Hemolytic Anemia. There will be continued participation in the existing program regarding the role of the spleen in the destruction of erythrocytes in hereditary spherocytosis, acquired hemolytic anemia, and sickle cell anemia. For details of this work see progress report of March 30, 1954, Grant # H 1263 C.

3. Studies on the abnormal hemoglobins will be continued. They include a clinical study of sickle cell anemia and its variants in pregnancy; and clinical and genetic studies of several families with variants of sickle cell disease.

SIGNATURE OF PRINCIPAL INVESTIGATOR Thomas Hale Ham

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL of Medicine, Western Reserve Univ.

Submitted for period beginning- July 1954

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6H-h62hF	7/53 - 6/54	$500
h62hF C1	7/54 - 6/55	500

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SUPPORT FROM THIS SOURCE TERMINATED

PHS 166
REV 10-52

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Budget Bureau No. 92 R001.2

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FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6H-1624F
6HF-4624

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Mechanisms of Hemolytic Anemia as Related to the Spleen and other Viscera

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Thomas Hale Ham — **Professor of Medicine**
Russell Weisman, Jr. — **Fellow in Medicine**
Angela Pasquariello — **Research Assistant**

In behalf of Dr. Carl F. Hins, Jr. (Public Health Service Postdoctorate Research Fellow)

NAME AND ADDRESS OF APPLICANT INSTITUTION:

School of Medicine, Western Reserve University, 2109 Adelbert Road, Cleveland Ohio

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

After the initial period of indoctrination and familiarization with laboratory techniques, investigations were undertaken related to destruction of red cells in several subjects.

1) There has been participation in the existing program concerning the fate of normal and abnormal cells in the spleen, as studied at splenectomy by osmotic fragility, morphology, radioactive Cr ^{51}, and Ashby differential agglutination technique. Further details are contained in progress report of March 30, 1954, on Grant number H 1263 C.

2) An apparatus for paper electrophoresis of hemoglobin has been constructed by this Fellow. This apparatus has been used in hematologic and genetic studies of families with sickle cell disease in its several forms.

3) In conjunction with Drs. Louis Pillemer and W. S. Jordan, Jr., of this institution, there has been a re-evaluation of the hemolytic system in paroxysmal nocturnal hemoglobinuria (PNH), particularly as it pertains to complement and the role of recently separated plasma protein substances that are essential to the PNH system. Clinical study of several patients with PNH has included survival studies with radioactive Cr^{51} and Ashby techniques, and the effects of transfusion.

SIGNATURE OF PRINCIPAL INVESTIGATOR: Thomas Hale Ham

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6H-1624F	7/53 - 6/54	$500

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Budget Bureau No. 82-R071.2

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Not for publication or publication reference.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

(H-4596F

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

The detection and study of platelet antibodies by means of fluorescein labelling.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Dr. Eugene B. Ferris, Professor of Medicine, Chairman, Department of Medicine, Sponsor of project
Dr. Charles A. Hugule, Jr., Principal Investigator
Dr. Thomas C. Hill, Jr., Public Health Service Postdoctorate Research Fellow

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Emory University, Emory University, Georgia

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

There is considerable evidence that Idiopathic Thrombocytopenic Purpura is the result of an autogenously produced antibody against platelets. Studies of platelet antibodies would be facilitated if the antibodies could be tagged or labelled. It is proposed that serum from patients with Idiopathic Thrombocytopenic Purpura be treated so as to label any antibody with Fluorescein (Antibody Labelling Technique of Coons and Kaplan). If an antibody against platelets were present, it could be demonstrated by showing that it would adhere to normal platelets, thereby making them fluoresce under the ultra violet microscope.

It is our purpose to investigate the presence of platelet antibodies by this method in Idiopathic Thrombocytopenic Purpura and in other thrombocytopenic conditions.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Approved
6H-4596	7/53 - 6/54	$500

PHS —
REV —

Form Approved
Budget Bureau No. 92-R001.2

Information Exchange

Not for publication or publication reference

SERVICE
TES OF HEALTH

NOTICE OF RESEARCH PROJECT

(Do not use this space)

6H 4570

BT-4570

SUBMITTED TO Public Health Service

TITLE OF PROJECT: (DO NOT USE ABBREVIATIONS)

Clinical and Physiological Studies in Aortic Stenosis

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sponsor: Dr. Lewis Dexter, Assistant Professor of Medicine
on behalf of Dr. [illegible], Public Health Service
Postdoctorate Fellow

NAME AND ADDRESS OF APPLICANT INSTITUTION

President and Fellows of Harvard College, Cambridge 38, Mass.

SUMMARY OF PROPOSED WORK — (200 words or less — Complete abstract)

The Medical Sciences Information Exchange summaries of research projects are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary will be used for these purposes.

Little work has been done in the quantification of aortic stenosis in times past. Until syncope, angina or failure appear, it is impossible to estimate its severity by current methods. It is therefore planned to undertake a physiologic evaluation of these patients at the time of surgery by measuring the pressure in the left ventricle and in the aorta with the simultaneous measurement of cardiac output by the dye technique so that the size of the aortic orifice can be calculated according to the formula of Gorlin and Gorlin. It is then planned to correlate this physiological information with the clinical, electrocardiographic, and radiological manifestations of the disease in an effort to translate into clinical terms the physiological abnormalities, as has been done so successfully with mitral stenosis.

SIGNATURE OF PRINCIPAL INVESTIGATOR

[illegible] public health graduate of [illegible]

Submitted for period beginning July 1955

Harvard Medical School

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No. 6H 4570 | 7/55 - 6/56 | $500 Approved

PHS 166
REV 10-53

Form Approved

Prepared for the Medical Sciences Information Exchange. Not for publication or publication reference.

HEALTH, EDUCATION, AND WELFARE
FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)

6H-4461F

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT: A Study of the Rate of Utilization of Thyroid Hormone and its Components in Various Thyroid States with Particular Reference to the Effect of Various Stresses on Turnover. Support from this source terminated 6/54

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sponsor: Dr. A. Stone Freedberg - Asst. Prof. of Med. Harvard Medical School, Assoc. Director of Med. Res., Beth Israel Hosp.
In behalf of Dr. Haskell S. Ellison (Public Health Service Postdoctorate Research Fellow)

NAME AND ADDRESS OF APPLICANT INSTITUTION:
Harvard University
Cambridge, Massachusetts

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Various indices of thyroid function are commonly utilized, but precise knowledge of the rate of utilization of the thyroid hormone following its elaboration and release by the thyroid gland is limited.

In the proposed study radioactive labelled thyroid hormonal components prepared either chemically (i.e. radioiodothyroxine) or physiologically, by the administration of radioactive iodine to euthyroids as well as thyrotoxic subjects will be infused. At frequent specific intervals during the first 12 to 18 hours and daily for more prolonged periods the blood will be assayed for the residual amount of injected material, quantitatively fractioned into protein-bound and thyroxine-like fractions by trichloracetic acid precipitation, butanol extraction, and simultaneous qualitative analysis by paper chromatography. The rates of disappearance of the injected labelled material will be utilized to determine the hormone turnover. The fate of the injected material will be further followed by studies of thyroid gland uptake, urinary and fecal excretion of radioactive iodine by established methods. The data will be correlated with other indices of thyroid function, basal metabolic rates, serum protein-bound iodine levels and serum cholesterol. The effect on peripheral utilization of the various stresses, e.g., fever, exposure to cold will be determined.

Haskell S. Ellison

SIGNATURE OF PRINCIPAL INVESTIGATOR: A. Stone Freedberg

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified.

SCHOOL: Harvard Medical School

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6H-4461F	7/53 - 6/54	$500

THIS IS A GRANT TO A USPHS FELLOW
Support from this source terminated 6/54

PHS 446
REV 2

Form Approved
Budget Bureau No. 92-R001.2

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FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6H-4252F C2

HF-4252-C2

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

The incorporation of exogenous fats into the serum lipoproteins of humans.

SUPPORT FROM THIS SOURCE TERMINATES

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sponsor:
John W. Gofman, M.D., Division of Medical Physics, Professor of Medical Physics
Donald J. Rosenthal, M.D., Division of Medical Physics, Public Health Service Postdoctorate Research Fellow (NIH)

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Donner Laboratory of Medical Physics, University of California, Berkeley 4, California

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

As a continuation of the work previously carried out concerning the relationship between the serum lipoproteins and dietary fats, it is now proposed to study the chemical form in which exogenous fatty acids or triglycerides enter into the structure of the various lipoprotein fractions. This study will be made on normal human subjects, and on patients who have an altered fat metabolism.

Following the ingestion of a tracer dose of tritiated fatty acid or triglyceride, blood samples will be drawn at given time intervals for the next 24-48 hours. Each serum sample will then be partitioned into 4 lipoprotein fractions by means of the ultracentrifuge. Lipid extracts of these centrifuge fractions will then be split further, by means of column chromatography, into the different lipid constituents of the lipoproteins (neutral fats, phospholipids, cholesterol esters, and cholesterol). The specific radioactivity of the intact lipoprotein fraction, and also of its various lipid components will then be measured.

By these means, more detailed information concerning the metabolic pathway of dietary fats through the serum lipoprotein spectrum should be obtained.

SIGNATURE OF PRINCIPAL INVESTIGATOR: Donald J. Rosenthal, M.D.

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified.

SCHOOL

Submitted for period beginning-December 1954

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6H-4252F	12/52 - 11/53	$500
4252F C1	12/53 - 11/54	500
4252F C2	12/54 - 6/55	292

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SUPPORT FROM THIS SOURCE TERMINATE

PHS 166
REV. 12-52

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Budget Bureau No 92 R001 2

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FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

(LEAVE BLANK)
6H-4252P

SUBMITTED TO: Public Health Service, National Institutes of Health Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT

Studies of Fatty Acid Metabolism in Human Atherosclerosis.

GIVE NAMES, DEPARTMENTS, AND OFFICIAL TITLES OF PRINCIPAL INVESTIGATOR AND ALL OTHER PROFESSIONAL PERSONNEL ENGAGED IN THIS PROJECT.

Donald J. Rosenthal, M. D., Research Fellow, Division of Medical Physics, University of California.

John W. Gofman, M. D., Associate Professor, Division of Medical Physics, University of California.

NAME AND ADDRESS OF APPLICANT INSTITUTION

University of California, Berkeley 4, California

SUMMARY OF PROPOSED WORK *(300 words or less — omit confidential data)*

In the exchange of information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Radioactive (tritium-labelled) fatty acids and triglycerides will be administered to human subjects, both normals and patients suffering from obvious clinical atherosclerosis. Permission to give these substances to humans has already been obtained from the Atomic Energy Commission. The subsequent work will then be divided into three phases:

a) a study of the turnover rates of the fatty acids of the different serum lipoprotein groups. By means of the ultracentrifuge, these serum fractions can be isolated, and the specific activity of their fatty acids may then be measured. It is hoped that, utilizing the tracer technique, the normal sequence of events in the metabolism of the fatty acids will be elucidated, and the defect which causes the accumulation of "abnormal" lipoproteins in atherosclerotics demonstrated. It should be possible to show whether there is any difficulty in the organism's utilization of any of the lipoprotein groups, or whether the atherosclerotic individual synthesizes more of the lower density lipoproteins;

b) in addition, a study of the total serum fatty acid turnover rate will be made in these groups of people, and also

c) a study of the rate of incorporation of the fatty acid label into the serum cholesterol of these subjects.

SIGNATURE OF PRINCIPAL INVESTIGATOR D. J. Rosenthal (M. D.)

IDENTIFY ANY PROFESSIONAL SCHOOL (MEDICAL, DENTAL, PUBLIC HEALTH, GRADUATE, OR OTHER) WITH WHICH THIS PROJECT SHOULD BE IDENTIFIED.

Grant No.	Period of Operation	Amt. Approved
6H-4552	12/52 - 11/53	$500

LEAVE BLANK

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Not for publication or publication reference.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PR NO (Do not use this space)
6H-4252-F

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT: **The Incorporation of Exogenous Fatty Acids into Serum Lipoproteins, and Their Various Turnover Rates.**

SUPPORT FROM THIS SOURCE TERMINATES

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

John W. Gofman, M. D. Division of Medical Physics, Assoc. Prof. of Medical Physics

Donald J. Rosenthal, M. D. Division of Medical Physics, Public Health Service Postdoctorate Research Fellow (NHI)

NAME AND ADDRESS OF APPLICANT INSTITUTION:

University of California, Berkeley 4, California

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Utilizing fatty acids labelled with radioactive hydrogen (tritium), the rates of uptake and turnover of the fatty acids contained in certain of the serum lipoprotein fractions of humans have been studied. The lipoprotein fractions are obtained by the ultracentrifugal flotation method described by Gofman and Lindgren, et al. The present study is an extension of the aforementioned in two ways. Further studies will be carried out, both in normal individuals and in patients suffering from a variety of derangements of their lipid metabolism, concerning the fate of their ingested fatty acids with respect to their serum lipoproteins. In addition, by a modification of the Bergstrom method of elution chromatography, using silicic acid columns, it is now feasible to separate the fatty acids of the lipoproteins into cholesterol ester, phospholipid, and glyceride fractions. By combining this technique with the tracer methods mentioned above, it is hoped that a better understanding will be obtained of how exogenous fatty acids are handled in the intact human (both normals and subjects with altered fat metabolism).

Sponsor John W. Gofman

SIGNATURE OF PRINCIPAL INVESTIGATOR Donald J. Rosenthal M.D.

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL Graduate

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6H-4252F	12/52 - 11/53	$500
4252F C1	12/53 - 11/54	500

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PHS 166
REV 10-52

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SUPPORT FROM THIS SOURCE TERMINATES

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FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
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NOTICE OF RESEARCH PROJECT

(DO NOT USE THIS SPACE) 6B-3964 C1 *

HF-3 964-C

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Ferrokinetic Studies in Human Subjects

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sponsor:

W. M. Wintrobe, M.D., Department of Medicine, Professor and Head - In behalf of:**
C. E. Cartwright, M.D., " " " , Associate Professor
** J. A. Bush, M.D., " " " , Public Health Service Postdoctorate Research Fellow

NAME AND ADDRESS OF APPLICANT INSTITUTION.

University of Utah, Salt Lake City, Utah

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

By the use of iron 59, the plasma iron turnover rate, the red blood cell iron turnover rate, the per cent renewal of erythrocytes per day and the red cell survival time will be investigated in normal subjects and in patients with acute and chronic infections.

SIGNATURE OF PRINCIPAL INVESTIGATOR [signature]

Submitted for period beginning - January 1954

(Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified

SCHOOL University of Utah College of Medicine

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amount Approved
** 6B-3964 C1	1/54 - 12/54	$500

Support From This Source Terminated 12/54

THIS IS A GRANT TO A USPHS FELLOW

* First Supply Grant Awarded

PHS 166
REV. (F 52

Form Approved

NOTICE OF RESEARCH PROJECT
Medical Sciences Information Exchange
Not for Publication

Supporting Agency: Public Health Service Project No. 6H-3584

Title of Project: 1. Studies on the blood-level of radioactive digitoxin in human subjects with cardiac insufficiency.
2. Isolation of digitoxin metabolites from urine of cardiac patients.

Professional Personnel:
Dr. E.M.K. Geiling, Dept. of Pharmacology - Chairman
Dr. George T. Okita, Dept. of Pharmacology - U.S. Public Health Service Post-doctoral Fellow
Dr. Peter J. Talso, Dept. of Medicine - Instructor

Name of Institution: University of Chicago

Summary of Proposed Work:

Research work contemplated under the United States Public Health Service Post-doctoral fellowship will be twofold.

The first project will concern blood level studies of isotopically labeled C^{14} digitoxin and its metabolic derivatives in human subjects with cardiac insufficiency. A series of six to eight cardiac patients will be administered a single intravenous dose of randomly labeled digitoxin. Half of the group will receive a 0.5 mg. dose while the remaining half will receive 1.2 mg. Blood samples will be withdrawn at appropriate intervals, extractions made for the unchanged drug and its metabolites, and assayed quantitatively with an internal gas-flow Geiger-Mueller counter. Using this method it is hoped that we will be able to determine the length of time digitoxin and its metabolites remain in the vascular system, the rate at which it is removed from the blood stream, the ratio of unchanged drug to its metabolites, and the effect of dose variation on digitoxin blood level.

The second project will involve the isolation of radioactive digitoxin metabolites from urine of cardiac patients which was obtained during our studies on the renal excretion of the cardiac glycoside. The main purpose of the project will be to test the possible cardiotonic activity of the various metabolites fractionated by column and paper chromatography. The embryonic duck heart and the isolated heart method of bioassay will be employed to test the cardiotonic activity of the metabolites.

Grant No.	Period of Operation	Amt. Approved
6H-3584	1/1/52 - 12/31/52	$540

SUPPORT FROM THIS SOURCE TERMINATED

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FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6H 3180

NF-3180

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT: Studies on the relationship between body composition and serum electrolyte concentrations using Na^{24}, K^{42}, and D_2O as tracers in patients with congestive heart failure.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

I. S. Edelman, M.D., Associate Professor, Department of Medicine
M. Patrick O'Meara, M.D., Public Health Service Research Fellow
Department of Medicine

NAME AND ADDRESS OF APPLICANT INSTITUTION:

School of Medicine, University of California
San Francisco 22, California

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Previous studies showed that there is no correlation between exchangeable sodium and potassium pool size and their respective concentrations in serum.

The observation that hyponatremia may be precipitated by retention of water suggests that the magnitude of body water relative to body electrolyte content may determine serum electrolyte concentrations. The demonstration of sharp rises in serum sodium concentration following the administration of fairly large amounts of potassium chloride indicates that intracellular osmolarity may affect extracellular concentrations. The purpose of this project is to elucidate the relationship between serum sodium and potassium concentrations and three parameters of body composition, namely, sodium, potassium and water contents.

Patients with congestive heart failure and possibly patients with cirrhosis of the liver and electrolyte abnormalities will be studied before and after therapy. Total exchangeable sodium, potassium and total body water will be estimated by the isotope dilution method using Na^{24}, K^{42}, and D_2O as tracers. Simultaneous analyses for serum sodium, potassium, chloride and bicarbonate concentrations will be carried out.

The data so obtained will be evaluated for correlations between the parameters of body composition and serum electrolyte concentrations.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Submitted for period beginning August 1955

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL Univ. of Calif. School of Medicine

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amount Approved
6H 3180	8/55 - 7/7/56	$ 500

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PHS 96

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NOTICE OF RESEARCH PROJECT

(LEAVE BLANK)
6H-2950F(C)

SUPPORT FROM THIS SOURCE TERMINATED

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT

The Metabolism of 2 Carbon Fragments and Protein Synthesis in Subjects with Diabetic and Starvation Ketosis.

GIVE NAMES, DEPARTMENTS, AND OFFICIAL TITLES OF PRINCIPAL INVESTIGATOR AND ALL OTHER PROFESSIONAL PERSONNEL ENGAGED IN THIS PROJECT.

John P. Peters (Sponsor) - Professor of Medicine - Dept. Int. Med.

Seymour R. Lipsky - USPHS Postdoctorate Research Fellow

NAME AND ADDRESS OF APPLICANT INSTITUTION

Yale University School of Medicine - New Haven, Conn.

SUMMARY OF PROPOSED WORK *(300 words or less — omit confidential data)*

In the exchange of information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Research activities will center around a study of the mechanisms involved in the production, utilization, and oxidation of ketone bodies in the normal and diabetic subject. Attempts will be made to verify and possibly expand in man some of the more important observations derived from animal experimentation in this field.

I. With the use of deuterium-labeled acetate, information will be sought about the following: (a) The rate of uptake of 2 carbon fragments and subsequent conversion into fatty acids and cholesterol under various conditions. (b) Quantitative relationships concerning the rate of formation of ketones from fatty acids and the utilization of these substances by the peripheral tissues. (c) The nature of the stimuli that induce the production of ketone bodies by the liver. (d) The possible pathways involved in the repair of the defective lipogenesis in the diabetic as afforded by insulin and fructose. (e) The mechanism of the antiketogenic and ketogenic action of cortisone and ACTH.

II. With the use of I^{131}-tagged albumin, information concerning the following will be sought: (a) Protein synthesis and degradation in controlled diabetic subjects and those subjects with diabetic ketosis. (b) The effects of insulin, glucose and fructose on protein synthesis in the diabetic under various experimental conditions.

SIGNATURE OF PRINCIPAL INVESTIGATOR _____

IDENTIFY ANY PROFESSIONAL SCHOOL (MEDICAL, DENTAL, PUBLIC HEALTH, GRADUATE, OR OTHER) WITH WHICH THIS PROJECT SHOULD BE IDENTIFIED.

Yale University School of Medicine

Grant No.	Period of Operation	Amt. Approved
6H-2950	6/52 - 6/53	$540
2950 C1	6/53 - 6/54	500

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PHS-398-1(RG)
Rev. 8-51

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Budget Bureau No. 92-R001.1

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NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6C-5800
CF-5800

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

A study of the absorption ~~xx~~ of I-131 labeled triolein in man.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Paul Beres, M.D. Department of Medicine, U.S.P.H.S. Postdoctorate Research Fellow

Joseph B. Kirsner, M.D. Professor, Department of Medicine.

NAME AND ADDRESS OF APPLICANT INSTITUTION:

University of Chicago Clinics, 950 East 59th St, Chicago 37, Ill.

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

I-131 labeled triolein is now available for research purposes. The purpose of this study will be to evaluate fat absorption in normal persons, and in those with various malabsorption syndromes, using this material as the test substance.

It will be necessary to determine the stability of the test material. Techniques for measuring "lipid" bound iodine in the blood will be developed. After this has been done, it is expected that a test, analagous to the glucose tolerance test, will be evaluated.

The eventual hope is to develop a simple test, utilizing the isotopic methods, which will serve as an aid in the evaluation of patients with malabsorptive diseases.

Submitted for period beginning - July 1955

SIGNATURE OF PRINCIPAL INVESTIGATOR: Paul Beres

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL: Univ. of Chicago, Medical School

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6C-5800	7/55 - 6/56	$500

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NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6C-5615
CF-5615

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Study of the Relationship between Gastrointestinal Motility and Absorption.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sponsor: Chester M. Jones, M. D., Consulting Visiting Physician, Mass. Gen. Hospital
Principal Investigator: Lawrence E. Warbasse, Jr., M.D., Research Fellow in Medicine, Mass. General Hospital

NAME AND ADDRESS OF APPLICANT INSTITUTION:
Massachusetts General Hospital
Boston 14, Massachusetts

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

There is considerable confusion as to whether altered motility of the gut influences the amount and rate of food absorption.

In groups of adult male rats, RAI 131 tagged olive oil with a carmine-marker will be gavaged 30 minutes after the injection of saline, banthine or mecholyl. The rats will be sacrificed at suitable times and the length of gut traversed by the carmine marker measured as an index of peristaltic activity. The amount of tagged fat absorbed will be determined by measuring with a scintillation counter the radioactivity present in the gastroenterectomized carcass and/or by counting the unabsorbed intestinal contents.

Human studies are also planned. Each subject will serve as his own control. A test dose of radioiodinated olive oil with barium sulphate will be fed. Saline, prostigmine, mecholyl or banthine will be injected. Propulsive activity of the gut will be determined by serial x-rays of the barium meal. Three-day stool collections will be analyzed for residual or unabsorbed test fat and radioactivity. Plasma concentrations of radioactivity will also be determined at suitable intervals.

Similar experiments may be performed using sugars which are not normally present in the body and which are therefore identifiable, such as d-xylose or 3-methyl glucose. These sugars are "actively" absorbed by the gut, and such a technique would avoid the pitfalls of the inconclusive oral tolerance tests done by others in humans.

Submitted for period beginning -September 1955

SIGNATURE OF PRINCIPAL INVESTIGATOR
Identify the Professional School (medical, dental, public health, graduate, or other) with which this project is to be identified.
Lawrence E. Warbasse, M.D.
SCHOOL Harvard Medical School

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6C-5615	9/55 - 8/56	$500

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REV. 10-52

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NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6C-5589

CF-5589

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Sterol and Lipid Metabolism in the Pathogenesis of Anemias in Neoplastic Disease

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sponsor: Dr. Leon Hellman, Associate, Sloan-Kettering Institute; Head, Clinical Biophysics Section. In behalf of: Dr. Barnett Zumoff, Public Health Service Postdoctorate Research Fellow

NAME AND ADDRESS OF APPLICANT INSTITUTION.

Sloan-Kettering Institute for Cancer Research
410 East 68th Street, New York 21, New York

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences *Information Exchange* summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

The etiology of anemia found in association with neoplastic disease is obscure. Certain biochemical abnormalities, observed in cases of pernicious anemia in relapse, revert to normal after the institution of appropriate therapy. During relapse, there is reduction of serum and urine uric acid, serum cholesterol, erythrocyte free cholesterol and phospholipid; ester cholesterol is increased.

Methods for the simultaneous in vivo study of human cholesterol, phospholipid, uric acid, and hemoglobin synthesis and degradation have been developed and are currently in use at the Sloan-Kettering Institute. These methods involve the administration of radiocarbon (C^{14}) labeled sodium acetate and glycine, and the subsequent isolation of radiochemically pure free cholesterol, ester cholesterol, glyceride fatty acids, uric acid, hemin and globin. Appropriate gas phase and solid counting techniques are available.

It is hoped to apply these tracer techniques to a study of the interrelationships of lipid, purine and hemoglobin synthesis in pernicious anemia, the macrocytic anemia in stomach cancer and sprue, and the anemia commonly observed in other malignant conditions.

Submitted for period beginning - July 1955

SIGNATURE OF PRINCIPAL INVESTIGATOR: Leon Hellman

Leon Hellman, M.D.

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified: Sloan-Kettering Div. of Cornell Univ. Med. Coll.

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6C-5589	7/55 - 6/56	$500

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NOTICE OF RESEARCH PROJECT

PROJECT NO. (Do not use this space)
6C-5578
CF-5578

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT: **Effects of Various Radiation Dosages upon the Lungs of Experimental Animals**

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Principal Investigator: Dr. A. G. Kammer, Professor and Head, Department of Occupational Health

Theodore F. Hatch, S.M., Professor of Industrial Health Engineering, Department of Occupational Health; Dr. H. R. Hellstrom, teaching fellow in pathology; Herman Cember, M.S., Assistant Professor of Industrial Hygiene (Health Physics), Department of Occupational Health; Joseph A. Watson, M.S., Research Asst., Dept. of Occupational Health

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Graduate School of Public Health, University of Pittsburgh, 4200 Fifth Avenue, Pittsburgh 13, Pa.

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

As part of a comprehensive investigation of pulmonary effects of inhaled radioactive particles, the work of Seibert and Abrams will be repeated and somewhat extended. These workers, utilizing cerium oxide fume as an inhalable aerosol (Ce^{144}), produced primary bronchiogenic carcinoma in rats.

Submitted for period beginning - July 1955

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL **Graduate School of Public Health**

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6C-5578	7/55 - 6/56	$500

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NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6C-5104F
CF-5104

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Metabolism of Nucleic Acids in Leukemia

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

SPONSOR:

Dr. Samuel Graff Professor of Biochemistry College of Physicians and Surgeons Columbia University

Dr. Aaron D. Freedman USPH Postdoctorate Research Fellow Department of Biochemistry College of Physicians and Surgeons Columbia University

NAME AND ADDRESS OF APPLICANT INSTITUTION:

College of Physicians and Surgeons Columbia University
630 West 168th St. New York, NY

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

This project intends to study the metabolism of the purine and pyrimidine bases and their precursors in various forms of leukemia by the use of isotopically tagged compounds given parenterally, under A.E.C. approval.

As a further product of this study, the life span of the various white cells will be studied, contrasting leukemias with the results obtained by other investigators in normal patients using other means.

We shall also study the effects of various leukemia therapies on nucleic acid metabolism and white cell life span.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL College of Physicians and Surgeons

Submitted for period beginning-October 1954

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6C-5104F	10/54 - 9/55	$500

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PHS-166
REV. IC-52

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NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6C-5083F
CF-5083

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT Correlation between renal structure, urinalysis and tests of kidney function and studies of the natural history of kidney disease as shown by serial biopsy.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sponsor:
Robert M. Kark, Professor of Medicine, Department of Medicine - In behalf of: **
Conrad L. Pirani, Associate Professor of Pathology, Department of Pathology
James A. Schoenberger, Assistant Professor of Medicine, Department of Medicine
** Robert C. Muehrcke, Postdoctorate Research Fellow, Department of Medicine

NAME AND ADDRESS OF APPLICANT INSTITUTION:

University of Illinois College of Medicine, 1853 W. Polk St., Chicago 12, Ill.

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

The main work will be concerned with further application of kidney biopsy to clinical investigation. These studies can be divided into 2 portions:
1) Those dealing with the physiology and pathophysiology of the kidney and,
2) Those dealing with clinical aspects of diseases involving the kidney.

With regard to (1), we plan to study the locus of dyes in the glomeruli and renal tubules, (P.S.P. and Evans Blue) and radioactively tagged proteins (especially albumin) using radioautographs of repetetive kidney biopsies and Gersh's freeze-dry technique.

This will be done, before, during and after diuresis, in healthy individuals and in patients with the nephrotic syndrome.

With these substances and kidney biopsy we hope to determine the function of the tubules and glomeruli in relation to albuminuria, under different solute and water leads.

SIGNATURE OF PRINCIPAL INVESTIGATOR R. Richard M. Kark

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL University of Illinois College of Med.

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6C-5083F	9/54 - 8/55	$500

THIS IS A GRANT TO A USPHS FELLOW

PHS 166
REV 10-52

Form Approved
Budget Bureau No 92-R001 2

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Not for publication or publication reference.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6C-5034F

CF-5034

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

The Turnover of Thyroid Hormone in Various States of Thyroid Function.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

A. Stone Freedberg - Asst. Professor of Medicine, Harvard Medical School, Boston
Associate Director of Medical Research, Beth Israel Hospital, Boston

Milton W. Hamolsky - Associate in Medicine, Associate in Medical Research, Beth Israel Hospital, Boston
Instructor in Medicine, Harvard Medical School, Boston

Myron Stein - Research Fellow, Harvard Medical School; Research Fellow in Medicine, Beth Israel Hospital, Boston

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Harvard Medical School, 25 Shattuck Street, Boston 15, Massachusetts

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

The proposed investigation aims to study the turnover of thyroid hormone in the various states of thyroid function. Thyroid hormone will be labelled either (a) biosynthetically by the prior therapeutic administration of I 131 to patients in various thyroid states or (b) in vitro by the incubation of I 131-thyroxin or I 131-triiodothyronine with various plasmas. Such labelled plasmas (as well as the pure components alone) - I 131 thyroxin or I 131 triiodothyronine) will be infused into dogs and humans whose thyroid glands are chemically blocked or previously removed. The rate of disappearance will be followed for many days and the establishment of conditions of equilibrium defined to permit estimation of the amount and the rate of turnover of thyroid hormone. The turnover will be compared in euthyroid, hyperthyroid, hypothyroid, patients with thyroid carcinoma, and patients with severe cardiac disease before and after the therapeutic induction of myxedema by I 131 administration.

SIGNATURE OF PRINCIPAL INVESTIGATOR A. Stone Freedberg
Milton W. Hamolsky

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL Harvard Medical School, Boston, Mass.

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6C-5034F	7/54 - 6/55	$500

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PHS 166
REV. 10-52

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NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6C-4921
07-4921

SUBMITTED TO: Public Health Service, National Institutes of Health Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

A Study of the Effects of Growth Hormone on the Synthesis of Protein, by Means of Liver Perfusion and Clinical Isotope Studies

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

1. John Fletcher Fryd en, M.D., Med.Sc.D., Department of Surgery, Instructor in Surgery, Principal Investigator
2. John B. Price, Jr., M.D., Department of Surgery, Research Fellow in Surgery (U.S. Public Health Service), Co-investigator
3. Melvin S. Schwartz, M.D., Department of Surgery, Research Fellow in Surgery, co-investigator

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Columbia University College of Physicians and Surgeons, 630 West 168th Street, New York 32, N.Y.

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

This study proposes to evaluate the quantitative effects of growth hormone on the synthesis of protein by an isolated rabbit liver perfused with various substrates and blood according to a technique which will be described in the July issue of J. Lab. Clin. Med. The data thus far has shown an interesting tendency on the part of growth hormone to enlarge the amino acid pool at the expense of the polypeptide pool. Under these experimental conditions, growth hormone is superior to insulin as an anabolic agent. The latter increases the polypeptide pool, but makes less complete protein. The combination of insulin and growth hormone has produced intermediate results, rather than additive or synergistic ones. Glycine-2-C^{14} studies are confirmatory in the perfusion studies.

Work is also under way or has been completed on the rates of incorporation of methionine-S^{35} in humans receiving and not receiving growth hormone, and on the phenomena of enzyme adaptation with and without the presence of the hormone. These studies are in agreement concerning the broad pattern of the growth hormone effect on biochemical pooling of the various classes of nitrogen compounds. Likewise, human nitrogen balance data has shown similar trends. The work is continuing in the areas indicated.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified.

SCHOOL Columbia Univ.College of Phys.&Surgeons

Submitted for period beginning-September 1955

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6C-4921	9/14/54 - 9/13/55	$500
4921 C1	9/14/55 - 9/13/56	500

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REV '52

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FEDERAL SECURITY AGENCY
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NOTICE OF RESEARCH PROJECT

PROJECT NO. (Do not use this space)
6C 4891 C1

CF-4891-C

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

A STUDY IN MAN OF INTESTINAL ABSORPTION OF IONS BY ISOTOPIC TECHNIQUES

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sponsor:
F. J. Ingelfinger, M.D. and

(USPHS Postdoctoral Research Fellow:
T. R. Hendrix, M. D.

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Massachusetts Memorial Hospitals, 750 Harrison Ave., Boston 18, Mass.

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

The absorption of isotopically labelled iron by the gastrointestinal tract in man is to be studies using intubation techniques. The isotope solution containing a non-absorbable substance is infused into the small intestine and is recovered by constant aspiration 25 cm. distal to its entrance. If all the infused non-absorbable material is recovered, the iron is absorbed only from the exposed intubation intestinal segment. Absorption is determined by measuring the difference in iron content of the infused and aspirated solutions and also by the amount of isotopic iron appearing in the hemoglobin.

The effect on absorption of reducing agents, pH, food and the segment of intestine exposed is to be investigated.

The kinetics of iron absorption will be studied in normal subjects and patients with various types of anemia.

These studies of kinetics of absorption are to be extended to other ions such as sodium, potassium, chloride, and iodide.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL B. U. School of Medicine

Submitted for period beginning July 1955

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amount Approved
6C 4891	7/54 - 6/55	$500
4891 C1	7/55 - 6/56	500

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DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6C-4891F
CF-4891

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT: Radioactive Isotope Studies of Absorption and Secretion of the Intact Human Intestine.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sponsor:
J.F. Ross, M.D., Associate Professor of Medicine, Dept. of Medicine, Boston University School of Medicine; *T.R. Hendrix, M.D., Instructor in Medicine, Dept. of Medicine, Boston University School of Medicine; B.A. Burrows, M.D., Assistant Professor of Medicine, Boston University School of Medicine and F.J. Ingelfinger, M.D., Associate Professor of Medicine, Boston University School of Medicine.

*Dr. T. R. Hendrix -(Public Health Service Research Postdoctorate Fellow)

NAME AND ADDRESS OF APPLICANT INSTITUTION:
Massachusetts Memorial Hospitals
750 Harrison Avenue, Boston 18, Massachusetts

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

The kinetics of ionic and molecular transfer across the intestinal mucosa is to be studied in normal human subjects by radioactive isotope techniques.

Initially Fe^{59} and I^{131} will be studied. Latter sodium and chloride.

To the test solution a nonflocculating $FeSO_4$ suspension will be added to demonstrate the distribution of the test substance and a reference to measure net changes in water content and ion concentration.

The effect of osmolarity, Glucose, Pharmacologic agents effecting motility and intravenous loading with the test ion will be determined.

The appearance of radioactive isotopes in the intestine will be measured and the effect of osmolarity, location of the intubated loop and the effect of drugs effecting motility will be determined.

Measurements of the isotope will be made in the intestinal loop, blood, and urine as well as measurements blood and intestinal loop concentrations of a, K, Cl, and CO_2. In addition to testing serial blood samples for the isotope, external monitoring will be used.

SIGNATURE OF PRINCIPAL INVESTIGATOR: Joseph F. Ross M.D.

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL: Boston University School of Medicine

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6C-4891F	7/54 - 6/55	$500

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REV. 10-52

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FEDERAL SECURITY AGENCY
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NOTICE OF RESEARCH PROJECT

6C-4881F

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Factors affecting radiosensitivity of Ascites Tumours.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sponsors: Dr. L.H. Gray, Director. **In behalf of:**

Dr. J.W. Boag, Physicist

Dr. E.E. Deschner, Cytologist, **(U.S. Public Health Service Postdoctorate Research Fellow)**

NAME AND ADDRESS OF APPLICANT INSTITUTION:

British Empire Cancer Campaign Research Unit in Radiobiology, Mount Vernon Hospital, Northwood, Middlesex, England.

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

It is proposed in the first instance to compare the in vivo and in vitro sensitivity of ascites tumour cells to X-radiation under known conditions of oxygen tension.

An attempt will be made to measure the influence on radiosensitivity of oxygen tension and other environmental factors when changed at very short intervals of time before and after irradiation.

Such other investigations concerned with the relation between biochemical and cytological aspects of radiation damage as may be suggested by the experiments outlined above will be undertaken.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified

SCHOOL PRINCIPAL

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6C-4881F	9/54 - 8/55	$500

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PHS 166
REV 10-52

Form Approved
Budget Bureau No. 92-R001.2

NOTICE OF RESEARCH PROJECT

BIO-SCIENCES INFORMATION EXCHANGE

SMITHSONIAN INSTITUTION

NOT FOR PUBLICATION OR PUBLICATION REFERENCE

PROJECT NO. (Do not use this space) 6C-4881 C1

SUPPORTING AGENCY: Public Health Service

TITLE OF PROJECT:

Factors affecting the radiosensitivity of ascites tumour cells after in vivo and in vitro irradiation.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

* E.E. DESCHNER, Cytologist — British Empire Cancer Campaign

O.C.A. SCOTT, CYTOLOGIST

Sponsor: L.H. GRAY, [illegible]cist (Director) ** — Research Unit in Radiobiology

** Sponsor - In behalf of: * USPHS POSTDOCTORAL RESEARCH FELLOW

NAME AND ADDRESS OF INSTITUTION: British Empire Cancer Campaign
11 Grosvenor Crescent, London, S.W. 1., England.

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Bio-Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in the bio-sciences and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

CURRENT PROGRAMME

(1) We expect to achieve during the current year a comparison between the radiosensitivity of cells irradiated in vivo under the condition of oxygen tension which prevails in the peritoneal cavity and that of cells irradiated in vitro under identical oxygen tension.

(2) We expect to carry out preliminary investigations designed to narrow the time interval between the administration of oxygen and irradiation down to the order of seconds.

FUTURE PROGRAMME

(1) The comparison of in vivo and in vitro sensitivity over a wide range of oxygen tensions.

(2) The interrelation of the influence of oxygen and that of other nutrients on radiosensitivity, including, if possible, the investigation of an ascites tumour model of the metabolic conditions believed to prevail in some solid tumours;

and (3) A full investigation of the influence of the time of administration of oxygen relative to radiation.

Submitted for period beginning - September 1955

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL

INVESTIGATOR—DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amount Approved
6C-4881	9/54 - 8/55	$500
4881 C1	9/55 - 8/56	500

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DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

PROJECT NO. (Do not use this space) CC 4830

NOTICE OF RESEARCH PROJECT

CF-4830

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

"The Metabolism of I^{131}-labeled Insulin in Normals and Diabetics"

Support from this source terminated 12/55

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Robert H. Williams, M.D., Professor and Executive Officer, Dept. of Medicine
George [illegible], M.D., USPHS Post-doctoral Research Fellow
Elaine D. Kerley, M.D. NIH Trainee in Metabolic Diseases
Robert Cox, M.D., NIH Trainee in Metabolic Diseases
Maureen O'Connell, B.S., Laboratory Technician

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Department of Medicine, University of Washington School of Medicine
Seattle 5, Washington

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Using insulin labelled with I^{131}, studies will be done to elicit differences in the distribution and metabolism of the labeled hormone in diabetics, normals, and patients with various endocrinological disturbances. Previous studies by this laboratory have demonstrated that labeled insulin is retained in the plasma of many diabetics. Although this abnormality has been shown to be due to factors in the plasma itself, the nature of these factors is unknown. In vitro studies will be done to determine the mode of transport of insulin in the plasma of normals, as contrasted to diabetics, using various methods of protein analysis. Human subjects will be given labeled insulin in vivo to determine the amount of hormone remaining in the plasma and the amount present in various tissues, obtained by biopsy. The intracellular localization of labeled insulin will also be studied, (by in vivo and in vitro methods currently in use in this laboratory) to determine differences between diabetics and non-diabetics in this respect. Bio-assay methods will be used to determine the degree of inactivation or binding of insulin by diabetic plasma, and attempts will be made to correlate, in each patient studied, the:

1) degree of retention of labeled insulin in the plasma, in vivo
2) the binding of labeled insulin to plasma constituents in vitro
3) the decreased biological potency of insulin incubated with diabetic plasma. 4) possible quantitation of the contra-insulin factors in the plasma of diabetics.

Submitted for period beginning - August 1955

SIGNATURE OF PRINCIPAL INVESTIGATOR: R. H. Williams

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified.

SCHOOL Medical

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Approved
6C 4830	8/55 - 12/55	$208

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Support from this source terminated 12/55

PHS-166
REV. 10 52

Form Approved
Budget Bureau No. 92-R001.2

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DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6C-4777F
6CF-4777

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Support from this source terminated 9/54

Glucosamine metabolism in Limulus

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sponsor:
Dr. Arthur K. Parpart, Vice President, Marine Biological Laboratory
Dr. Herbert Lipke, Research Associate, Dept. of Entomology, Univ. of Illinois -Public Health Service Special Research Fellow)

NAME AND ADDRESS OF APPLICANT INSTITUTION:
Marine Biological Laboratory, Woods Hole, Massachusetts

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

The biosynthesis of chitin is being studied by two approaches, namely by enzymatic studies and by experiments carried out with the intact organism.

Using enzymic material abtained from the hepato-pancreas and the hypoderm of the horseshoe crab, a search is being made for a system capable of forming glucosamine from several hexoses and amino donors. Systems capable of the phosphorylation, acylation and condensation of glucosamine are also being sought.

The mechanism of chitin formation in vivo is being investigated by following the fate of injected glucose -1-C14 administered before, during, and after moulting. The degree of tracer uptake and randomnization in the integument and body glycogen will be determined.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL Dept. of Entomology, Univ. of Ill.

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6C-4777F	6/14/54 - 9/13/54	$250

THIS IS A GRANT TO A USPHS FELLOW
Support from this source terminated 9/54

PHS 166
REV. 10-57

Form Approved
Budget Bureau No. 92 R001 2

NOTICE OF RESEARCH PROJECT
Bio-Sciences Information Exchange
Not for Publication

Project No. 6C-4719F

Supporting Agency: Public Health Service

Title of Project: A Search for Chemical Carcinogens in the Urines of Patients with Bladder Cancer SUPPORT FROM THIS SOURCE TERMINATED

Professional Personnel: Sponsor: J. M. Price, M.D., Ph.D., Assistant Professor of Clinical Pathology, University of Wisconsin Medical School
C. J. Walters, M.D., Public Health Service Postdoctorate Research Fellow

Name of Institution: University of Wisconsin
Madison 6, Wisconsin

Summary of Proposed Work:

Carcinoma of the bladder is one of the few human neoplasms where there are known pure chemicals capable of producing the neoplastic change. Both beta-naphthylamine and benzidine have been shown, as a result of accidental industrial exposure, to be associated with as high as 20 per cent primary bladder cancer. These compounds are apparently not used widely enough to lend support to the hypothesis that these chemicals may produce all bladder cancers. However, both clinical observations and animal experimentation indicate that there may well be a chemical of causal significance in the urines of patients with bladder tumors.

The hypothetical chemical might be a metabolite of some non-nutrient such as a food-coloring agent, an abnormal metabolite of some essential food as an amino acid, or an abnormal amount of an apparently normal metabolite. We have decided to concentrate on the latter two possibilities, since this approach has not been adequately explored.

We plan to conduct survey studies of urine and urine fractions using paper chromatography for this purpose. Comparisons will be made of similar fractions of urines from patients with and without bladder tumors. Attention will be focused on aromatic nitrogen compounds, since these deserve the highest index of suspicion on the basis of what is known concerning the etiology of bladder tumors in man and laboratory animals.

These studies will supplement the work now in progress concerning quantitative determination of the excretion of aromatic nitrogen compounds known to occur in urine in small quantities.

Grant No.	Period of Operation	Amt. Approved
6C-4719F	6/29/53 - 6/28/54	$500

SUPPORT FROM THIS SOURCE TERMINATED

NOTICE OF RESEARCH PROJECT
Bio-Sciences Information Exchange
Not for Publication

Project No. 6C-4648F

Supporting Agency: Public Health Service

SUPPORT FROM THIS SOURCE TERMINATED

Title of Project: "Effects of Roentgen Irradiation on Corticosteroid Excretion"

Professional Personnel: E. Henry Keutmann, M.D., Assoc. Prof. of Medicine, UR School of Medicine
Mary Firra Leahy, M.D., Public Health Postdoctorate Research Fellow
Anthony J. Izzo, M.D., Public Health Postdoctorate Research Fellow

Name of Institution: Univ. of Rochester School of Medicine and Dentistry, Rochester 20, New York

Summary of proposed work:

The primary purpose of the investigation is to study the excretion of corticosteroids in patients with cancer who are subjected to Roentgen-ray therapy. Certain preliminary control observations on methods are necessary.

Grant No.	Period of Operation	Amt. App.
6C-4648F	7/13/53 - 7/12/54	$500

SUPPORT FROM THIS SOURCE TERMINATED

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Not for publication or publication reference.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

6H-4461F

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT: **A Study of the Rate of Utilization of Thyroid Hormone and its Components in Various Thyroid States with Particular Reference to the Effect of Various Stresses on Turnover.** SUPPORT FROM THIS SOURCE TERMINATED

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sponsor: Dr. A. Stone Freedberg - Asst. Prof. of Med. Harvard Medical School, Assoc. Director of Med. Res., Beth Israel Hosp.
In behalf of Dr. Haskell S. Ellison (Public Health Service Postdoctorate Research Fellow)

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Harvard University
Cambridge, Massachusetts

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Various indices of thyroid function are commonly utilized, but precise knowledge of the rate of utilization of the thyroid hormone following its elaboration and release by the thyroid gland is limited.

In the proposed study radioactive labelled thyroid hormonal components prepared either chemically (i.e. radioiodothyroxine) or physiologically, by the administration of radioactive iodine to euthyroids as well as thyrotoxic subjects will be infused. At frequent specific intervals during the first 12 to 18 hours and daily for more prolonged periods the blood will be assayed for the residual amount of injected material, quantitatively fractioned into protein-bound and thyroxine-like fractions by trichloracetic acid precipitation, butanol extraction, and simultaneous qualitative analysis by paper chromatography. The rates of disappearance of the injected labelled material will be utilized to determine the hormone turnover. The fate of the injected material will be further followed by studies of thyroid gland uptake, urinary and fecal excretion of radioactive iodine by established methods. The data will be correlated with other indices of thyroid function, basal metabolic rates, serum protein-bound iodine levels and serum cholesterol. The effect on peripheral utilization of the various stresses, e.g., fever, exposure to cold will be determined.

Haskell S. Ellison

SIGNATURE OF PRINCIPAL INVESTIGATOR A. Stone Freedberg

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified

SCHOOL **Harvard Medical School**

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6H-4461F	7/53 - 6/54	$500

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PHS 166
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Form Approved
Budget Bureau No. 68-R001.1

SUPPORT FROM THIS SOURCE TERMINATED

[redacted]

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Pathogenesis of the Anemia of Cancer

SUPPORT FROM THE SOURCE TO WHICH THIS

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

**J.F. Ross, M.D., Associate Professor of Medicine, Boston University School of Medicine Department of Medicine. C.P. Emerson, M.D., Associate Professor of Medicine, Boston University School of Medicine. *A. Miller, Instructor in Medicine, Boston University School of Medicine.

*(PHS Postdoctorate Research Fellow)

NOTICE OF RESEARCH PROJECT
Bio-Sciences Information Exchange
Not for Publication

Project No. 6C-4446F

Supporting Agency: Public Health Service

Title of Project: "Pathogenesis of the Anemia of Cancer"

Professional Personnel: Joseph F. Ross, M.D., Associate Professor of Medicine
Aaron Miller, M.D., Assistant in Medicine (PHS Post-doctorate Research Fellow)

Name of Institution: Massachusetts Memorial Hospitals, 750 Harrison Avenue, Boston 18, Mass.

Summary of proposed work:

It is proposed to study the mechanisms of anemia present in patients with carcinoma in which blood loss does not account for the anemia. To determine the rate of erythrocyte destruction, quantitative determination of urobilinogen excretion in stools will be done; studies will be made of normal cells transfused into patient with cancer and on patients' cells transfused into normal recipients; rates of accumulation of radio-active iron labelled erythrocytes in the spleens of these patients will be determined by employing external monitoring devices. The "turnover rate" of plasma iron will be determined by clearance curves on injected radio-active iron and will be correlated with the uptake of radio-active iron in newly-formed erythrocytes. Calculations based on rate of destruction of transfused donor cells and erythrocyte levels of recipient will allow quantitative estimation of the mass of erythrocytes formed per day. Studies of fragility (osmotic and mechanical) and susceptibility to hemolysis (cold, warm, acid), and of abnormally absorbed globulins (Coombs test) will be carried out. It is believed that the present research program may offer some specific answers as to the basic mechanisms in the development of anemia in neoplastic diseases. Whether increased erythrocyte destruction and/or decreased production are the causative factors in this anemia should be clarified.

Grant No.	Period of Operation	Amt. App.
6C-4446F	7/53 - 6/54	$500

Prepared for the Medical Sciences Information Exchange.
Not for publication or publication reference without consent of the principal investigator.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

(LEAVE BLANK)

6C-4064F

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT

Hepatic Factors of Tumor Protein Synthesis

GIVE NAMES, DEPARTMENTS, AND OFFICIAL TITLES OF PRINCIPAL INVESTIGATOR AND ALL OTHER PROFESSIONAL PERSONNEL ENGAGED IN THIS PROJECT.

Leon L. Miller, Ph.D., M.D.
Assoc. Prof. of Biochemistry and
Assoc. Prof. of Radiation Biology
Section Head, Tracer Chemistry, A.E.C.

James A. Fancher, M.D., Post-doctoral Fellow of the U. S. Public Health Service,
Departments of Radiation Biology and Biochemistry

NAME AND ADDRESS OF APPLICANT INSTITUTION
University of Rochester, Atomic Energy Project, P. O. Box 287, Station 3,
Rochester 20, New York

SUMMARY OF PROPOSED WORK *(300 words or less — omit confidential data)*

In the exchange of information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Recent studies in this laboratory point to the liver as playing a key role in the incorporation of C^{14}-labeled Amino Acids into the proteins of an implanted Walker tumor. Experiments are planned to evaluate more exactly a number of potential hepatic factors which may be responsible for this effect.

SIGNATURE OF PRINCIPAL INVESTIGATOR

IDENTIFY ANY PROFESSIONAL SCHOOL (MEDICAL, DENTAL, PUBLIC HEALTH, GRADUATE, OR OTHER) WITH WHICH THIS PROJECT SHOULD BE IDENTIFIED.

University of Rochester School of Medicine and Dentistry

Grant No.	Period of Operation	Amt. App.
6C-4064F	9/22/52 - 9/21/53	$500
4064F C1	9/22/53 - 9/21/54	500

LEAVE BLANK

PHS-166-1(RG)
Rev. 8-51

Form Approved
Budget Bureau No. 92-R001.1

NOTICE OF RESEARCH PROJECT
Medical Sciences Information Exchange
Not for Publication

C O P Y

Supporting Agency: Public Health Service Project No. 6C 2676

Title of Project: "Mechanisms Involved in the Susceptibility of Malignant Tumors to Steroid Therapy."

Professional Personnel: Joseph C. Aub, M. D. - Prof. of Research Medicine, Harvard University; Physician, Massachusetts General Hospital
William H. Baker, M. D. - Research Fellow in Medicine, Harvard University; Clinical and Research Fellow, Massachusetts General Hospital

Name of Institution: Massachusetts General Hospital, Boston, Massachusetts

Summary of proposed work:

K^{42} will be given intravenously, diluted in 3-5 times .85% sterile saline. Patients with benign and malignant breast lesions will be subject of study. Breasts will then be counted at one-half and one hour following administration, with lead shielded Sylvania Counter CG 306. Involved breast will be compared with uninvolved breast at various sites. Preliminary studies of this nature show that neoplastic lesions have higher amounts of activity (>50%) compared to uninvolved breast. Benign lesions of breast do not exhibit this characteristic.

The isotope will be administered before and after therapy (steroid, x-ray, or both) and an attempt will be made to correlate clinical results with isotope concentration.

First Supply Grant Awarded

Grant No.	Period of Operation	Amt. Approved
6C 2676	7/28/51 - 6/30/52	$ 496

SUPPORT FROM THIS SOURCE TERMINATED

Prepared by Office of Exchange Information PUBLIC HEALTH SERVICE. Not for publication or publication reference without consent of the principal investigator(s)

NOTICE OF RESEARCH PROJECT

6C-2324F *

CONTRACTING AGENCY: FEDERAL SECURITY AGENCY. PUBLIC HEALTH SERVICE

Support from this source terminated 7/52

TITLE OF PROJECT:

Zinc metabolism in the leukemias and lymphomas.

Give names, departments, and official titles of PRINCIPAL INVESTIGATOR(S) and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project

*Joseph F. Ross, M.D., Assoc. Prof. of Medicine (sponsor for *
Stuart C. Finch, M.D., Assistant in Medicine

*Franklin G. Ebaugh, Jr., M.D., Public Health Service Postdoctorate Research Fellow

NAME AND ADDRESS OF INSTITUTION:

Evans Memorial Hospital
65 E. Newton Street, Boston 18, Mass.

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data)

In the Program of Exchange of Information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

1. The clearance rate of zinc from the plasma will be studied in normals, and in leukemic, lymphomatous, and cancerous patients.

2. The rate of zinc uptake by the erythrocytes and leukocytes will be studied in the same group of patients.

3. The distribution of zinc in the body and its rate and mode of excretion will be determined.

It is planned to employ radioactive Zinc 65 and 69 for most of these studies.

	Grant No.	Period of Operation	Amt. Appr.
*	6C-2324F C_	7/11/51 - 7/10/52	$540

THIS IS A GRANT TO A USPHS FELLOW
Support from this source terminated 7/52

* First Supply Grant Awarded

SIGNATURE OF PRINCIPAL INVESTIGATOR Joseph F. Ross/K

PHS-166-1 (RG) REV. 6-49
FORM APPROVED
BUDGET BUREAU NO. 68-R403

Prepared by Office of Exchange Information PUBLIC HEALTH SERVICE. Not for publication or publication reference without consent of the principal investigator(s)

NOTICE OF RESEARCH PROJECT

PROJECT NO. (Do not use this space)
6C-2237 #

Support from this source terminated 12/51

CONTRACTING AGENCY FEDERAL SECURITY AGENCY, PUBLIC HEALTH SERVICE

TITLE OF PROJECT.

Turnover of Serum Proteins in Human Metabolic Diseases

Give names, departments, and official titles of PRINCIPAL INVESTIGATOR(S) and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

John P. Peters, M.D.	Professor of Medicine	Dept. Internal Medicine
Kenneth Sterling, M.D.	PHS Postdoctorate Fellow	Dept. Internal Medicine

NAME AND ADDRESS OF INSTITUTION:

Yale University School of Medicine - New Haven, Conn.

The kinetics of serum protein metabolism are to be studied in the effort to clarify the biochemical disorders in human metabolic diseases.

The pathologic states to be studied fall into two classes:

1) Diseases with gross abnormalities of the serum proteins, such as the nephrotic syndrome and hepatic cirrhosis.

2) Endocrine disorders without gross abnormalities of the serum proteins but with demonstrable alterations in protein metabolism, such as diabetes, Addison's disease, Cushing's syndrome, thyrotoxicosis, and myxedema.

Initial studies would utilize I^{131}-tagged albumin. Patients and normal control subjects would be in a "steady state" with constant serum albumin level. Under these circumstances the rate of albumin synthesis equals the rate of degradation. Both these rates may be obtained from the albumin turnover based upon the disappearance from the circulation of injected I^{131}-tagged albumin. A semi-logarithmic plot of plasma radioactivity against time in days gives a straight line after two days. The slope of this line signifies albumin turnover rate.

Subsequently other serum protein fractions labelled with radioiodine may be used. Studies with N^{15} glycine in man may also be undertaken and should provide further information on rates of amino acid and protein metabolism.

SIGNATURE OF PRINCIPAL INVESTIGATOR John P. Peters

PHS-166-1 (RG) REV. 6-49

Grant No.	Period of Operation	Amt. Appr.
* 6C-2236 C1	7/11/51 - 12/31/51	$540

THIS IS A GRANT TO A USPHS FELLOW
Support from this source terminated 12/51

* First Supply Grant Awarded

Prepared for the Medical Sciences Information Exchange.
Not for publication or publication reference.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6C 1576 C1

CF-1576-C

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Leukocyte Survival Time in Leukemia

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

M. M. Wintrobe, M.D., Department of Medicine, Professor of Medicine
C. E. Cartwright, M.D., " " " , Associate Professor of Medicine
J. W. Athens, M.D., " " " , Research Instructor in Medicine

NAME AND ADDRESS OF APPLICANT INSTITUTION:

University of Utah College of Medicine, Salt Lake City , Utah

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

A program to study the rate of incorporation of isotopically labelled compounds such as sodium selenate, formate, glycine, adenine, and orotic acid into leukocytes in vivo is now in progress. It is planned to study the rate of incorporation of these compounds into the leukocytes of patients with various forms of leukemia.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified.

SCHOOL medical

Submitted for period beginning July 1955

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amount Approved
6C 1576	7/54 - 6/55	$500
1576 C1	7/55 - 6/56	500

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PHS 166

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DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO. (Do not use this space) 6B-5365F

BF-5365

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Studies on Central Nervous System using Isotopes

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Dr. William H. Sweet, Neurosurgery, Assoc. Clin. Prof. Surgery, Harvard Medical School

Dr. John A. Scholl, Surgery, Research Fellow, Massachusetts General Hospital

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Massachusetts General Hospital, Fruit St., Boston 14, Massachusetts

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Under the direction of William H. Sweet, M.D. at Massachusetts General Hospital and Brookhaven National Laboratories it is proposed with stable and radio-active isotopes to further study the formation, flow, and absorption of cerebrospinal fluid in man.

Submitted for period beginning - June 1955

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL Harvard Medical School

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6B-5365	6/55 - 5/56	$500

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PHS 166
REV 10-52

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Budget Bureau No. 82-R2

Prepared for the Medical Sciences Information Exchange.
Not for publication or publication reference.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

6B 4781-F

6BF-4781

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Metabolism of Proteins in Nervous Tissue

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sponsor: Dr. Derek Richter, Director, Neuropsychiatric Research Center - In behalf of:
Dr. Doris Clouet (U. S. Public Health Service Postdoctorate Research Fellow)

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Neuropsychiatric Research Centre, Whitchurch Hospital, Cardiff, Wales

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

It is proposed to study the relation of protein metabolism to functional activity of brain and other nervous tissues. The methods include the use of L-methionine labeled with sulfur 35. The naturally occurring isomers of this amino acid will be prepared biosynthetically by growing yeast in a medium containing sulfur 35. The labeled methionine can then be used to obtain evidence of the rate of formation and breakdown of the proteins of nervous tissues, in vivo and in vitro.

SIGNATURE OF PRINCIPAL INVESTIGATOR: /s/ Derek Richter

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL: **Welsh National School of Medicine**

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6B-4781F	8/26/54 - 8/25/55	$500

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Budget Bureau No. 82-R011.2

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FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO. (Do not use this space)
6B-4602F

AUG 7 1953

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Project Discontinued 4/21/54

Investigations into the Physiologic Mechanisms and Alterations that may be Responsible for Choroidal Detachment.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Stanley A. Capper M.D. (Public Health Service Research Fellow, Postdoctorate.)

This work is being carried out under the direction of Dr. Irving H. Leopold, Director of the Wills Eye Hospital Research Department.

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Wills Eye Hospital Research Department
16th & Spring Garden Street, Philadelphia, 30, Penna.

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Choroidal detachment is a frequent complication of intraocular surgery. It will often subside spontaneously only to be followed later by complication such as glaucoma. It is with the desire to prevent the vision depressing complications that this study is to be undertaken.

Several possible mechanisms will be investigated:

1. Influence of surgical procedures on the formation of aqueous humor. Dyes and radioactive isotopes will be used for this phase of experimentation.
2. Histologic changes in the vascular intraocular structures following various surgical procedures will be studied.
3. Leaking wounds following cataract extraction will be studied as to methods of detection, influence of leaking wounds on intraocular fluid formation, and the incidence of choroidal detachment in experimentally induced leaking wounds.
4. These studies will be applied to the human eye where possible and where experimental studies have shown positive value.

SIGNATURE OF PRINCIPAL INVESTIGATOR: Irv H. Leopold

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL: Wills Eye Hospital

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6B-4602F	7/21/53 - 4/21/54	$500

THIS IS A GRANT TO A USPHS FELLOW
Project Discontinued 4/21/54

PHS 166
REV. 10-52

Form Approved
Budget Bureau No. 92-R001.2

Change From 03 to 04

Prepared for the Medical Sciences Information Exchange.
Not for publication or publication reference without consent of the principal investigator.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

(LEAVE BLANK)
4-3569
SUPPORT FROM THIS SOURCE TERMINATED

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT

Development of a Method for the Quantitative Measurement of Gastric Motility in Man by the Clearance of a Radioactive Isotope

GIVE NAMES, DEPARTMENTS, AND OFFICIAL TITLES OF PRINCIPAL INVESTIGATOR AND ALL OTHER PROFESSIONAL PERSONNEL ENGAGED IN THIS PROJECT.

Dr. Henry Bockus, Professor and Chairman of the Department of Medicine

Dr. Richard Wechsler, Fellow in Gastroenterology and Physiology, Departments of Medicine and Physiology

NAME AND ADDRESS OF APPLICANT INSTITUTION

Graduate Hospital of the University of Pennsylvania

SUMMARY OF PROPOSED WORK *(300 words or less — omit confidential data)*

In the exchange of information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes

If a non absorbable radioactive tracer is dispersed diffusely in a test meal, the clearance of the tracer from the stomach should depend on, and therefore be a measure of, gastric motility. It is hoped that t proposed method will quatitatively measure the rate of clearance of gastric contents and will give a continuous permanent record of this cl ance without any disturbance of normal physiology.

Fifty microcuries of NaI^{131} solution will be mixed with 0.01N KI solution. One cc. of this radioactive KI solution will be mixed with 1 cc. of 0.01N $AgNO_3$ solution, and diluted with 28cc. of distilled wat This will yield a AgI^{131} Colloid. The colloid will then be dialyzed fo 24 hours against 2 liters of water. This colloidal tracer will then be added to an Ewald or Pectin meal. The meal will be put into the stomac of dogs through a gastric tube. The amount of the administered radio-isotope remaining in the stomach will be measured with a well shielded scintillation counter and recorded each minute.

Once the technique has been calibrated on dogs, it will be applied to humans. The only difference will be that the test meal containing the tracer will be administered orally.

An attempt will be made to stain ulcerated areas of intestinal mucosa (without staining normal mucosa) with a dye tagged with a radioactive isotope.

SIGNATURE OF PRINCIPAL INVESTIGATOR

IDENTIFY ANY PROFESSIONAL SCHOOL (MEDICAL, DENTAL, PUBLIC HEALTH, GRADUATE, OR OTHER) WITH WHICH THIS PROJECT SHO BE IDENTIFIED.

Graduate School of Medicine, University of Pennsylvania

Grant No.	Period of Operation	Amt. Appr.
G-4569	4/10/53 - 3/54	$500

SUPPORT FROM THIS SOURCE TERMINATED

LEAVE BLANK

Prepared for the Medical Sciences Information Exchange.
Not for publication or publication reference.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6A-5903

AF-5903

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Investigation of metabolic bone disease with Strontium.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sponsor: Dr. Russell Fraser, Reader in Medicine, Postgraduate Medical School.

Dr. H.K. Ibbertson, Medical Registrar, Hammersmith Hospital.

Dr. E. Eisenberg, Research Assistant, Dept. of Medicine, Postgraduate Medical School. (USPHS Postdoctoral Research Fellow)

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Postgraduate Medical School, Ducane Road, London, W.12, England.

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

After preliminary metabolic balances, Strontium is to be infused intravenously and its urinary and blood levels followed. Its adequacy as a tracer of calcium is to be checked.

Russell Fraser

SIGNATURE OF PRINCIPAL INVESTIGATOR

Submitted for period beginning- October 1955

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL Postgraduate Medical School of London.

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6A-5903	10/55 - 9/56	$500

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FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
6A 4612 C1

AF-4612-C

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

A Study of Thyroid-Adrenal Relationships

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sponsor: Dr. George W. Thorn
In behalf of Dr. Herbert Selenkow; Research fellow in Medicine, Harvard Medical School; Assistant in Medicine, Peter Bent Brigham Hospital

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Harvard Medical School, 25 Shattuck Street, Boston 15, Massachusetts

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

A study is proposed of the effects of adrenal cortical derivatives on the utilization and excretion of thyroid hormones. Isotopically labeled l-thyroxine and l-3,5,3 triiodothyronine will be administered intravenously to athyreotic patients maintained in a euthyroid state. The rate of disappearance of the hormones will be studied by measuring serially the radioactivity in serum, urine and stools. Serum, urine and saliva will be chromatographed to determine the phase in which the radioactive iodine is present. The effects of cortisone administered orally on the rate of utilization and excretion will be determined.

In addition to this, an investigation will be undertaken of the status of the adrenal cortex in hyperthyroidism and hypothyrodism. The urinary output of 17-hydroxycorticoids and 17-ketosteroids and the response to intravenously administered ACTH will be measured and compared with a large series of normals. The 17-hydroxycorticoids and 17-ketosteroids will be chromatographed to determine more accurately the nature of any abnormalities in steroid excretion found.

SIGNATURE OF PRINCIPAL INVESTIGATOR: Geo. W. Thorn

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL medical

Submitted for period beginning July 15, 1955

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amount Approved
6A 4612	7/23/53 - 7/22/54	$500
4612 C1	7/15/55 - 7/14/56	500

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PHS-166
REV 10-52

Form Approved
Budget Bureau No. 97-R004.2

Prepared for the Medical Sciences Information Exchange.
Not for publication or publication reference without consent of the principal investigator.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

(LEAVE BLANK)
6A-4440 F

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT

Metabolism of Insulin

GIVE NAMES, DEPARTMENTS, AND OFFICIAL TITLES OF PRINCIPAL INVESTIGATOR AND ALL OTHER PROFESSIONAL PERSONNEL ENGAGED IN THIS PROJECT.

Robert H. Williams, M. D., Executive Officer and Professor, Department of Medicine

in behalf of

Hiromichi Narahara, M. D., Research Fellow and Assistant in Medicine.

NAME AND ADDRESS OF APPLICANT INSTITUTION

School of Medicine, University of Washington, Seattle 5, Washington

SUMMARY OF PROPOSED WORK *(300 words or less — omit confidential data)*

In the exchange of information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

We plan to study the metabolism of insulin and thyroxine when it is available. Using labeled compounds, we will investigate their distribution in essentially all the tissues and body fluids of rats and of as many specimens as possible from man. The metabolism of these hormones will be studied not only in normal subjects but also in ones with varying levels of activity of the pituitary, thyroid, adrenal and pancreas. In some instances, the effect of severe liver and kidney disease will be investigated.

We will separate the microsomes, mitochondria, nuclei and residual protein of liver homogenate by means of differential centrifugation in an effort to elucidate sites and mechanisms of hormone action. Their effect on certain enzyme systems will be investigated. I will study certain aspects of the degradation of hormones, such as rate of degradation, degradation products (in general rather than specific) and factors influencing the degradation.

SIGNATURE OF PRINCIPAL INVESTIGATOR _____

IDENTIFY ANY PROFESSIONAL SCHOOL (MEDICAL, DENTAL, PUBLIC HEALTH GRADUATE, OR OTHER) WITH WHICH THIS PROJECT SHOULD BE IDENTIFIED.

University of Washington School of Medicine.

Grant No. 6A-4440F | Period of Operation 7/53 - 6/54 | Amt. App. $500

LEAVE BLANK

Prepared for the Medical Sciences Information Exchange.
Not for publication or publication reference.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO. (Do not use this space)
6A-4335F C
6AF-4335-C

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Pathogenesis of Diabetic "Complications". SUPPORT FROM THIS SOURCE TERMINATED

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Robert H. Williams, M. D. (Sponsor), Professor and Executive Officer, Department of Medicine. In behalf of:

Paul VanArsdel, Jr., M. D., Assistant in Medicine, (Public Health Service Postdoctorate Research Fellow)

NAME AND ADDRESS OF APPLICANT INSTITUTION:

School of Medicine, University of Washington, Seattle 5, Washington.

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Studies will be continued dealing with the distribution of insulin and hyperglycemic factor, each labeled with I^{131}. Various factors influencing the distribution of these hormones in tissues and body fluids will be investigated.

Approved for the School of Medicine
7/8/54 by James D. Hardy
Date Dean

SIGNATURE OF PRINCIPAL INVESTIGATOR R H Williams

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL U. of Washington Medical School

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
6A-4335F	7/53 - 6/54	$500
4335F C1	7/54 - 6/55	500

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PHS 166
REV 10-52

SUPPORT FROM THIS SOURCE TERMINATED

Form Approved
Budget Bureau No. 92-R001.2

NOTICE OF RESEARCH PROJECT
Bio-Sciences Information Exchange
Not for Publication

Project No. 6A-4312F

Supporting Agency: Public Health Service SUPPORT FROM THIS SOURCE TERMINATED

Title of Project: "Assay Methods of Growth Hormone"

Professional Personnel: Karl E. Paschkis, M.D., Associate Prof. of Medicine,
Assistant Prof. of Physiology, Director:
Division of Endocrine and Cancer Research
Angelo DiGeorge, M.D., U.S.P.H.S., Postdoctoral fellow

Name of Institution: Jefferson Medical College, 1025 Walnut St., Philadelphia 7, Pa.

Summary of proposed work:

Knowledge of the role of growth hormone in physiological and pathological conditions in man is extremely limited. Progress in this field is impeded largely by the lack of suitable assay methods which could be applied to biological fluids in man.

It is planned to try to develop such assay methods using known biological actions of growth hormone. These will include N retention. P metabolism (using tracer techniques with P-32) and amino acid metabolism. After a suitable procedure for pituitary growth hormone preparations is found, it will be applied to serum. It is also planned to investigate whether growth hormone is excreted in the urine; if this should prove to be the case, urinary assay methods will be studied.

Grant No.	Period of Operation	Amt. App.
6A-4312F	12/52 - 11/53	$540
4312F C1	12/53 - 11/54	500

THIS IS A GRANT TO A USPHS FELLOW

SUPPORT FROM THIS SOURCE TERMINATED

Prepared for the Medical Sciences Information Exchange.
Not for publication or publication reference.

NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT: SUPPORT FROM THIS SOURCE TERMINATES

The Bromide Space and Total Exchangeable Chloride as Measured by the Isotope Dilution Principle Using Bromide 82.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project

Francis D. Moore, M.D., Moseley Professor of Surgery, Harvard Medical School, and Surgeon-in-Chief, Peter Bent Brigham Hospital. Principal Investigator.

Eldon A. Boling, M. D., Research Fellow in Surgery, Harvard Medical School, and Assistant in Surgery, Peter Bent Brigham Hospital. U. S. Public Health Service Research Fellow.

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Peter Bent Brigham Hospital, 721 Huntington Ave, Boston, Massachusetts

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Determinations of the bromide space and the total exchangeable chloride will be done in normal adults and in surgical patients after trauma, infection, disorders of acid-base balance, edema, and other pertinent clinical conditions. These values will be compared whenever possible with measurements of exchangeable sodium and potassium. Using the bromide space as a measure of the extracellular fluid volume, the calculation of intracellular potassium concentration will be carried out in disease conditions.

SIGNATURE OF PRINCIPAL INVESTIGATOR: F D Moore.

Identify the Professional School (medical, dental, public health, graduate, other) with which this project should be identified

SCHOOL: Harvard Medical School

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. App.
6A-4008F	11/15/52 - 11/14/53	$540
4008F C1	11/15/53 - 11/14/54	500

THIS IS A GRANT TO A FELLOW

SUPPORT FROM THIS SOURCE TERMINATES

PHS 166
REV 5-52

Form Approved
Budget Bureau No.

Form for the Medical Sciences Information Exchange. Not for publication or publication

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF PROJECT

PROJECT NO. (Do not use this space)
RG-4009 (R)

TO: Public Health Service, National Institutes of Health, Office of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

[illegible] Problem
[illegible] to be Presented in Public
[illegible] Water Supplies

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

R. I. [illegible], Research Associate [illegible]
C. [illegible], [illegible]
W. [illegible], [illegible]
C. S. Dexter, Research Associate in Biochemistry
R. A. Pinnells, Professor of Physiology
J. H. Mehlhaff, Michigan State Toxicologist

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Michigan State College
East Lansing, Michigan

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medicine and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

[illegible] limited studies have been made to ascertain the effect on animals of cadmium and hexavalent chromium in drinking water at concentrations less than are known to be acutely toxic, i. e. about thirteen parts per million for cadmium and about twenty five parts per million for hexavalent chromium. In the present study it is proposed to attempt to find the effect of low doses of these substances on growth and proper functioning of tissues in cats and rats. In addition, the retention and distribution of these ions after low intakes in drinking water will be ascertained using radioactive Tracers. As a result of these studies it is hoped that an upper limit for the concentration of cadmium and hexavalent chromium in drinking water which could be safe for human consuption may be determined.

SIGNATURE OF PRINCIPAL INVESTIGATOR [signature]

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL Graduate School

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
RG-4009	9/54 - 8/55	$18,587
4009 C1	9/55 - 8/56 6/56	15,000 *

PHS 166 * Commitment

Form Approved
Budget Bureau No. [illegible]

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Box 1

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NOT FOR PUBLICATION OR PUBLICATION REFERENCE

BIO SCIENCES INFORMATION EXCHANGE
NATIONAL ACADEMY OF SCIENCES — NATIONAL RESEARCH COUNCIL
COPY

PROJECT NO. (Do not use this space)
RG-203 C5
Pharm. (6)

SUPPORTING AGENCY: Public Health Service

TITLE OF PROJECT:
"Metabolic Fate and Localization of Barbiturates, Diphenylhudantoin and Trimethadione"

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

H. B. van Dyke, Dept. Pharmacology, Hosack Professor of Pharmacology
E W Maynert, Dept. Pharmacology, Research Associate in Pharmacology

SUPPORT FROM THIS SOURCE TERMINATED

NAME AND ADDRESS OF AGENCY OR INSTITUTION:

College of Physicians and Surgeons, Columbia University, New York, New York

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

The title of the project summarizes its aims. It is proposed to label representatives barbiturates, diphenylhydantoin and trimethadione with isotopes. The isotopes will facilitate the separation and eventual isolation in pure form of the metabolic products of the drugs. The structures of the metabolites will then be established by classical chemical methods. The isotopic labels will make possible the determination of the extent to which portions of the drugs are converted to normal excretory products. Also, the isotope dilution technic can be used for quantitative analysis of the metabolites.

Diphenylhydantoin, trimethadione, and all of the barbiturates except barbital are largely destroyed during their sojourn in the body. Inasmuch as barbital escapes metabolic alteration, the localization of this drug can be studied by isotopic methods. It is proposed to study the localization of barbital particularly in divisions of the central nervous system. Studies of the localization of the other drugs must await further knowledge of the identity and properties of their metabolic degradation products.

Studies on the reanal clearance of the above named drugs are regarded as being within the domain of the project. The renal clearance of barbital will be explored

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. App.	Grant No.	Period of Operation	Amt. App.
RG-203	10/46 - 9/47	$ 8,800	RG-203 C3	10/49 - 9/50	$13,176
203 C1	10/47 - 9/48	8,078	203 C4	10/50 - 9/51	13,122
203 C2	10/48 - 9/49	13,284	203 C5	10/51 - 9/53	12,749

SUPPORT FROM THIS SOURCE TERMINATED

notice PUBLIC HEALTH SERVICE. Not for publication or publication reference without consent of the principal investigator(s).	NOTICE OF RESEARCH PROJECT COPY	RG-546(C5) P.H. (5)

CONTRACTING AGENCY FEDERAL SECURITY AGENCY, PUBLIC HEALTH SERVICE

TITLE OF PROJECT:

The Study of the Significance of Individual Differences in Growing Human Beings.

Give names, departments, and official titles of PRINCIPAL INVESTIGATOR(S) and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Alfred H. Washburn, M.D., Director, Principal Investigator
Edith Boyd, M.D., Jean Deming, M.D., Marion M. Maresh, M.D.,
Alvin M. Revsin, M.S., Elizabeth Seaholm, Anne Kalsbeek, R.T.

NAME AND ADDRESS OF INSTITUTION:

The Child Research Council
4200 East Ninth Avenue
Denver 20, Colorado

APPLICANT — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.	Grant No.	Period of Operation	Amt. Appr.
RG 546	10/1/47 - 9/30/48	$15,538	RG 546 C3	10/1/50 - 9/30/51	$28,500
546 C1	10/1/48 - 9/30/49	17,855	546 C4	10/1/51 - 9/30/52	28,500
546 C2	10/1/49 - 9/30/50	28,500	546 C5	10/1/52 - 9/30/53	28,500
			546 C6	10/1/53 - 9/30/54	28,500 *

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data)

In the Program of Exchange of Information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

These investigations form an integral part of the total program of research in human growth, development, and adaptation which the Child Research Council has pursued since 1930.

The work of the above noted investigators involves a longitudinal study of structural and functional changes during the post-natal growth and maturation of each of 170 subjects. Many physiological, biochemical, medical, and psychological studies on these same children are performed by 14 other investigators on the institute's staff.

The use of observations, accurate measurements, x-rays, and photographs will continue. Further progress is anticipated in: the detailed analysis of infancy-to-maturity photographs of a significant number of boys and girls followed through adolescence; production of a satisfactory Outline and Atlas of Physical Growth; the delineation of segmental body growth and significance to the individual of his own pattern; better understanding of the timing of adolescence and indicators of maturity.

This segment of the developmental studies includes bicycle ergometer, electrocardiography, vital capacity, maximum ventilation, reaction and decision times, flicker fusion, muscle strength and coordination tests on each subject.

The primary goal of these studies is an understanding of the meaning for any given person of his own unique patterns of growth and development.

* Commitment

PHS-166-1 (RG) REV. 6-49
FORM APPROVED
BUDGET BUREAU NO. 68-R403

SIGNATURE OF PRINCIPAL INVESTIGATOR Alfred H. Washburn

REMOVE SMUDGE SHEET BEFORE TYPING
Replace smudge sheet when finished and return all copies to PHS.

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Not for publication or publication reference without consent of the principal investigator.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

(LEAVE BLANK)
RG-546(C6)
P.H.S. (5)

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT

COPY

The Study of the Significance of Individual Differences in Growing Human Beings

GIVE NAMES, DEPARTMENTS, AND OFFICIAL TITLES OF PRINCIPAL INVESTIGATOR AND ALL OTHER PROFESSIONAL PERSONNEL ENGAGED IN THIS PROJECT.

Alfred H. Washburn, M.D., Director, Principal Investigator
Edith Boyd, M.D., Pediatrician and Anthropometrist
Jean Deming, M.D., Pediatrician and Biometrist
Marion M. Maresh, M.D., Roentgenologist
Alvin M. Revsin, M.S., Physiologist
Elizabeth Seaholm, Technical Assistant in X-ray and Ekg.
Anne Kalsbeek, R.T., Technical Assistant in X-ray and Photography

NAME AND ADDRESS OF APPLICANT INSTITUTION

Child Research Council
4200 East Ninth Avenue, Denver 20, Colorado

SUMMARY OF PROPOSED WORK (300 words or less — omit confidential data)

In the exchange of information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

These investigations form an integral part of the total program of research in human growth, development, and adaptation which the Child Research Council has pursued since 1930.

The work of the above noted investigators involves a longitudinal study of structural and functional changes during the post-natal growth and maturation of each of 170 subjects. Many physiological, biochemical, medical, and psychological studies on these same children are performed by 14 other investigators on the institute's staff.

The use of observations, accurate measurements, x-rays, and photographs will continue. Further progress is anticipated in: the detailed analysis of [illegible] maturity photographs of a significant number of boys and girls followed through adolescence; production of a satisfactory Outline and Atlas of Physical Growth; the delineation of segmental body growth and significance to the individual of his own pattern; better understanding of the timing of adolescence and indicators of maturity.

This segment of the developmental studies includes bicycle ergometer, electrocardiography, vital capacity, maximum ventilation, reaction and decision times, flicker fusion, muscle strength and coordination tests on each subject.

The primary goal of these studies is an understanding of the meaning for any given person of his own unique patterns of growth and development.

SIGNATURE OF PRINCIPAL INVESTIGATOR: Alfred H. Washburn

IDENTIFY ANY PROFESSIONAL SCHOOL (MEDICAL, DENTAL, PUBLIC HEALTH, GRADUATE OR OTHER) WITH WHICH THIS PROJECT SHOULD BE IDENTIFIED.

The Child Research Council is affiliated with the University of Colorado School of Medicine.

Grant No.	Period of Operation	Amt. App.
RG 546	10/47 - 9/48	$15,538
546 C1	10/48 - 9/49	17,855
546 C2	10/49 - 9/50	28,500
RG 546 C3	10/50 - 9/51	28,500
546 C4	10/51 - 9/52	28,500
546 C5	10/52 - 9/53	28,500
546 C6	10/53 - 9/54	28,500

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PHS-166-1(RG)
Rev. 8-51

Form Approved
Budget Bureau No. 92-R001.1

NOTICE OF R...

of formation of plasma proteins in ... patients with cirrhosis of the liver and nephrosis.

... Wisconsin

ADDRESS OF INSTITUTION

Medical School, University of Wisconsin, Madison, Wisconsin

Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

The importance of high quality dietary protein intake ... liver damage has ... or eight years. These conclusions are based upon animal studies which ... clearly shown that protein deficiency is at least one important etiological factor in the pathogenesis of experimental liver cirrhosis and ... Choline, betaine and more especially the amino acid, methionine have been shown to exert a special protective action under clinical as well as experimental conditions.

Since the metabolic fate of methionine is poorly understood, it was considered ... to trace this metabolic pathway by feeding methionine containing the radioactive isotope, sulfur 35. Such an approach was known to be feasible, but because of the long half life of this isotope (88 days) it is questionable whether or not it can be safely fed to human subjects. Accordingly, in ... with animals the half life of sulfur in the body as well as the ... of this element must first be studied. These investigations are now under way and it is hoped that the technique may subsequently be extended to human patients with liver disease. The study is designed to include the clinical condition, nephrosis, because of the abnormal urinary protein loss and the incapacity for liver synthesis of plasma protein in that condition.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Grant No.	Period of Operation	Amt. Appr.	Grant No.	Period of Operation	Amt. Appr.
[illegible]	9/46 - 8/47	$2,800	RG-153 C2	9/48 - 8/49	$9,612
153 C1	9/47 - 8/48	7,650	153 C3	9/49 - 6/50	7,740

Support from this source terminated 6/50

NOT FOR PUBLICATION OR PUBLICATION REFERENCE

NOTICE OF RESEARCH PROJECT

Bio-MEDICAL SCIENCES INFORMATION EXCHANGE
Smithsonian Institution

RG-134 (C6)
Hema. (5)

SUPPORTING AGENCY Public Health Service

Support from this Source Terminated 12/53

TITLE OF PROJECT

"Biological Significance of Pteroylglutamic Acid; Study of the Extrinsic and Antipernicious Anemia Factors"

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Arnold D. Welch, Ph.D., M.D., Professor of Pharmacology & Director of the Dept.
Charles A. Nichol, Ph.D., Senior Instructor in Pharmacology
William H. Prusoff, Ph.D., Instructor & Research Associate in Pharmacology

NAME AND ADDRESS OF AGENCY OR INSTITUTION:

School of Medicine, Western Reserve University
2109 Adelbert Road, Cleveland 6, Ohio

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and allied fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

1. A new technique for detection of intrinsic factor activity is based on our finding that patients with pernicious anemia, in either remission or relapse, excrete a large proportion of the radioactivity of minute oral doses (0.5 μg.) of vitamin B_{12}-cobalt^{60}. This excretion is diminished markedly by co-administration of concentrates containing intrinsic factor. These observations, and others in non-anemic patients as well as in animal species, are being used as the basis of a simple, relatively rapid (presumptive) assay with which to guide the further fractionation and to facilitate the study of the mechanism of action of intrinsic factor.

2. Studies of the purification of the complex enzyme system present in liver which converts folic acid to a functional form, citrovorum factor (CF), are in progress. Highly active fractions of a cell-free extract have been obtained which convert more than 50% of added substrate to CF. It is hoped to determine the co-factor requirements, the nature of the donors of "formate" and hydrogen in the conversion, and to extend knowledge of the system in normal and pathologic states.

3. A clue to the mechanism of resistance to aminopterin is being pursued, as an outgrowth of the finding that the site of action of the folic acid analogue is the enzyme systems that form and utilize the citrovorum factor.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified.

SCHOOL

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. App.	Grant No.	Period of Operation	Amt. App.
RG 134	7/1/46 - 6/30/47	$6,000	RG-134 C3	7/1/49 - 6/30/50	$19,742
134 C1	7/1/47 - 6/30/48	9,088	134 C4	7/1/50 - 6/30/51	19,742
134 C2	7/1/48 - 6/30/49	15,000	134 C5	7/1/51 - 6/30/52	20,000
134 C2S1	10/1/48 - 6/30/49	3,600	134 C6	7/1/52 - 12/53	20,000

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NOTICE OF RESEARCH PROJECT

COPY

PROJECT NO. (Do not use this space)
RG-1661(CS)

SURG.

Support from this source terminated 9/50

CONTRACTING AGENCY FEDERAL SECURITY AGENCY, PUBLIC HEALTH SERVICE

TITLE OF PROJECT

A clinical and roentgenological follow-up study of all stomach x-rayexaminations during a three year period for 8 - 10 years ago at the County Hospital Odense Denmark (in all 2000 patients) with the object of finding and following the number of peptic ulcer and related diseases.

Names, departments, and official titles of PRINCIPAL INVESTIGATOR(S) and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Arne Barfred, M.D. Denmark
Paul Jacoby, chief radiologist, Odense, Denmark.

NAME AND ADDRESS OF INSTITUTION

County and City Hospital, Odense, Denmark.

1) Statement of the incidence of peptic ulcer in an area (County of Odense : 175000 inhabitans)

2) To make out if gastroduodenitis and cases only representing the pyloric syndrome without detectable x-ray changes constitutes a special entiety or simply is a stage in the peptic ulcer disease.

3) The frequency of the more common symptoms , of the complications and of the loss of work in the different groups of the disease.

4) To relate the progress of the disease with heritage, occupation , mental attitude and emotional stress occuring during life.

5) To judge the effect of the different forms of treatment on the entire material, when special note is made of the circumstances of life when treatment was used.

PHS-166-1 (RG) REV. 8-49
FORM APPROVED
BUDGET BUREAU NO. 68-R403

SIGNATURE OF PRINCIPAL INVESTIGATOR Arne Barfred

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Grant No.	Period of Operation	Amt. Appr.
RG-1661	7/48 - 6/49	$5,800
1661 C1	7/49 - 9/50	3,460
1661 C1S1	6/15/50 - 9/30/50	2,300

Support from this source terminated 9/50

Prepared by
Office of Exchange of Information, PHS
Not for Publication

C O P Y

Support from this source terminated 1/6/50

NOTICE OF RESEARCH PROJECT

Contracting Agency: Public Health Service

Proposal Number: _____ Date Received: 7/26/48

Project Number: RG 1739 Date Approved: _____

Descriptive Title of Project: "The influence of the liver and the kidney on the distribution in the body of intravenously injected sodium, potassium, phosphorus, and mercury"

Principal Investigators: John Pervis Milnor, Fellow.
George E. Burch (Principal Investigator of large project of which RG 1739 is a part)
Department of Medicine

Name of Institution: Tulane University School of Medicine
New Orleans, La.

Abstract by Principal Investigator when contract has been approved:

By the use of radioactive isotopes of the above elements and the technique of venous catheterization, it is possible to compare the concentration of the substance, after its intravenous injection, in the venous blood coming from the kidney or the liver with its concentration in the arterial blood going to that organ. These concentrations are compared also with the concentrations of the substance in urine collected by ureteral catheter or bile collected through a T-tube in the biliary passages. From analyses of those data, we are attempting to determine the influence of the liver and the kidney on the distribution of these substances in the human body.

Renewed for period
[illegible]

INVESTIGATOR

[illegible] Univ. of Illinois School of [illegible]

Grant No.	Period of Operation	Amt. Appr.
RG-1739 (F-109)	1/7/48 - 1/6/49	$531
1739 C1 (F-718)	1/7/49 - 1/6/50	540

THIS IS A GRANT TO A USPHS FELLOW

Support from this source terminated 1/50

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Not for publication or publication reference.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO. (Do not use this space) RG-546(C8)

P.H.S. (5)

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT

A Life-cycle Study of the Significance of Individual Differences in Growing Human Beings.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Alfred H. Washburn, M.D., Director, Child Research Council
Edith Boyd, M.D., Pediatrician, Child Research Council, Professor Physical Growth
Marion Maresh, M.D., Roentgenologist, Child Research Council, Assoc. Prof. Physical Growth
Jean Deming, M.D., Pediatrician and Biometrist, Child Research Council
Alvin Revsin, M.S., Assistant in Physiology, Child Research Council
Elizabeth Seaholm) Research Assistants in Physical and Physiological
Anne Kalsbeek) Growth, Child Research Council
Mignon Eliot, B.A., Statistical Assistant, Child Research Council

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Child Research Council, 4200 East Ninth Avenue, Denver 20, Colorado

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

The investigations proposed form an integral part of the continuing research program of the Child Research Council. The primary aim is to obtain a better understanding of factors influencing the growth, development, and adaptation of individual human beings--the significant determinants of the characteristics of the adults they become. The life span of 60 of 180 subjects has already been followed beyond adolescence. Recently, siblings and second generation babies form the bulk of newly enrolled infants. By regular repetition of a large variety of observations, measurements, photographs, x-rays, tests, and physiological or chemical determinations, on each subject, an extensive record is obtained, revealing the dynamics of the developmental process in three overlapping areas--structural changes leading to ultimate physique, emergence of personality traits, and the patterns of developing physiological functioning. This "project" involves chiefly the first of these areas. The essential tools for depicting the individual's pattern of growth are observation, direct measurement and analysis of photographs and x-rays. For the interpretation of the significance to the individual of his particular characteristics we utilize statistical and graphic analysis of data, correlation of findings in physical, physiological and psychological areas, and the continued following of the subject into later life.

SIGNATURE OF PRINCIPAL INVESTIGATOR: Alfred H. Washburn

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL: Medical

Submitted for period beginning - October 1955

DO NOT

Grant No.	Period of Operation	Amt. Appr.
RG-546	10/47 - 9/48	$15,538
546 C1	10/48 - 9/49	17,855
546 C2	10/49 - 9/50	28,500
546 C3	10/50 - 9/51	28,500
546 C4	10/51 - 9/52	28,500
546 C5	10/52 - 9/53	28,500
RG-546 C6	10/53 - 9/54	$28,500
546 C7	10/54 - 9/55	35,700
546 C8	10/55 - 9/56	36,000
546 C9	10/56 - 9/57	37,000 *
546 C10	10/57 - 9/58	37,500 *
546 C11	10/58 - 9/59	38,000 *

* Commitment

Prepared for the Medical Sciences Information Exchange. Not for publication or publication reference.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO. (Do not use this space) G-546(C7)

P.H.S. 398

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT

A Life-cycle Study of the Significance of Individual Differences in Growing Human Beings.

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Alfred H. Washburn, M.D., Director, Child Research Council
Edith Boyd, M.D., Pediatrician, Child Research Council; Prof. Physical Growth
Marion Maresh, M.D., Roentgenologist, Child Research Council; Assoc. Prof. Physical Growth
Jean Deming, M.D., Pediatrician and Biometrist, Child Research Council
Alvin Revzin, M.S., Assistant in Physiology, Child Research Council
Elizabeth Seaholm) Research Assistants in Physical and Physiological Growth,
Anne Kalsbeek) Child Research Council
Mignon Eliot, B.A., Statistical Assistant, Child Research Council

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Child Research Council, 4200 East 9th Avenue, Denver 20, Colorado

SUMMARY OF PROPOSED WORK— (200 words or less — Omit Confidential data.)

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SIGNATURE OF PRINCIPAL INVESTIGATOR Alfred H. Washburn

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL Univ. of Colorado School of Medicine

Submitted for period beginning- October 1954

Grant No.	Period of Operation	Amt. Appr.
G-546	10/47 - 9/48	$15,538
546 C1	10/48 - 9/49	17,855
546 C2	10/49 - 9/50	28,500
546 C3	10/50 - 9/51	28,500
546 C4	10/51 - 9/52	28,500
546 C5	10/52 - 9/53	28,500
G-546 C6	10/53 - 9/54	$28,500
546 C7	10/54 - 9/55	35,700
546 C8	10/55 - 9/56	36,000 *
546 C9	10/56 - 9/57	37,000 *
546 C10	10/57 - 9/58	37,500 *
546 C11	10/58 - 9/59	38,000 *

* Commitment

Prepared for the Bio Sciences Information Exchange.
Not for publication or publication reference.

DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
MC-546(09)
PHS (5)

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

A Life-Cycle Study of the Significance of Individual Differences in Growing Human Beings. PRELIMINARY

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Alfred M. Washburn, M.D., Director, Child Research Council
Edith Boyd, M.D., Pediatrician, Child Research Council, Professor of Physical Growth
Marion Hamesh, M.D., Roentgenologist, Child Research Council, Assoc.Prof. Physical Growth
Jean Deming, M.D., Pediatrician and Biometrist, Child Research Council
Alan Sexton, Ph.D., Assistant in Physiology, Child Research Council
Elisabeth Seaholm, Anne Kalsbeek } Research Assistants in Physical and Physiological Growth, Child Research Council
Margaret Young, Statistical Assistant, Child Research Council

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Child Research Council, 4200 East Ninth Avenue, Denver 20, Colorado

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Bio Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

The investigations proposed form an integral part of the continuing research program of the Child Research Council. The primary aim is to obtain a better understanding of factors influencing the growth, development, and adaptation of individual human beings--the significant determinants of the characteristics of the adults they become. The life span of 60 of 180 subjects has already been followed beyond adolescence. Recently, siblings and second generation babies form the bulk of newly enrolled infants. By regular repetition of a large variety of observations measurements, photographs, x-rays, tests, and physiological or chemical determinations, on each subject, an extensive record is obtained, revealing the dynamics of the developmental process in three overlapping areas--structural changes leading to ultimate physique, emergence of personality traits, and the patterns of developing physiological functioning. This "project" involves chiefly the first of these areas. The essential tools for depicting the individual's pattern of growth are, observation, direct measurement and analysis of photographs and x-rays. For the interpretation of the significance to the individual of his particular characteristics we utilize statistical and graphic analysis of data, correlation of findings in physical, physiological, and psychological areas, and the continued following of the subject into later life.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate or other) with which this project should be identified:

SCHOOL

INVESTIGATOR — DO NOT USE THIS SPACE

PRELIMINARY

PHS-398
REV. 6/64

Form Approved

NOTICE OF RESEARCH PROJECT
Bio Sciences Information Exchange
Not for Publication
COPY

Support From This Source Terminated 6/50

Supporting Agency: Public Health Service

Project No. RG 1039 (C)

Title of Project: "The development of a set of x-ray standards which are spaced according to per cent of mature height"

Professional Personnel: Nancy Bayley, Ph.D., Research Associate

Name of Institution: Institute of Child Welfare, University of California

Summary of Proposed Work:

The purpose of this research is to develop a set of standards, for assessing skeletal maturation, which will be spaced at approximately equal units of growth by selecting a series of x-rays each of which is just noticeably more mature than the one preceding it. The x-rays are first sorted according to the per cent of his own mature height attained by a child at the time of the x-ray. This serves the purpose of associating the standards with a factor, other than age, which is closely related to the process of physical maturing.

X-rays of left hand and knee, and anthropometric data, are available on over 100 children of each sex, taken at six-month intervals from 8 years to maturity.

The x-rays of the girls' hands have been sorted, and standards selected on the basis of just noticeable differences in maturational characteristics of the bones. These differences have been regularized statistically so the successive standards are separated by percentage units equal to .6 S.D. from the medians at successive ages. It is proposed to select standards in the same way for the boys' hands and for the knees for both sexes. These new standards will be tested by statistical analyses, and applied to children whose growth trends are deviant. They will also be tested for their usefulness in predicting growth in height.

Grant No.	Period of Operation	Amt. App.
RG 1039	6/16/48 - 6/49	$3,888
1039 C	7/ 49 - 6/50	4,266

Support From This Source Terminated 6/50

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NOTICE OF RESEARCH PROJECT

PROJECT NO. (Do not use this space)
RG-1480(C3)
B&N (5)

CONTRACTING AGENCY FEDERAL SECURITY AGENCY, PUBLIC HEALTH SERVICE

TITLE OF PROJECT

THE AMIDE NITROGEN METABOLISM OF ANIMAL TISSUES

Give names, departments, and official titles of PRINCIPAL INVESTIGATOR(S) and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Robert H. MacVicar, Professor of Agricultural Chemistry, Department of Agricultural Chemistry Research, Oklahoma Agricultural Experiment Station.

NAME AND ADDRESS OF INSTITUTION.

Oklahoma Agricultural Experiment Station, Oklahoma A. and M. College, Stillwater

APPLICANT — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. App.
RG 1480	9/1/48 - 8/31/49	$3,025
1480 C1	9/1/49 - 8/31/50	3,200
1480 C2	9/1/50 - 8/31/51	3,500
RG 1480 C3	9/1/51 - 8/31/52	$3,500

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data)

In the Program of Exchange of Information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

In continuation of research on the function of the amide nitrogen fraction in animal tissues, it is proposed to further investigate the glutamine content of normal and pathological specimens of tissues and fluids of man and other animals. Studies will be continued to ascertain the usefulness of paper chromatographic techniques in determining glutamine in tissues and correlating such determinations with the concentrations of other amino acids. Various dietary and hormonal conditions have been shown to affect the concentration of glutamine in the tissues. These studies will be continued, with particular emphasis on factors which may influence protein metabolism in the tissues. The effect of cortisone will be particularly scrutinized since preliminary results suggest that administering excessive amounts of this hormone does not produce any material change in tissue glutamine despite negative nitrogen balance and loss in body weight. Studies on the relation of the amide fraction to the storage, transfer, and toxicity of ammonia will be continued and extended. The heavy isotope of nitrogen will be employed in these later investigations. A possible effect of virus infection on tissue glutamine suggest that further investigation of amide nitrogen metabolism under these conditions is warranted.

SIGNATURE OF PRINCIPAL INVESTIGATOR Robert H. MacVicar

PHS-166-1 (RG REV. 6-49)
FORM APPROVED
BUDGET BUREAU NO. 68-R1

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NOTICE OF RESEARCH PROJECT

11/30/49

RG-2426

N & I

CONTRACTING AGENCY FEDERAL SECURITY AGENCY, PUBLIC HEALTH SERVICE SUPPORT FROM THIS SOURCE TERMINATED 8/51

TITLE OF PROJECT:

Determination of Univalent Antibody in Disease States of Man Through the Use of I^{131} Labelled Serum Protein.

Give names, departments, and official titles of PRINCIPAL INVESTIGATOR(S) and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Herman L. Blumgart, M.D.
Department of Medicine, Harvard Medical School
Professor of Medicine, Harvard Medical School
Physician-in-Chief, Beth Israel Hospital

NAME AND ADDRESS OF INSTITUTION:

Harvard Medical School
25 Shattuck Street, Boston, Massachusetts

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data)

In the Program of Exchange of Information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

[redacted]

Prepared by Office of Exchange Information PUBLIC HEALTH SERVICE. Not for publication or publication reference without consent of the principal investigator(s).

NOTICE OF RESEARCH PROJECT

COPY

PROJECT NO. (Do not use this space)
RG 2491

CONTRACTING AGENCY: FEDERAL SECURITY AGENCY, PUBLIC HEALTH SERVICE — SUPPORT FROM THIS SOURCE TERMINATED 2/50

TITLE OF PROJECT

"Effect of cortisone on the basal metabolic rate and other tests of thyroid function"

Give names, departments, and official titles of PRINCIPAL INVESTIGATOR(S) and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sidney C. Werner, M.D.
Assistant Professor of Clinical Medicine
Columbia University
620 West 168th Street
New York 32, N.Y.

NAME AND ADDRESS OF INSTITUTION

College of Physicians and Surgeons
Columbia University, 620 W. 168th St., New York 32, N.Y.

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data)

In the Program of Exchange of Information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

A trial of ACTH in two patients with toxic goiter has revealed a sharp rise in basal metabolic rate following the institution of therapy, but no alteration in radioiodine tracer uptake or serum precipitable iodine level.

It is desired to establish whether such a response follows cortisone administration, in an effort to establish the mechanism of the hypermetabolism induced by ACTH.

SIGNATURE OF PRINCIPAL INVESTIGATOR

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APPLICANT — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. App.
RG 2491	12/14/49 - 2/28/50	$630

Support from this source terminated 2/50

Prepared by Office of Exchange Information PUBLIC HEALTH SERVICE. Not for publication or publication reference without consent of the principal investigator(s)

NOTICE OF RESEARCH PROJECT

PROJECT NO. (Do not use this space)
RG-2796
M & N

CONTRACTING AGENCY: FEDERAL SECURITY AGENCY. PUBLIC HEALTH SERVICE

TITLE OF PROJECT

"Estrogen Metabolism in Human Pregnancy: A Study with the Aid of Deuterium"

Give names, departments, and official titles of PRINCIPAL INVESTIGATOR(S) and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Principal Investigator -- William H. Pearlman, Ph.D., Assoc. Professor, Dept. of Biochem.

Mary R.J. Pearlman, A.B., Research Assistant, Dept. of Biochemistry

Abraham R. Rakoff, M.D., Clinical Professor of Obstetric and Gynecological Endocrinology, Division of Gynecology

NAME AND ADDRESS OF INSTITUTION:

Jefferson Medical College, 1025 Walnut Street, Philadelphia 7, Pa.

APPLICANT - DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Approved
RG 2796	1/1/51 - 12/31/51	$4,752

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data)

In the Program of Exchange of Information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

To elucidate the metabolism of estrogens during human pregnancy with respect to: the rate of estrogen destruction and elaboration; the rate of transformation of estrone into estradiol and estriol as well as the influence of progesterone on this transformation rate; the metabolic pathways followed in the transformation of estrone into estriol. The method of procedure requires the injection of estrogen (stable isotope labelled with deuterium in Ring B) into pregnant women, isolation of the estrogens from urine, and analysis of the pure compounds for deuterium with the aid of a mass isotope-ratio mass spectrometer.

SIGNATURE OF PRINCIPAL INVESTIGATOR

PHS-166-1 (RG REV. 5-49
FORM APPROVED

...Office of Exchange Information, HEALTH SERVICE. Not for publication or publication reference without consent of the principal investigator.

NOTICE OF RESEARCH PROJECT

PROJECT NO. (Do not use this space)
RG 2796(C)
M & B (5)

CONTRACTING AGENCY FEDERAL SECURITY AGENCY Public Health Service

TITLE OF PROJECT

Estrogen Metabolism in Human Pregnancy: A Study with the Aid of Deuterium

Give departments, and official titles of PRINCIPAL INVESTIGATOR(S) and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Principal Investigator: William H. Pearlman, Ph.D., Dept biochemistry, Associate Professor

Abraham E. Rakoff, M.D., Dept Obstetrics and Gynecology, Clinical Prof.

Mary R.J. Pearlman, A.B., Dept Biochemistry

NAME AND ADDRESS OF INSTITUTION:

Jefferson Medical College, 1025 Walnut St., Philadelphia 7,Pa.

APPLICANT — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. App.
RG 2796	1/1/51 - 12/31/51	$4,752
2796 C1	1/1/52 - 12/31/52	4,698

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data)

In the Program of Exchange of Information summaries of work in progress are exchanged with government and private agencies supporting research in medicine and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Specific aims: to elucidate the metabolism of estrogens during human pregnancy with respect to: the rate of estrogen destruction and elaboration; the rate of transformation of estrone into estradiol and estriol as well as the influence of progesterone on this transformation rate; the metabolic pathways followed in the transformation of estrone into estriol.

Procedure: Estrogens stably labelled with deuterium in Ring B will be administered to pregnant women. The various urinary estrogens will subsequently be isolated and analyzed for deuterium.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Grant No. Period of Operation Amt. Appr.

SIGNATURE OF PRINCIPAL INVESTIGATOR

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NOTICE OF RESEARCH PROJECT

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PROJECT NO. (DO NOT USE THIS SPACE)

RG-2796 (C2)

pndo. (2)

Project Discontinued 12/53

CONTRACTING AGENCY: FEDERAL SECURITY AGENCY, PUBLIC HEALTH SERVICE

TITLE OF PROJECT:

Estrogen Metabolism in Human Pregnancy: A Study with the Aid of Deuterium

Give names, departments, and official titles of PRINCIPAL INVESTIGATOR(S) and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

William H. Pearlman, Ph. D., principal investigator, Dept. Biochemistry, Assoc. Prof. A. E. Rakoff, M. D., Dept. Obstetrics and Gynecology, Clinical Professor biochemist (none selected; M. S. or the equivalent in experience).

NAME AND ADDRESS OF INSTITUTION:

Jefferson Medical College, 1025 Walnut Street, Philadelphia 7, Pa.

Project discontinued 12/53

Specific aims of project: To ascertain (a) the rate of destruction and elaboration of estriol, (b) the nature of the products intermediate in the metabolic conversion of estrone to estriol, (c) the nature of metabolic precursors of estriol other than estrone; a search will be made for biologically inactive metabolic breakdown products of the estrogens.

Method of procedure: This will constitute an extension of current methods (see progress report RG-2796 (C) submitted with this application) in use in this laboratory. Briefly, deuterated estriol will be prepared (by isotope exchange reactions and/or by partial synthesis from 6,7-d_2-estrone) and administered to pregnant women. Similarly, isotopic 16-keto-estrone and other hypothetical metabolic precursors of estriol will be prepared and administered. The urine will be collected and the estrogens isolated for deuterium analysis; the amounts of the estrogens excreted will be determined by bioassay.

SIGNATURE OF PRINCIPAL INVESTIGATOR William H. Pearlman

Grant No.	Period of Operation	Amt. Appr.
RG-2796	1/51 - 12/51	$4,752
2796 C1	1/52 - 12/52	4,698
2796 C2	1/53 - 12/53	5,562

Project Discontinued 12/53

Prepared by Office of Exchange Information PUBLIC HEALTH SERVICE. Not for publication or publication reference without consent of the principal investigator(s).

NOTICE OF RESEARCH PROJECT

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MAR 30 1954

PROJECT NO. (Do not use this space)
RG-2874(R)
P.H. (1)

CONTRACTING AGENCY: FEDERAL SECURITY AGENCY, PUBLIC HEALTH SERVICE

TITLE OF PROJECT:

SUPPORT FROM THIS SOURCE TERMINATED 4/54

National Survey of Congenital Malformations Resulting from Exposure to X-radiations

Give names, departments, and official titles of PRINCIPAL INVESTIGATOR(S) and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Principal Investigator--
Stanley H. Macht, M. D., Director,
Dept. of Radiology, Washington County Hospital, Hagerstown, Maryland
Consultant--
Philip S. Lawrence, D. Sc., Biostatistician.
U. S. Public Health Service, Hagerstown, Maryland

NAME AND ADDRESS OF INSTITUTION.

Washington County Hospital, Hagerstown, Maryland

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data)

In the Program of Exchange of Information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

It is proposed that a questionnaire will be sent to approximately 4000 professional workers in the field of ionizing radiation and to an equal number of professional workers in fields which do not involve the risks of radiation. The questionnaire is designed to determine whether there is any difference between these two groups in the prevalence of congenital malformations of offspring, the extent of reproductive wastage, or in fertility. Further similar comparisons will be made within the group of radiation workers according to the duration and type of work in this field. Information will also be obtained as to whether the spouse, or any of the parents were radiological workers and as to whether there is any family history of congenital defects.

It is expected that analysis of the returns will reveal whether there is any permanent alteration, temporary alteration, or no alteration in the genetic mechanism of radiological workers, and whether there is evidence that the tolerance limits or present protective standards should be modified.

SIGNATURE OF PRINCIPAL INVESTIGATOR Stanley H. Macht, M.D.

Grant No.	Period of Operation	Amt. Appr.
RG-2874	9/51 - 4/54	$2,845

Support from this source terminated 4/54

Prepared by Office of Exchange Information PUBLIC HEALTH SERVICE. Not for publication or publication reference without consent of the principal investigator(s)

NOTICE OF RESEARCH PROJECT

PROJECT NO. (Do not use this space) PH-2905 B & M

CONTRACTING AGENCY: FEDERAL SECURITY AGENCY, PUBLIC HEALTH SERVICE

TITLE OF PROJECT:

The Prevention of Postoperative Nitrogen Loss

Give names, departments, and official titles of PRINCIPAL INVESTIGATOR(S) and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sidney C. Werner, M.D.	Dept. of Med.	Assistant Professor of Clinical Medicine	20%
David V. Habif, M.D.	Dept. of Surg.	Associate Professor	10%
Henry Thomas Randall, M.D.	Dept. of Surg.	Assistant Professor	20%

NAME AND ADDRESS OF INSTITUTION:

Columbia University, College of Physicians & Surgeons, 630 W. 168th St. New York 32, N.Y.

APPLICANT — DO NOT USE THIS SPACE

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data)

In the Program of Exchange of Information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

The project is designed to investigate ways to administer upwards of 3000 calories and 90 grams of protein parenterally through the use of intravenous fat emulsion and alcohol. An attempt to determine the distribution and metabolic fate of the fat will be made through the use of I-131 label. A similar attempt to follow amino acid metabolism before and after operation and to observe whether a "catabolic response" is noted, will be made through the use of N-15 glycine and S-35 labeled methionine given parenterally.

PHS-166-1 (RG) REV. 6-49
FORM APPROVED
BUDGET BUREAU NO. 68-R403

SIGNATURE OF PRINCIPAL INVESTIGATOR _____

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NOTICE OF RESEARCH PROJECT
Bio-Sciences Information Exchange
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Project No. RG-2926 C2
Surg. (5)

Supporting Agency: Public Health Service

Title of Project: Quantitative Replacement of Sodium on the Basis of Changes in Na 24 and Thiosulfate spaces in Surgical Patients

Professional Personnel: David V. Habif, M.D., Department of Surgery, Associate Professor of Surgery

Name of Institution: Columbia University
College of Physicians and Surgeons
630 W. 168th Street
New York 32, New York

Summary of Proposed Work:

A total of forty-one inulin space determinations in twenty-three patients have been completed, sixteen of which were both pre and postoperative and the data accumulated is being subjected to statistical analysis. Because the test is difficult to carry out without numerous technical errors, it has been discontinued. An evaluation of a seven hour constant infusion in comparison with a five hour indicates no consistent correlation. A four hour constant infusion of inulin and urine collection gives values that are considered too high for extra-cellular volume and thus this method, although more practical, has also been discontinued. The thiosulfate method for determining extracellular volume appears to be accurate, easy, and rapid, so that it has been adopted as the method of choice. Extra-cellular volume and three-hour exchangeable sodium space measurements as well as the evaluation of patients with sodium depletion incident to operation are in progress. Forty determinations of total body potassium K_{42} in surgical patients indicate that a considerable variation from the expected normal mass occurs. Balance studies in association with a high intake of potassium are necessary to check this observation and are in progress.

Grant No.	Period of Operation	Amt. Approved
RG-2926	12/50 - 11/51	$14,428
2926 C1	12/51 - 11/52	18,280
2926 C2	12/52 - 2/54	17,976
2926 C2 S1	12/52 - 2/54	4,461 *

* Commiment

Prepared for the Medical Sciences Information Exchange. Not for publication or publication reference without consent of the principal investigator.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

(LEAVE BLANK)
RG-2926(C2S)
Surgery (4)

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT

Quantitative Replacement of Sodium on the Basis of Changes in Sodium 24 and Thiosulfate Spaces in Surgical Patients

GIVE NAMES, DEPARTMENTS, AND OFFICIAL TITLES OF PRINCIPAL INVESTIGATOR AND ALL OTHER PROFESSIONAL PERSONNEL ENGAGED IN THIS PROJECT

David V. Habif, M.D. Dept. of Surgery Associate Professor

Harold G. Barker, M.D. Dept. of Surgery Assistant Professor

NAME AND ADDRESS OF APPLICANT INSTITUTION

Columbia University, College of Physicians and Surgeons
630 West 168th Street, New York 32, N.Y.

SUMMARY OF PROPOSED WORK (300 words or less — omit confidential data)

In the exchange of information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Studies are being made of the three-hour Na 24 exchangeable space as compared to the twenty-four mass. Pre and postoperative determinations of extracellular space as measured by sodium thiosulfate, three-hour exchangeable Na_{24} space and total body water with Deuterium oxide are being continued. Patients having minor, moderate and extensive surgery are being studied.

A plan of management was worked out for patients with cirrhosis of the liver and ascites so that the ascites was stabilized or absorbed in a two to six-week period prior to a portacaval shunt operation. This was accomplished with patients on fluid, electrolyte and nitrogen balance through the use of a rigidly low sodium diet and ion exchange resins. The studies were continued following the shunt operation in an effort to prevent ascites formation. Further evaluation of this program is in progress.

SIGNATURE OF PRINCIPAL INVESTIGATOR David V. Habif

IDENTIFY ANY PROFESSIONAL SCHOOL (MEDICAL, DENTAL, PUBLIC HEALTH, GRADUATE, OR OTHER) WITH WHICH THIS PROJECT SHOULD BE IDENTIFIED.

Grant No.	Period of Operation	Amt. Appr.
RG-2926	12/50 - 11/51	$14,428
2926 C1	12/51 - 11/52	18,280
2926 C2	12/52 - 2/54	17,976
2926 C2S	12/53 - 2/54	4,461
RG-2926 C3	3/54 - 2/55	$20,810
2926 C4	3/55 - 2/56	21,999 *
2926 C5	3/56 - 2/57	22,000 *

* Commitment

NOTICE OF RESEARCH PROJECT

BIO·SCIENCES INFORMATION EXCHANGE
SMITHSONIAN INSTITUTION

NOT FOR PUBLICATION OR PUBLICATION REFERENCE

PROJECT NO. (Do not use this space) RG-2942

C O P Y

SUPPORTING AGENCY: Public Health Service

Support from this source terminated 7/51

TITLE OF PROJECT: "Iron Metabolism

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Clement A. Finch, Associate Professor of Medicine
Alexander R. Stevens, Jr., PHS Fellow

NAME AND ADDRESS OF INSTITUTION:
University of Washington School of Medicine, Seattle, Washington

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Bio·Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in the bio·sciences and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Studies in iron metabolism have previously been discussed in more detail in Progress Report of March 1, 1950. They include:

1. Studies of iron toxicity. Animals have been injected with large amounts of iron and will be followed for several years.

2. Studies of iron absorption. Radioiron has been incorporated into vegetable and animal protein. The absorption of this dietary iron will be assayed in animals and man. Other factors related to iron absorption are also being studied.

3. Measurement of tissue ferritin and hemosiderin. We are attempting to develop quantitative methods of measurement of these tissue complexes.

4. The survival of rabbit erythrocytes is under study, using radioactive iron. It is hoped to evaluate with this technique various physical, chemical and metabolic factors pertinent to cell survival.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL

INVESTIGATOR—DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
RG-2942F	8/50 - 7/51	$540

THIS IS A GRANT TO A USPHS FELLOW
Support from this source terminated 7/51

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FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO (Do not use this space)
RG-4446 (C2)
HEO (1)

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

Thyroid and Gonadal Function in Sterility, Abortions and Menstrual disorders, and effect of therapy. PRELIMINARY

Name, department, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Martin Perlmutter, M.D. - Asst. Clin. Prof. of Medicine. Department of Medicine
Edward Solomone, M.D. - Prof. of Obs. and Gyn., State Univ. of N.Y., Dept. of Obs. & Gyn.
William J. Kraus

NAME AND ADDRESS OF APPLICANT INSTITUTION:

The Research Foundation of State University of New York.

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

The Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

The thyroid function of female patients who have menstrual abnormalities, sterility problems or habitual abortions will be studied. These studies will include basal metabolic rate, serum P.B.I., thyroid uptake of I^{131} and the response of the thyroid to stimulation by thyroid stimulating hormone or to its inhibition by thyroid hormone ingestion.

In those patients having definite laboratory evidence of thyroid abnormality, appropriate medication will be given. The effect of this therapy upon the clinical and laboratory evidence of menstrual or fertility abnormalities will be determined.

In those patients without laboratory evidence of thyroid abnormalities, the comparative effect of thyroid hormones and placebos will be determined.

SIGNATURE OF PRINCIPAL INVESTIGATOR _____

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL _____

INVESTIGATOR — DO NOT USE THIS SPACE

PRELIMINARY

PHS 166

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Not for publication or publication reference.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

RG-4530
M & I (1)

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT:

IMMUNOCHEMICAL STUDIES OF I^{131} LABELLED DIPHTHERIA TOXIN

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

William J. Kuhns, M.D. Director, Central Blood Bank, University Medical Center. Associate Professor of Pathology, Department of Pathology, University of Pittsburgh School of Medicine.

Frank Dixon, M.D. Chairman and Professor, Department of Pathology, University of Pittsburgh School of Medicine.

Paul Maurer, Ph.D. Associate Professor of Pathology (immunochemistry), Department of Pathology, University of Pittsburgh School of Medicine.

NAME AND ADDRESS OF APPLICANT INSTITUTION:

University of Pittsburgh School of Medicine, Pittsburgh 13, Pennsylvania

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are furnished to investigators who request such information. Your summary is to be used for these purposes.

The purpose of the present investigation is to evaluate the uses of I^{131} labelled diphtheria toxin in the study of interactions between toxin and antitoxin. The procedure to be followed will be (1) determination of the effect of I^{131} labelling on the toxicity of diphtheria toxin (2) effect of I^{131} labelling on the ability of toxin to neutralise horse and human precipitating antitoxins (3) studies on the purity of I^{131} toxin using separation procedures such as zone electrophoresis upon material which has been appropriately calibrated in terms of radioactivity, toxicity and nitrogen content. The project will then be extended to include a study of complexes formed by (a) I^{131} toxin and human precipitating antitoxin (b) I^{131} toxin and human non-precipitating antitoxin. The uses of combined labelling of antigen and antibody will also be determined in studies of I^{131} toxin and experimentally produced S^{35} labelled antitoxin. Experiments of this kind may shed further light upon the role of impurities in the diphtheria system.

SIGNATURE OF PRINCIPAL INVESTIGATOR: William J. Kuhns M.D.

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL: University of Pittsburgh Medical School

Submitted for period beginning - September 1955

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
RG-4530	9/55 - 8/56	$8,682
4530 C1	9/56 - 8/57	8,682 *
4530 C2	9/57 - 8/58	8,682 *

* Commitment

PHS 166
REV. 10-52

Form Approved
Budget Bureau No. 68-R004.2

Prepared by Office of Exchange Information, PUBLIC HEALTH SERVICE. Not for publication or publication reference without consent of the principal investigator.

NOTICE OF RESEARCH PROJECT

PROJECT NO. (Do not use this space)
RG 1917(C2)
[illegible] (6)

CONTRACTING AGENCY: FEDERAL SECURITY AGENCY, PUBLIC HEALTH SERVICE

TITLE OF PROJECT:

Iron Metabolism

Give names, departments, and official titles of PRINCIPAL INVESTIGATOR(S) and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Clement A. Finch, M. D., Dept. of Medicine, Associate Professor of Medicine

Coleman, Daniel M., M. D., Dept. of Medicine, Research Fellow

NAME AND ADDRESS OF INSTITUTION:

University of Washington School of Medicine, Seattle 5, Washington

APPLICANT — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. App.
RG 1917	9/16/49 - 9/15/50	$10,800
1917 C1	9/16/50 - 9/30/51	10,800
1917 C2	10/1/51 - 9/30/52	10,800

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data)

In the Program of Exchange of Information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Studies in iron metabolism will be directed particularly at the problem of iron storage and iron absorption. Iron storage compounds, ferritin and hemosiderin, will be quantitatively measured under various experimental conditions in animals. Iron absorption will be studied in animals and man, employing food iron tagged with Fe^{55}.

SIGNATURE OF PRINCIPAL INVESTIGATOR: Clement A. Finch

PHS-166-1 (RG) REV. 6-49
FORM APPROVED
BUDGET BUREAU NO. 68-R403

REMOVE SMUDGE SHEET BEFORE TYPING
Replace smudge sheet when finished and return all copies to PHS

NOTICE OF RESEARCH PROJECT
Bio Sciences Information Exchange
Not for Publication

COPY

Support from this source terminated 8/53

Supporting Agency: Public Health Service Project No. RG 3227 (C)

Title of Project: The use of radioactive tracers to study the localization of haptens

Professional Personnel: Herman N. Eisen, M.D., Assistant Professor

Name of Institution: New York University-Bellevue Medical Center
477 First Avenue
New York 16, New York

Summary of Proposed Work:

There is under way in this laboratory a long range study aimed at the elucidation of some of the fundamental mechanisms of sensitization phenomena in relation to simple chemical compounds (haptens). The present project is concerned with one phase of this study, namely, the in vivo distribution of haptens that are applied to the surface of skin. Specifically, what is sought is information on the entry of haptens into skin, and their distribution and persistence within skin. It is of particular importance to determine whether the presence of specific antibodies (in sensitized skin) modifies the distribution or persistence of haptens. The haptens to be studied will be so selected that each represents variations with respect to (a) capacity to evoke sensitization responses in sensitized animals; (b) fat-water distribution coefficient; (c) protein combining capacity. The distribution and persistence of radioactive, isotopically-labelled, haptens are being determined by means of: 1) radioautography and 2) direct counting of tissue homogenates and fractions thereof. The haptens being studied are 2,4 dinitrophenyl compounds, C^{14}-benzene-ring-labelled in 2 cases and S^{35}-labelled where sulfonate and sulfenyl chloride substituents are present.

Grant No.	Period of Operation	Amt. Approved
RG 3227	9/1/51 - 8/31/52	$6,966
3227 C1	9/1/52 - 8/31/53	6,966

Support from this source terminated 8/53

Prepared for the Medical Sciences Information Exchange. Not for publication or publication reference.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT No. (Do not use this space) RG-3443(C2) M & I (5)

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT: Support From This Source Terminated 3/55

The Mechanism of Development of Infectious and Contact Sensitivities

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Sidney Raffel, M.D., Professor of Bacteriology and Experimental Pathology, Stanford University School of Medicine, Stanford, California

NAME AND ADDRESS OF APPLICANT INSTITUTION:

Stanford University, Stanford, California

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data.)

In the Medical Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

1. Aspergillus niger. The major sensitizing factors of this fungus apparently occur in the spore rather than the mycelium. Mechanical disruption of the spore however abolishes its sensitizing activity although its proteins remain antigenic. Experiments are to be undertaken aimed at the detection of a possible enzymatic activity responsible for the destruction of the factor essential for sensitization, and the inactivation of this factor.

2. Vaccinia virus. Evidence is at hand that the IS protein together with a lipoidal substance isolated from elementary bodies establishes hypersensitive reactivity similar to that resulting from viral infection. This has been especially observable in corneal tests. It is hoped that one or two further experiments may provide final evidence on this point.

3. The lipids of human skin. Repeated attempts have been made to determine whether human skin may contain a lipoidal substance concerned in the induction of contact (delayed) hypersensitivity. Recent preliminary experiments indicate that such a factor may exist in skin obtained from psoriatic patients. These experiments are to be repeated, and efforts are being made to obtain skin biopsies from patients with contact dermatitis for the same kind of study.

4. Studies with C^{14}. C^{14} incorporated into a protein antigen will be employed to determine its distribution in tissue cells under the influence of a lipoidal factor which induces delayed hypersensitivity. The rationale for this is the possibility that the lipid may alter cellular permeability.

SIGNATURE OF PRINCIPAL INVESTIGATOR: Edward Raffel, M.D. June 1954

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL

INVESTIGATOR — DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. App.
RG-3443	4/52 - 3/53	$6,977
3443 C1	4/53 - 3/54	9,158
3443 C2	4/54 - 3/55	9,158

Support From This Source Terminated 3/55

PHS 166
REV. 10-52

Form Approved
Budget Bureau No. 72-R011.1

Prepared for the Medical Sciences Information Exchange. Not for publication or reference without consent of the principal investigator.

OCT 31 1952

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

(SAVE BLANK)
RG-3561(C)
Surg. (5)

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT

Studies of Protein Metabolism in Burn Patients by Radio-isotope Techniques

GIVE NAMES, DEPARTMENTS, AND OFFICIAL TITLES OF PRINCIPAL INVESTIGATOR AND ALL OTHER PROFESSIONAL PERSONNEL ENGAGED IN THIS PROJECT.

T. G. Blocker, Jr., M.D. - Professor of Plastic & Maxillofacial Surg.
Wm. C. Levin, M.D. - Assoc. Prof. of Medicine; Director of Hematology
S. R. Lewis, M.D. - Asst. Prof. in Surg. (Plastic & Maxillofacial Surgery)
F. A. Garbade, M.D. - Asst. Prof. of Pediatric
Virginia Blocker, M.D. - Lecturer in Medicine
C. C. Snyder, M.D. - Instructor in Plastic & Maxillofacial Surgery
K. P. McConnell - Asst. Prof. of Biochemistry & Nutrition

NAME AND ADDRESS OF APPLICANT INSTITUTION

The University of Texas Medical Branch; Galveston, Texas

SUMMARY OF PROPOSED WORK (300 words or less — omit confidential data)

In the exchange of information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

It is planned to study alterations of protein metabolism in clinical subjects both with regard to the underlying physico-chemical disturbances following severe thermal trauma and in response to standard therapy, employing substances tagged with radioisotopes for the collection of scientific data. Proposed projects are as follows:

1. Study of total plasma volume by determining dilution of human albumin tagged with I_{131}.
2. Collection and assay of burn exudate following injection of tagged albumin.
3. Serial assays of radioactivity on serum proteins following intravenous injection of methionine tagged with S_{35}, to study rate of protein synthesis. Correlation with electrophoretic studies.
4. Nutrition studies: estimation of rate of absorption of proteins and amino-acids from the gastro-intestinal tract following feeding of albumin tagged with I_{131}. Correlation of this work with experimental animal studies.

SIGNATURE OF PRINCIPAL INVESTIGATOR — T. G. Blocker, Jr.

IDENTIFY ANY PROFESSIONAL SCHOOL (MEDICAL, DENTAL, PUBLIC HEALTH, GRADUATE, OR OTHER) WITH WHICH THIS PROJECT SHOULD BE IDENTIFIED.

The University of Texas Medical Branch

Submitted for period beginning - July 1954

Grant No.	Period of Operation	Amt. Appr.	Grant No.	Period of Operation	Amt. Appr.
RG-3561	6/16/52 - 6/53	$20,000	RG-3561 C3	7/55 - 6/56	$15,120 *
3561 C1	7/53 - 6/54	19,996	3561 C4	7/56 - 6/57	15,120 *
3561 C2	7/54 - 6/55	19,996	3561 C5	7/57 - 6/58	15,120 *

* Commitment

Prepared for the Medical Sciences Information Exchange. Not for publication or publication reference without consent of the principal investigator.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

(LEAVE BLANK)
RG-3561(C2)
M.N. (5)

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT

Radioactive Techniques in the Study of Protein Metabolism of Severe Burn Patients

GIVE NAMES, DEPARTMENTS, AND OFFICIAL TITLES OF PRINCIPAL INVESTIGATOR AND ALL OTHER PROFESSIONAL PERSONNEL ENGAGED IN THIS PROJECT.

T. G. Blocker, Jr., M.D., Principal Investigator

W. C. Levin, M.D., Chief Consultant

NAME AND ADDRESS OF APPLICANT INSTITUTION

University of Texas Medical Branch; Galveston, Texas

SUMMARY OF PROPOSED WORK *(300 words or less – omit confidential data)*

In the exchange of information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

1. Continuation and expansion of studies with sulphur-labelled methionine; determination of degrees of incorporation of labelled methionine within the various protein fractions.

2. Evaluation of other methods of studying protein synthesis in severely burned patients; comparison with normals.

3. Studies on rates of synthesis of hemoglobin and metabolism of erythrocytes in burn patients: (1) determination of erythrocyte survival time, using differential agglutination technique; (2) other studies of hemolytic processes; (3) rates of absorption of Iron 59 from the gastro-intestinal tract; (4) rates of disappearance of ferric beta I globulinate labelled with Iron 59, as a method of assessment of the erythropoetic activity in the burn patient as compared with the normal.

SIGNATURE OF PRINCIPAL INVESTIGATOR T. G. Blocker, Jr.

Submitted for period beginning- July 1954

Grant No.	Period of Operation	Amt. Appr.
RG-3561	6/16/52 - 6/53	$20,000
3561 C1	7/53 - 6/54	19,996
3561 C2	7/54 - 6/55	19,996
RG-3561 C3	7/55 - 6/56	$16,100
3561 C4	7/56 - 6/57	15,120 *
3561 C5	7/57 - 6/58	15,120 *

* Commitment

PHS-66-1(RG)
Rev 8-51

Form Approved
Budget

NOTICE OF RESEARCH PROJECT

BIO-SCIENCES INFORMATION EXCHANGE
SMITHSONIAN INSTITUTION

NOT FOR PUBLICATION OR PUBLICATION REFERENCE

PROJECT NO (Do not use this space)
RG-3561 C3
M & N (2)

SUPPORTING AGENCY: Public Health Service

TITLE OF PROJECT
"Studies of Protein Metabolism in Burn Patients by Radioisotope Techniques"

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

T. G. Blocker, Jr., M.D., Prof. of Plastic & Maxillofacial Surgery, Surgery Department
Wm. C. Levin, M.D., Assoc. Prof. of Internal Medicine, Internal Medicine Department

NAME AND ADDRESS OF INSTITUTION:

The University of Texas Medical Branch, Galveston, Texas

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data)

In the Bio-Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in the bio-sciences and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

Clinical studies in progress are concerned with the study of protein metabolism in burn patiens as well as normal control subjects with the use of L-methionine labeled with sulfur-35. In addition to intravenous administration of this material we now propose to study the effects of its oral administration, assaying the radioactivity at different intervals of time in the blood (total protein; protein-free fraction; albumin; alpha, beta, and gamma globulins; fibrinogen; and erythrocyte and leucocyte fractions), urine (total sulfur, total sulfate, inorganic and organic sulfates), and stool.

In addition, labeled L-methionine studies will be conducted in normal and burned rats with determination of radioactivity in the various organs as well as in the serum, urine, and feces following intracardiac injection. Histological radioautographs will be made to determine the specific location of the radioactivity.

BE ISSUED [illegible] School

SIGNATURE OF PRINCIPAL INVESTIGATOR: T. G. Blocker, Jr.

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL

Submitted for period beginning - July 1955

INVESTIGATOR—DO NOT USE THIS SPACE

Grant No.	Period of Operation	Amt. Appr.
RG-3561	6/16/52 - 6/53	$20,000
3561 C1	7/53 - 6/54	19,996
3561 C2	7/54 - 6/55	19,996
RG-3561 C3	7/55 - 6/56	$16,100
3561 C4	7/56 - 6/57	~~25,120~~ * 16,100
3561 C5	7/57 - 6/58	~~15,120~~ * 16,100

* Commitment

Form Approved
Bureau of the Budget No. 22-R311.1

Prepared for the Medical Sciences Information Exchange.
Not for publication or publication reference without consent of the principal investigator.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

(LEAVE BLANK)
RG-3659
Biochem (1)

SUBMITTED TO: Public Health Service, National Institutes of Health, Div of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT

PATHWAYS OF ALDEHYDE METABOLISM

GIVE NAMES, DEPARTMENTS, AND OFFICIAL TITLES OF PRINCIPAL INVESTIGATOR AND ALL OTHER PROFESSIONAL PERSONNEL ENGAGED IN THIS PROJECT.

E. Racker, Associate Professor of Physiological Chemistry, Department of Physiological Chemistry
I. Krimsky, Research Assistant in Physiological Chemistry, Department of Physiological Chemistry.

NAME AND ADDRESS OF APPLICANT INSTITUTION

Yale University, School of Medicine
333 Cedar Street, New Haven, Connecticut

SUMMARY OF PROPOSED WORK *(300 words or less — omit confidential data)*

In the exchange of information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

This investigation will be directed toward the elucidation of a) the mechanism of biological aldehyde oxidation; b) utilization of aldehydes for the biosynthesis of ribose and desoxyribose derivatives; c) the role of thiol esters in the metabolic oxidation of aldehydes. In these studies, purified enzymes from animal tissues and from bacteria will be employed. Also, aldehydes labeled with C^{14} will be used. These studies may be expected to provide data on the coupling between the oxidation of aldehyde groups and the generation of energy-rich phosphate bonds.

SIGNATURE OF PRINCIPAL INVESTIGATOR E Racker

IDENTIFY ANY PROFESSIONAL SCHOOL (MEDICAL, DENTAL, PUBLIC HEALTH, GRADUATE, OR OTHER) WITH WHICH THIS PROJECT SHOULD BE IDENTIFIED.

Medical School

Grant No.	Period of Operation	Amt. Approved
RG 3659	6/16/52 - 6/30/53	$11,040

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NOTICE OF RESEARCH PROJECT
Medical Sciences Information Exchange
Not for Publication
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Project No. RG-3697
Neuro (1)

Supporting Agency: Public Health Service

Title of Project: Continuation of Studies of the Use of Radioactive Iodine Preparations in Chronic Infections, Vascular and Neoplastic Diseases of the Central Nervous System

Professional Personnel: Thomas W. Farmer, M.D., Department of Internal Medicine
Professor of Neurology and Internal Medicine

Name of Institution: School of Medicine, University of North Carolina, Chapel Hill, North Carolina

Summary of Proposed Work:

It is proposed to continue and to extend the present studies of the concentration of radioactive substances (Radioactive iodinated human serum albumin is being used at the present time) in patients with specific cerebral disorders. Preliminary observations have suggested that focal areas of decreased concentration occur in patients with general paresis. Unusually low uptakes have been observed in patients with psychoses. High focal uptakes have been observed following the injection of Diodrast and in some vascular disorders. A statistically valid study of these specific groups, of normal control groups, and of patients with brain tumor is to be started.

Following these studies it is proposed that studies of the effects of cerebral vascular lesions on the uptake of radioactive substances be undertaken in monkeys. In this way direct observations can be made of the effects of vascular lesions on the diffusion of these substances.

Patients studied with these radioisotopes in this manner will also be studied with the standard methods of neurologic diagnosis, including electroencephalography, pneumoencephalography, arteriography, and neuro-pathologic studies. In studies in animals it is proposed that discrete occlusive vascular lesions be produced and the effects on the diffusion of RIHSA be studied. These studies will follow the completion of the previous studies.

Grant No.	Period of Operation	Amt. Approved
RG-3697	9/52 - 11/53	$10,692

NOTICE OF RESEARCH PROJECT
Bio Sciences Information Exchange
Not for Publication SUPPORT FROM THIS SOURCE TERMINATED 8/54
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Supporting Agency: Public Health Service

Project No. RG-3702 & C1
Path. (1)

Title of Project: The use of radioactive material in the localization of brain tumors and other intracranial diseases.

Professional Personnel:

Bernard J. Alpers, M.D., Sc.D. (Med.) - Professor of Neurology, Jefferson College, Philadelphia. Neurologist to Jefferson, Pennsylvania, Germantown and Wills Hospitals. Director, American Board of Psychiatry and Neurology. Associate Editor, Archives of Neurology & Psychiatry.

Theodore P. Eberhard, M.D., - Associate Professor of Radiology in charge of Radiotherapeutics, Jefferson Medical College.

Name of Institution: Jefferson Medical College of Philadelphia
Philadelphia, Pennsylvania.

Summary of Proposed Work:

This investigation proposes to use a system of rectilinear coordinates assembled in a three dimensional sectioning technique to localize areas of concentration of radioactive material within the cranium. The proposed approach is superior to the radial system, and by means of it as well as newer scintillation counters, better design of collimating shields, and improved linear amplifiers improved results in detection of radioactive material is to be anticipated. The clinical material will consist chiefly of brain tumor cases, but will include also other diseases such as multiple sclerosis.

Grant No.	Period of Operation	Amt. Approved
RG 3702	9/1/52 - 8/31/53	$11,566
3702.01	9/1/53 - 8/31/54	9,946

SUPPORT FROM THIS SOURCE TERMINATED 8/54

Prepared for the Medical Sciences Information Exchange.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

PROJECT NO. (Do not use this space)
RG-3722

[redacted]

NOTICE OF RESEARCH PROJECT
Bio Sciences Information Exchange
Not for Publication
C O P Y

BG-3968

Project No. ~~H-1644~~
Name. (1) Eckel

Supporting Agency: Public Health Service

Title of Project: "Studies on the Mechanisms of Potassium Transport Across Cell Membranes"

Professional Personnel: Robert E. Eckel, M.D., National Foundation for Infantile Paralysis, Inc., Fellow, Department of Medicine

Name of Institution: School of Medicine, Western Reserve University, Cleveland, Ohio

Summary of proposed work:

The purpose of the proposed investigation is to study the mechanism of K transport across the red cell membrane. This transport occurs from an extracellular fluid of low K concentration to a cellular fluid of high K concentration and requires cell work. Attention will be focused upon the basis for the selectivity for K and, if possible, upon the nature of the coupling to energy metabolism. At the time K^{42} uptake is initiated in red cells under certain conditions a water-insoluble fraction can be isolated from red cells which contains K^{42}. It is proposed to investigate the equilibrium between the free K in the medium and that bound to this fraction, and to study the kinetics of the exchange between free and bound K by the use of K^{42}. In addition, further studies of the physical characteristics of the red cell when K transport is altered by the use of inhibitors will be done. These include electrophoresis, conductance and immunological measurements. The net charge on the red cell will be altered by dissotiation and [illegible] enzymatic attack (phospholipage and receptor destroying enzymes) and the effect on K transport observed. It is hoped to established a relationship between K transport net charge, and the phospholipid content of the red blood cell.

Grant No.	Period of Operation	Amt. App.
H-1644	9/53 - 8/54	$11,693
1644 C1	9/54 - 8/55	11,644 *
1644 C2	9/55 - 8/56	13,693 *

* Commitment

Prepared by Office of Exchange Activities PUBLIC HEALTH SERVICE. Not for publication or publication reference without consent of the principal investigator.

JUL 18 1952

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NOTICE OF RESEARCH PROJECT

COPY

Project No. RG-3999
Neuro. (1)

Support from this source terminated 2/55

CONTRACTING AGENCY: FEDERAL SECURITY AGENCY, PUBLIC HEALTH SERVICE

TITLE OF PROJECT:

The use of fluorescein Dyes in the Investigation of Intracranial Lesions
C-552(C4) Path (2)
January 1, 1953 to December 31, 1953

Give names, departments, and official titles of PRINCIPAL INVESTIGATOR(S) and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

Lyle A. French, M.D., PhD. — Assistant Professor Neurosurgery, Dept. of Surgery
William T. Peyton, M.D., PhD. — Professor Neurosurgery, Dept. of Surgery
Gerald S. Haines, M.D. — Fellow in Neurosurgery, Dept. of Surgery
Shellie N. Chou, M.D. — Fellow in Neurosurgery, Dept. of Surgery

NAME AND ADDRESS OF INSTITUTION:

University Hospital, University of Minnesota Minneapolis 14, Minnesota

APPLICANT — DO NOT USE THIS SPACE

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential data)

In the Program of Exchange of Information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

A multiple type Geiger-Mueller counter has been used on patients suspected of having intracranial tumors after the intravenous injection of radioactive sodium iodine, human serum albumin, or diiodofluorescein. To date only thirty-nine counts have been made and no valid conclusion can be drawn.

The effect of 30% and of 70% Urokon on the blood-brain barrierof experimental animals was studied. Thirty percent Urokon produced no apparent damage whereas 70% produced frequent breakage of the blood-brain barrier.

The safety of cerebral angiography has been tested in patients using radioactive isotope brain tumor detection equipment. Comparison of the relative uptake of the injected and non-injected hemisphere before and after angiography has shown no marked change except in one case where a profound neurologic deficit resulted.

A reliable and sensitive technique of beta and gamma counting of comparative samples of blood and cerebrospinal fluid has been developed. Relatively high activity of I^{131} in the cerebrospinal fluid has thus been found in the majority of brain tumor cases this far studied as well as in several other neurologic conditions.

Brown Pierce tumors have been successfully implanted into experimental animals. As yet no further studies have been concluded on these animals.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Grant No.	Period of Operation	Amt. Appr.
RG-3999	6/53 - 2/55	$16,930

Support from this source terminated 2/55

NOTICE OF RESEARCH PROJECT

Contracting Agency: USPHS Division of Research Grants and Fellowships.

Proposal Number: _____ Date Received: 6/1/48

Project Number: RG-1661 Date Approved: 6/12/48

Descriptive Title of Project: "A 5 year follow-up of all the patients (about 1000), who during one year (5 years ago) have passed a gastric x-ray examination (ambulatory or from the hospital wards (550 beds), at the x-ray service of the county hospital Odense, Denmark, on the account of dyspepsia, and in whom were evidence of strong suspicion of peptic ulcer, gastroduodenitis or irritable duodenum either through annamnesis or by x-ray examination or both."

Principal Investigator: Arne Ranford, M.D., County Hospital, Odense, Denmark.

Name of Institution: Odense Amts og bys Sygehus
(Town and County Hospital Odense)
Odense, Denmark

Estimated Duration: 3/4 of a year

RG 1661 - 7/1/48 - 6/30/49 $5800.00

Abstract by Principal Investigator when contract has been approved.

A five year follow-up is proposed of all the patients (about 1000) with dyspepsia, peptic ulcer, gastroduodenitis or irritable duodenum who five years or more ago passed a gastric x-ray examination.

The object of the follow-up is:

1. To discover the fate of cases of gastroduodenitis and irritable duodenum, giving special attention to age, heritage and duration.

2. To discover how the above cases and the typical uncomplicated ulcer cases were influenced by emotional strain, infections, and therapy.

3. To study the working capacity of the whole group.

4. To follow the course of the juvenile patients.

5. To discover whether patients with typical signs of overactive vagus run a course different from the others.

6. To get an impression of the frequency of new cases of peptic ulcer, gastroduodenitis and irritable duodenum inside a Danish county (150,000 inhabitants).

This information will be supplied to Federal Agencies to avoid unknowing duplication of this work.

Issued for the Bio Sciences Information Exchange.
Not for publication or publication reference.

HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

PROJECT NO. 30-4474(2)

H.E.W. (1)

SUBMITTED TO: Public Health Service, National Institutes of Health, Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT: PRELIMINARY

RADIOLOGICAL LOCALIZATION OF PLACENTA BY RADIOACTIVE SODIUM NA 24

Give names, departments, and official titles of PRINCIPAL INVESTIGATORS and ALL OTHER PROFESSIONAL PERSONNEL engaged on the project.

DR. ARTHUR WEINBERG, ASSOC. ATTENDING IN OBST. & GYN. QUEENS GEN. HOSP.
MR. JAMES RIVERA, B.S. PHYSICIST TO QUEENS GENERAL HOSP., ISOTOPE DIV.
DR. LEONARD GOLDMAN, RADIOTHERAPIST QUEENS GENERAL HOSP.
DR. E. VEPROVSKY, DIRECTOR OF OBST. & GYN. QUEENS GENRL. HOSP.

NAME AND ADDRESS OF APPLICANT INSTITUTION: QUEENS GENERAL HOSPITAL
164TH ST. AND GRAND CENTREL PARKWAY, JAMAICA, L.I., N.Y.

SUMMARY OF PROPOSED WORK — (200 words or less — Omit Confidential Data)

In the Bio Sciences Information Exchange summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

WE HOPE TO IMPROVE A METHOD WHEREBY THE LOCALIZATION OF THE PLACENTA CAN BE DETERMINED IMMEDIATELY (WITHIN ONE MINUTE). THIS IS IMPORTANT IN THE DIAGNOSIS OF PLACENTA PREVIA, ANTEPARTUM HEMORRHAGE, FETAL DEATH AND AS A PRILIMINARY TO THE UNDERTAKING OF CERTAIN OBSTETRICAL OPERATIONS. IF PERFECTED, IT WILL BE ONE OF THE MOST OUTSTANDING CONTRIBUTIONS IN THE FIELD OF OBSTETRICAL DIAGNOSIS IN THE LAST DECADE. APPROXIMATELY 50 MICRO-CURIES OF RADIOACTIVE SODIUM NA 24, IN 5cc OF STERILE SALINE ARE INJECTED IV. AFTER ALLOWING 30 SECONDS FOR THE NA 24 TO MIX IN THE BLOOD STREAM, RADIOACTIVITY MEASUREMENTS ARE MADE OVER THE ABDOMINAL REGION. THE ATOMIC ENERGY COMMISSION HAS AUTHORIZED THE USE OF Na^{24} UNDER APPLICATION # 25987. DR. BROWN HAS STATED THAT BECAUSE OF THE LIMITATIONS OF HIS PRESENT TECHNIQUE IT WAS ONLY SOMETIMES POSSIBLE TO SHOW LOCALIZATION OF THE PLACENTA. IN CASES OF ANTEPARTUM HEMORRHAGE HIS RESULTS WERE ONLY 75% CORRECT. HE FURTHER SAYS THAT IN THE ABSENCE OF A RECORDING COUNTER, A HIGH DEGREE OF CONCENTRATION IS REQUIRED TO CORRELATE MENTALLY ALL THE READINGS IN 2 MINUTES. WE HAVE COME TO THE CONCLUSION THAT [illegible] DUAL-CHANNEL DOUBLE RECORDER BECAUSE THE RADIOACTIVE SODIUM DIFFUSED OUTOF THE VASCULAR SYSTEM SO RAPIDLY THAT READINGS MUST BE OBTAINED SIMULTANEOUSLY OVER THE UTERUS AND THE REFERENCE POINT (HEART). WE ARE READY TO MODIFY OUR SCINTILLATION DETECTOR WHICH IS MORE SENSITIVE THAN THE RATEMETER OF DR. BROWN. IN ORDER TO DETECT POSTERIOR PLACENTAS, WE INTEND TO USE A SCINTILLATION COUNTER AND COUNT AT VARIOUS DISTANCES FROM THE FRONT AND BACK OF THE PATIENT. OUR RECORDINGS WILL BE MADE ON A SCINTOGRAM INSTEAD OF THE RECORDER USED BY DR. BROWN.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Identify the Professional School (medical, dental, public health, graduate, or other) with which this project should be identified:

SCHOOL: NEW YORK MEDICAL COLLEGE

INVESTIGATOR — DO NOT USE THIS SPACE

PRELIMINARY

Form Approved

Prepared for the Medical Sciences Information Exchange. Not for publication or publication reference without consent of the principal investigator.

FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NOTICE OF RESEARCH PROJECT

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R G-3697(C)
Neuro (5)

SUBMITTED TO. Public Health Service, National Institutes of Health Div. of Research Grants, Bethesda 14, Md.

TITLE OF PROJECT

SUPPORT FROM THIS SOURCE TERMINATED 6/55

Continuation of Studies of the Use of Radioactive Iodine Preparations in Neoplastic Diseases, Vascular Disorders and Infections of the Central Nervous System.

GIVE NAMES, DEPARTMENTS, AND OFFICIAL TITLES OF PRINCIPAL INVESTIGATOR AND ALL OTHER PROFESSIONAL PERSONNEL NOW ENGAGED IN THIS PROJECT.

Thomas W. Farmer, M. D.	Department of Medicine	Professor of Neurologic Medicine.
David P. Jones, M. D.	Department of Medicine	Instructor in Neurologic Medicine.
Miss Elizabeth Tillinghast	Department of Medicine	Research Assistant assigned to the project.

NAME AND ADDRESS OF APPLICANT INSTITUTION

School of Medicine, University of North Carolina, Chapel Hill, North Carolina

SUMMARY OF PROPOSED WORK (300 words or less — omit confidential data)

In the exchange of information summaries of work in progress are exchanged with government and private agencies supporting research in medical and related fields and are forwarded to investigators who request such information. Your summary is to be used for these purposes.

It is proposed to extend the present studies of the concentration of radioactive iodinated human serum albumin in patients with specific cerebral disorders. The results of the preliminary studies with RIHSA showed wide variations in uptake at each position when a standard dose of 200 microcurie was used. The percentage differences in uptake at symmetrical positions in normal individuals and in patients with general paresis were similar. This percentage difference rarely exceeded 10 per cent. In contrast with this, patients with cerebral neoplasms showed increased uptakes at the sites of tumors with differences in uptake ranging from 12 to 50 per cent. (Pro. Soc. Exp. Bio. and Med., 81, 33-36, 1952.) Further studies of the uptake of RIHSA are planned in patients with cerebral vascular disorders and in patients after the injection of diodrast. It is also proposed to study the effects of cerebral vascular lesions on the uptake of radioactive substances in monkeys. In this way, direct observations can be made of the effects of vascular lesions on the diffusion of these substances. Patients studied with these radioisotopes in this manner are also being studied with the standard methods of neurologic diagnosis including electroencephalography, pneumoencephalography, arteriography and neuropathology. In studies in animals, it is proposed that discrete occlusive vascular lesions be produced and that the effects on the diffusion of RIHSA be studied. Studies of this type will present further information concerning the diffusion of these substances across the blood-brain barrier in chronic infections, neoplastic and vascular disorders of the brain.

SIGNATURE OF PRINCIPAL INVESTIGATOR

Thomas W. Farmer, M.D.

School of Medicine, University of North Carolina, Chapel Hill, N. C.

IDENTIFY ANY PROFESSIONAL SCHOOL (MEDICAL, DENTAL, PUBLIC HEALTH, GRADUATE, OR OTHER) WITH WHICH THIS PROJECT SHOULD BE IDENTIFIED

Grant No.	Period of Operation	Amt. App.
RG-3697	9/52 - 11/53	$10,692
3697 C1	12/53 - ~~11/54~~ 6/55	10,000

SUPPORT FROM THIS SOURCE TERMINATED 6/55

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