Vaccines for Hepatitis B Are Developed: Reported Safe in Tests on Chimpanzees

Development of a method for producing vaccines against hepatitis B which were safe and effective in tests on chimpanzees was reported by Dr. Robert Purcell in a recent Symposium on Viral Hepatitis held at the National Academy of Sciences.

Dr. Purcell, head of the Hepatitis Virus Section, Laboratory of Infectious Diseases, National Institute of Allergy and Infectious Diseases, and Dr. John Gerin, director of the NIAID-EBC Molecular Biology Laboratory, believe their work provides a strong, scientific base for expanded studies of hepatitis B immunization now under way at NIH and in other laboratories.

Vaccines against hepatitis B, or serum hepatitis, are needed, particularly for use in high-risk groups such as members of the Armed Forces, patients and personnel of hemodialysis units, and residents of institutions.

Starting material for the model vaccine is serum or plasma from a human chronic carrier of the hepatitis B surface antigen, formerly known as the Australia antigen. This antigen, occurring in several subtypes, is shared by the Dane particle—now believed to be the hepatitis B core particle.

NCI's Dr. Alan Rabson Heads Div. of Cancer Biology and Diagnosis

Dr. Alan S. Rabson has been appointed director of NCI's Division of Cancer Biology and Diagnosis.

Since 1970, Dr. Rabson had served as deputy chief of the Division's Laboratory of Pathology. He joined the staff of that laboratory in 1966—a year after coming to NIH as a resident in pathologic anatomy at the Clinical Center.

The Division, which Dr. Rabson now heads, is responsible for research in cancer diagnosis and cancer biology and immunology. It also supports the Breast Cancer Task Force, a program of coordinated research in the treatment, diagnosis, causation and biology of breast cancer.

Dr. Rabson's primary research has been in viral oncology, with emphasis on papovaviruses and herpes viruses.

In a collaborative study with Dr. Gregory T. O'Connor, NCI's as-

Dr. Torsten Wiesel to Give Lecture at NIH Tomorrow

Tomorrow evening (Wednesday, April 9) at 8:15 p.m., Dr. Torsten N. Wiesel will deliver the NIH Lecture in the Masur Auditorium. His topic is Visual Deprivation and Its Effect on the Monkey Striate Cortex. His research on this subject has been conducted in collaboration with Dr. David H. Hubel. Both scientists are at Harvard Medical School; Dr. Wiesel is Robert Winthrop Professor of Neurobiology at that university.

Nick's dis e a s e an d n o n - H o dg k in 's ly m ­phomas. He has been cited for his research in this field.

Tickets for Opening Meeting of NIH Alumni Reunion On First-Come, First-Served Basis; Kornberg Speaks

Tickets for admittance to the opening day convocation of the NIH First Reunion on Saturday, April 19, may be picked up at the new NIH Visitors Center in Bldg. 31, A-Wing.

Registrants Get Packets

These tickets for NIH employees and personnel from other agencies on the campus—NIMH, BB, and BEHR—are on a first-come, first-served basis. Those reserving seats for the Saturday evening banquet and Sunday morning brunch will receive convocation tickets in their reunion registration packets.

The Saturday morning session— to be held in a tent adjacent to Bldg. 35 cafeteria and Old Georgetown Road—starts at 10 a.m. Dr. Arthur Kornberg, Nobel Laureate who came to NIH in 1942 as a PHS Commissioned Officer, will address the opening meeting.

Kornberg Continues Research

The noted Laureate who devoted his career to biomedical research, lives near Stanford and is still associated with that university's department of biochemistry.

For a detailed account of the times and places of events and the bus schedule to the banquet at the Washington Hilton Hotel, see the March 24 issue of the NIH Record.
Meeting to Expand Role Of Women and Minorities In Research Held Here

A 3-day conference to discuss an expanding role for women and members of minority groups in biomedical research supported by NIH funds will be held on the campus, April 22-24.

Representatives from the faculties and student bodies of about 75 minority and women's colleges have been invited to attend the meeting.

Among the institutions who have been asked to send representatives are 34 black academic institutions, 13 Spanish-surnamed, 5 American Indian, 9 Asian-American, and 14 women's colleges. Over half of the invited institutions do not receive NIH funds.

The meeting will familiarize conference with activities and research at NIH and with opportunities for biomedical research support available under NIH grant and award programs. The conference will also alert NIH to the resources and capabilities of minority and women's colleges.

Levon Parker, NINCDS EEO coordinator, is chairman of the conference committee.

Era Ends as NLM Bids MEDLARS I Farewell

In 1963, one year after moving to the NIH reservation, the National Library of Medicine installed its first computer system, MEDLARS I. On its first day of work, the computer operated steadily for 8 hours without a whimper.

On Feb. 28, the last production job was run on MEDLARS I. An era came to a close the next day as NLM staff watched the computers loaded onto dollies and wheeled out of the computer room.

In operation for 12 years, MEDLARS I was created to produce the NLM's invaluable research tool, "Index Medicus," which has been published since 1879, as well as the "Cumulated Index Medicus," "Current Catalog," and numerous other bibliographies.

In its time, MEDLARS I was instrumental in providing data which led to the development of its own successor, MEDLARS II.

nih scientists discuss

NIH Scientists Discuss Health Problems at Open House April 26 and 27

Serious health problems in the U.S. will be discussed by NIH scientists at the Open House on Saturday, April 26, and Sunday, April 27.

Employees, their families, friends, and the general public are invited to hear discussions of these problems and related NIH research in the Masur Auditorium.

Questions Answered

A question-and-answer period will follow.

On April 26 the schedule will be:
10:15 a.m., The Environment and Your Health, Dr. David P. Rall, NIEHS.
11:30 a.m., Childhood Diseases, Dr. Norman Kretchmer, NICID.
12:45 p.m., Cancer: Who Is At Risk? How Can We Reduce The Risk? Dr. Marvin A. Schneidman, NCI.
2 p.m., Your Lungs and Your Health, Dr. Ronald G. Crystal, NHLI.
3:15 p.m., Heart Attack, Dr. Peter L. Frommer, NHLI.
5 p.m., Questions Answered.

On April 27 the speakers will be:
10:15 a.m., Instrumentation in Biomedical Research, Dr. David F. Johnson, NIAMD.
11:30 a.m., Mental Depression - Causes and Treatment, Dr. Frederick K. Goodwin, NIMH.
12:45 p.m., Acute Leukemia, Dr. Brigid G. Leventhal, NCI.
**AVLINE to Begin May 1: Audiovisuels On-Line Is Computer Test by NLM**

The National Library of Medicine will begin a 4-month test of a new computerized information storage and retrieval system to be known as AVLINE (Audiovisuels On-Line) on May 1.

AVLINE will contain a data base on audiovisual instructional materials in the health sciences, all of which are professionally reviewed for technical quality, currency, and accuracy of content, and educational design.

Titles listed in AVLINE are those reported by and in use by medical school faculty. Each title must be nationally available.

When operational, AVLINE will allow teachers, students, librarians, researchers, and other health science professionals to retrieve citations to evaluate audiovisual materials with minimum specificity.

For the test, approximately 30 selected institutions across the country will have access to citations to some 275 audiovisual units in the field of the neurosciences.

In addition to indexing and cataloging data, all citations will contain abstracts.

Citations will also contain physical descriptions of the materials, information on where and how they may be obtained, names of principal authors/ producers, intended audiences, teaching effectiveness data (when available), and notices as to whether an individual unit is "recommended" or "highly recommended."

When fully operational, the AVLINE data base will be available to qualified users of MEDLINE.

It is anticipated that AVLINE will be made nationally available on about Sept. 1. At that time approximately 500 items will be accessible for on-line searching.

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**Stride Interns Can Cope—Many Maintain High Grade Average, Get on Dean's List**

Four of the six Stride interns on the Dean's List compare notes. Left to right are: Mr. Harshman, Ms. Muse, Mrs. Mead, and Mr. Brown.

By Judy Fleisher

How does a person cope with the grind of working 20 hours a week at NIH, attend college classes full-time, study late into the night, care for family, and still wind up on the Dean's List with a 3.6 average? "Panic is the best prod to keep you going at that feverish pace."

Stride intern Doreen Mead admits that being in the program imposes tremendous physical and psychological stress that never lets up: "It's a real hardship on family life."

A mother of three college graduates, who started college herself in 1947, Mrs. Mead is one of six Stride interns whose names were recently placed on the American University Dean's List for maintaining a 3.5 grade point average or better for four semesters while carrying a full academic load.

Other Stride interns on the Dean's List are: Cynthia Muse, Lewis Brown, Leonard Bahman, Robert Harshman, and Carolyn Tilley. These six students are among 30 Stride interns — more than one fourth of the total program participants — who have cumulative grade point averages of 3.0 or better at American University.

At Marymount College, 13 Stride nursing interns were also placed on the Dean's List for attaining a 3.0 grade point average.

In a candid interview, several interns spoke of the extreme pressures, frustrations, and sacrifices that a Stride intern lives with daily for the 3 years they are in the program.

"People outside the program don't realize how demanding it is — they think it's a gravy train. They have no idea of the sacrifices you have to make — no family life, no social life."

As the oldest of seven children, Cynthia Muse took evening courses over a period of 12 years in several vocational areas. In 1961, she began her Government career, and was secretary to a DCRT branch chief when she entered Stride in 1972.

Ms. Muse is now working as a technical publications specialist trainee with NCI, and anticipates getting a bachelor's degree in general studies (social science) in May.

Lewis Brown commutes 84 miles each day from Walkersville, Md., to his job as an administrative technician with the Division of Personnel Management.

He admits that in high school he never considered himself college material. "Once you're in the working world and you're exposed to what it's really like, you change if you have any sense. At NIH it's exposure to the right kind of people."

Before he became a Stride intern in 1972, Mr. Brown spent most of his 9 years at NIH as a biological lab technician in NCI and NICHD. In May, he expects to receive a B.S. degree in general studies, concentrating in social science.

Doreen Mead joined NIH in 1965 in a temporary position, coding case histories for NCI, and was a secretary. Just prior to entering Stride in 1972.

In May, Mrs. Mead will get a B.S. degree in sociology with course work in communications to qualify her as a public information specialist.

Leonard Bahman will be getting a B.S. degree in general studies.

(See STRIDE INTERNS, Page 6)

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**Spock Opens Child Care Week on Campus; Donations Requested for Preschool Program**

The world famous authority on infants and children—Dr. Benjamin Spock—will address the opening assembly of child care week on Monday, April 14, at noon, in the Masur Auditorium. A question-and-answer session will follow his talk.

During that week, through April 18, exhibits pinpointing the activities of the NIH Preschool Developmental Center will be shown in Bldgs. 10 and 35. The exhibits include art work made by the pupils of the nursery school. Parents of the preschoolers will be there to answer questions about the child care program at NIH.

On Tuesday, April 15, a film—The Great Age of Comedy—will be shown at noon in the Masur Auditorium. There is no charge for the movie.

Child care week is sponsored by the Parents Advisory Committee of the Center. The school, which is for children of NIH employees, is supported by tuition fees and donations. It is not subsidized by the Federal Government.

Donations to the school's scholarship fund are tax deductible; checks may be made out to the Foundation for Advanced Education in the Sciences. A receipt will be sent to each donor. Send donations to Virginia Burke, Bldg. 31, Room 2B-30, Ext. 6181.

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**Stride Nursing Interns Combine CC Experience With Academic Studies**

The Stride Nursing Program combines experience in nursing duties at the Clinical Center with full-time college academic study for up to 2 years. Employees selected are those in non-professional jobs who have less than a bachelor's degree.

Since the program's inception at NIH in 1973, 31 nursing interns have attended classes at Marymount College and worked toward placement as professional nurses at the Clinical Center.

The first class of 12 Stride nursing interns will graduate in May. Stride nursing interns who attained a grade point average of 3.0 during their sophomore year are: Kathleen Baughman, Virginia Burke, Ralph Moyer, Jr., Douglas Fry, Betty Goodwin, Ruth Rainey, Beva Schellhase, and Rosemary Wilson.

Adrian Hope, in her sophomore year, made the Dean's List in May 1974.

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April 14 Last Day to Apply For Stride Nursing Posts

Twenty positions are available in NIH's Stride Nursing Program — applications are being accepted through next Monday, April 14.

Send a SF 171, Personal Qualifications Statement, to the Career Development Branch, DPM, Bldg. 31, Room B2-C39, to apply.

Also, submit a transcript of academic work at the high school or college level.

To be eligible, employees must have worked at NIH 12 months prior to the beginning of classes, July 30, 1975, have a grade of GS-7 or below, or wage grade equivalent, and must pass a complete physical exam at NIH.
DR. RABSON

(Continued from Page 1)

sociate director for International Affairs, he described enhancement of the growth of human adenoviruses in monkey cells by simian virus 40 (SV40), which led to the discovery of adenosinemia-SV40 hybrid viruses. Dr. Rabson received his B.A. degree in 1948 from the University of Rochester, and his medical degree in 1950 from the Long Island College of Medicine.

For the past 3 years, he has been a consulting otologist in the Department of Otolaryngology at Georgetown University School of Medicine and Dentistry.

Dr. Rabson received the USPHS Meritorious Service Medal in 1969. He is a member of several scientific organizations, including the American Society of Experimental Pathologists and the Society for Experimental Biology and Medicine.

Stanford Medical Researchers Succeed in E-B Virus Free Lymphoma Cell Culture

Researchers at Stanford University School of Medicine have used new techniques to grow tumor cells in the laboratory from three patients with histiocytic lymphomas.

Exce pt for Burkitt's lymphoma, a cancer found in African children, lymphoma cells have not been grown successfully in culture.

The researchers, Alan L. Epstein and Dr. Henry S. Kaplan, said the cells will provide an important new tool for laboratory investigations, paving the way for new methods of drug treatment and improved methods of diagnosis.

Aids Immunotherapy Study

The cells can also be used in a search for cancer-inducing viruses and in immunotherapeutic, finding ways of stimulating natural body immunity against cancer.

Cell cultures from human tumor biopsy specimens have been difficult to establish, the researchers noted, because dividing tumor cells require a combination of nutrients, growth factors, and environmental conditions for continued sustenance outside the human body.

Mr. Epstein and Dr. Kaplan said their success was due to development of new cell culture methods enabling rapid testing of a large number of factors.

By dividing tumor cells from patients into small samples and storing them at low temperatures, they could test specimens repeatedly until the growth requirements of each tumor were discovered.

Virus Affects Cell Cultures

The researchers note that these cell cultures are free of the herpes-type Epstein-Barr virus, associated with infectious mononucleosis and Burkitt's lymphoma, which has been found to pass onto normal white cells the ability to grow continuously in the laboratory.

They said that establishing a lymphoma cell line uncontaminated by Epstein-Barr virus has been a major challenge because the virus is present in most persons, including lymphoma patients, for most of their lives.

The scientists reported their work done partly under a contract from the Virus Cancer Program, National Cancer Institute, in the context of the issue of cancer.

"The malignant cells had the same chromosomal abnormalities (as the patients' tumors)," they said, and were capable of widespread growth when inoculated into the brains of "mice," a laboratory strain which lacks a thymus gland and therefore does not have a cellular immunity to destroy the implanted cells.

The cells were flown to Children's Hospital in Philadelphia, where Drs. Werner and Gertrude Hone confirmed the absence of the Epstein-Barr virus.
Time to Take Up That Sporting Life—
R&W Teams Schedule Lineup for Spring

Looking for a way to shed those winter pounds? Want to get in shape, stay in shape, or keep your circulation moving? Need an excuse for enjoying outdoor activity in the spring weather out of doors? Interested in keeping the doctor away with regular weekly day games—starting in May? Men’s teams, organized by Bill Blackwelder, Ext. 65905, play on the NIH campus.

Co-rec teams with equal numbers of men and women play at Cambridge-Woodward High School and North Bethesda Junior High School. Last year 12 teams of 20 to 30 members each played in the league, headed this year by Brian McLaughlin, Ext. 64106. To join the lineup, fill out the form in the March R&W Smoke Signals newsletter and return it to the NIH Activities Desk.

The Tennis Club, very popular at NIH, will be planning spring and fall tournaments, lessons, and get-acquainted days at a meeting on Friday, April 11, at noon in Wilson Hall, Bidg. 1. Dues of $2 reflect the cost of the R&W membership and enable NIHers to use the four tennis courts on campus.

The first course of tennis lessons began March 29. Information on subsequent lessons can be obtained from Ike Hantman, 652-3007 (evenings only) or Carol Rankin, Ext. 66763.

The Sailing Club, led by Frank Tietze, Ext. 61141, meets the last Thursday of each month. Membership is $10 in addition to R&W membership.

Owls Day-Sailers

The club owns four day-sailers which are chartered to members at low rates at the Back Creek Marina in Annapolis. More than 150 members will participate in intramural and recreational sailing as well as lessons beginning in mid-April.

NIH has three golf teams. The Women’s Team, organized by Shirley Auld, Ext. 67467, is already planning a spring outing and social.

The Men’s Team still has a few spots open. Forms are available in the March Smoke Signals or at the NIH Activities Desk.

Play starts around April 15 and continues through September. Contact Russ Ushafar, Ext. 67337, for further information.

Oscar Young is Coordinator

Now in its eighth season, the NIH team has won the League of Federal Retirees resident Golf Tournament every year. Oscar Young, Ext. 61671, is the coordinator.

Who are those people running a mile or more across the campus on Wednesday afternoons at 5:30? They are NIH Jogging Club, a coed group led by Jay Miller, Ext. 669-41. A meeting for these interested in staying in shape for skiing, tennis, or just good health will be held Monday, April 11, at noon in Bldg. 6, Room B2-22.

Some sports continue year-round in the 14th floor gymnasium at the Clinical Center. Badminton is held Tuesday evenings, with Dr. Burt Choate, Ext. 62073, as chairperson.

Volleyball Popular

For volleyball tournaments and informal practices, consult the schedule at the NIH Activities Desk or call Bob Romanoff, Ext. 65501. The very popular co-rec teams move outdoors in spring.

Dr. Roy Chen, Ext. 62078, president of the NIH Table Tennis Club, recently led the group to victories in the first annual Montgomery County Table Tennis Tournament.

A finalist in the men’s doubles, Dr. Chen won the senior men’s singles title. The club continues to play Friday evenings in the Clinical Center gym throughout the summer.

James S. Alexander was elected chairperson of the NIH EEO Advisory Council at a recent meeting. Mr. Alexander is the EEO specialist at the Clinical Center. The Council, which meets on the Wednesday after payday, includes committees on supervisory development and training; upward mobility and employee development; recruitment, placement and promotion; counseling, and employee relations.

NHIers may send material for consideration before the Council 2 weeks prior to a meeting. Such details may be addressed to Jean G. Oliver, chairperson, executive committee.

Drs. Cooper and Ringler Speak at the Dedication Of Sickle Cell Exhibit

Dr. Theodore Cooper, HEW Acting Assistant Secretary for Health, cut the ribbon at the recent dedication of The University of Chicago Comprehensive Sickle Cell Center exhibit. He also gave the opening speech.

Other speakers included Dr. Robert L. Ringler, Acting Director of the National Heart and Lung Institute, Dr. Rudolph Jackson, program coordinator of NHI’s National Sickle Cell Disease Program, Dr. Leon G. Jacobson, Dean of the Division of the Biological Sciences and The Fritzker School of Medicine at The University of Chicago, and Dr. James E. Bowman, Director of the University’s Comprehensive Sickle Cell Center.

Dr. Bowman coordinated plans for the exhibit which was supported by an NHLI grant to the University. The grant provides for clinical and basic research on sickle hemoglobin at the University and at Michael Reese Hospital and Medical Center and for a program of community education.

Duckpin League Schedule Set

For Next Season’s Bowling

Next season, 1975-76, the NIH Parklawn R&W Duckpin Bowling League will be bowling on Wednesdays, 6:45 p.m., at the Twinbrook Bowling Alley, 2022 Viers Mill Road, starting Sept. 3.

Anyone interested in joining a team or substituting, call Helen Swarthout, 443-2357, or Gloria Johnson, 443-2858.

Mr. and Mrs. Forbes share the good wishes of colleagues and co-workers at a recent retirement party.

NIH Symphony Gives All Brahms Concert Sunday, Apr. 13, in CSymphony No. 1. There is no admission charge for the performance.

The NIH Symphony will present its all Brahms concert on Sunday, April 13, at 3 p.m. in the Masur Auditorium. Shirley Ritoue and the Georgetown University Men’s Chorus will perform the Brahms Alto Rhapsody.

The concert will also include the Academic Festival Overture, and Symphony No. 1. There is no admission charge for the performance.

To use energy most efficiently when cooking, keep these tips in mind:
- Use pots that cover the heating element.
- Episcopal church water more efficiently than open pans.
- Use flat-bottomed pans and pressure cookers use less energy.
- Use frying pan with less energy than starting with cold water.
- Broil meats like chicken faster, saving energy and often improving taste. Among the pluses: Broiled foods usually have fewer calories than fried foods.
- Use oven to reheat food, not steamers.

ENERGY TIPS

To use energy most efficiently when cooking, keep these tips in mind:
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- Use frying pan with less energy than starting with cold water.
- Broil meats like chicken faster, saving energy and often improving taste. Among the pluses: Broiled foods usually have fewer calories than fried foods.

Clean under-burner reflectors often.
Eating, drinking, smoking, chewing gum, applying cosmetics, and storing food in laboratories—such activities may result in contact with or ingestion of toxic, infectious, oncogenic, or radioactive materials.

Confining these activities to a restricted area where personnel are required to remove their laboratory clothing and thoroughly wash their hands.

For additional information, consult the NIH Biohazards Safety Guide, or call the Environmental Services Branch, Ext. 60094, or NCI Office of Research Safety, Ext. 69981.

H. G. Fredericks Retires; Contracts Expert Ends 33 Yrs. Fed'1 Service

Herbert G. Fredericks, deputy director of the Division of Contracts and Grants, OD, since 1971, recently retired after 33 years of Federal service.

Mr. Fredericks implemented the decentralization of NIH research contracting activities to the bureau and institutes. As assistant director for Contract Policy and Operations, he directed negotiated contracting policies and procedures and the evaluation of research contracting operations at NIH.

In addition, Mr. Fredericks was responsible for providing research contracting services to those components which have not delegated research contracting authority.

Before coming here, he was acting director of the Procurement and Production Directorate at the Edgewood Arsenal in Maryland.

Mr. Fredericks received a B.S. degree in social science from the City College of New York, and in 1939 graduated from the Brooklyn Law School, St. Lawrence University.

Dr. Eugene C. Clark and Ralph Nader to Speak Here

This month two well-known authorities in disparate fields—science and consumer education—will talk to NIH'ers in the Masur Auditorium.

The first lecture—on Friday, April 11, at noon—will be given by Dr. Eugene Clark, marine biologist and professor of zoology at the University of Maryland. She will discuss her experiences while diving among the sleeping sharks in Mexican waters.

Dr. Mercado Appointed Chief of NCI's Clinical Investigations Branch

Dr. Raul Mercado, Jr., has been appointed chief of the Clinical Investigations Branch in NCI's Division of Cancer Research Resources and Centers.

Dr. Mercado will coordinate grant-supported research programs—including the program in which new cancer treatment methods of 412 institutions in 22 cooperative groups are being evaluated.

He joined NCI in 1971 as the program director for Radiation in the Division of Cancer Grants, and 3 years later became chief of the Treatment, Rehabilitation, and Continuing Care Branch in the Division of Cancer Control and Rehabilitation.

Dr. Mercado received an M.D. degree in 1951 from the St. Louis University School of Medicine.

He joined the University of Maryland School of Medicine faculty in 1954, and from 1964 to 1966 was an associate professor of radiology at the Mallinckrodt Institute of Radiology in St. Louis.

Also, from 1965 to 1966, Dr. Mercado was assistant director of the Cancer Research Center in Columbia, Mo.

During 1966-74 he was an associate professor of clinical radiology at the University of Pittsburgh. He is the author of 18 scientific publications.
the actual virus of hepatitis B—and by much smaller spherical particles found in abundance in the blood of hepatitis B carriers.

Dr. Purcell and Gorin used a 3-step procedure to remove or inactive infectious hepatitis B virus (HBV) in the starting human material.

First, all Dane particles were removed by centrifugation. The remaining, small, non-infectious particles were then purified by centrifugation.

Vaccines Tested for Potency

As a final precaution, the purified particles were inactivated by treatment with formalin—a chemical successfully used in the preparation of a number of inactivated virus vaccines.

The potency of the prototype subunit vaccine was tested in guinea pigs, and it could be shown that hepatitis B surface antigen had been recovered from the human serum and that the vaccine, though inactivated, was still capable of inducing the formation of specific antibody.

Safety tests were carried out in unexposed chimpanzees. Six animals were infected and raised at Holloman Air Force Base in New Mexico in a cooperative program jointly sponsored by the Bureau of Biologics, FDA, and the Center for Disease Control. One chimpanzee was a jungle-caught animal housed at the Delmar Primate Center in Louisiana, under an NIAID contract.

Studies With 6 Chimps

Six chimpanzees were given one of the following vaccines: a formalin-inactivated vaccine for the hepatitis B antigen subtype ayw; the same vaccine, not exposed to formalin; the hepatitis B antigen positive serum from which the ayw vaccine was made; a formalin-inactivated vaccine for the hepatitis B antigen subtype adr, or the solution used as the diluent for the vaccines.

One animal was given no material, and was later used as a control in efficacy tests. The vaccines were given subcutaneously in two doses, one month apart. The ayw-containing serum was administered intravenously. Serum samples were obtained weekly from all the animals and tested for hepatitis B surface antigen and antibody and for antibody to the hepatitis B core antigen (which is found only on the Dane particle).

None of the vaccinated animals showed any signs of hepatitis B infection, but did develop antibody to the hepatitis B surface antigen. The one chimpanzee given the untreated ayw serum actually developed hepatitis B.

Efficacy tests of the vaccines were carried out 6 months later in both vaccinated and control animals, all of whom were given infectious doses of hepatitis B virus, subtype ayw intravenously.

The two unvaccinated chimp developed hepatitis B. None of the ayw vaccinees had any histological or serological evidence of HBV infection. The adr vaccinee became infected but did not develop signs of disease, indicating possibly, that the severity of his disease had been blunted by administration of the adr vaccine.

Scientists Explain Work

In presenting results of their work, Drs. Purcell and Gorin pointed out that preparation of a vaccine from antigens not grown in tissue culture is novel, but not without precedent, as in Jenner's vaccine for smallpox and Pasteur's for rabies.

Although to date there has been no evidence of any harmful effects, several studies are needed and are being conducted.

Only the doctor and the drama- tist enjoy the rare privilege of charging us for the annoyance they give us.—Santiago Ramon y Cajal.

Nurses Hersholla L. Horton (L) and Shannon K. Jacobs, Arizona Medical Center, are editors for the two clinical studies that the organization plans to publish quarterly. One study will be made by a nurse, the other by a dietitian.

James Graalman Named New NCI Branch Chief For Research Contracts

James E. Graalman was recently appointed chief of the Research Contracts Branch, National Cancer Institute.

Mr. Graalman administers research contracts activities of the five NCI divisions.

This includes development and implementation of policy as well as providing contract management data and staff support to project officers.

From 1961, until he joined NCI, Mr. Graalman held various positions in research and development contracting at NASA's Goddard Space Flight Center.

He attended the University of Oklahoma from 1950 to 1954.

Scientist Describes Special Diet for Children With Intestinal Complications From Radiation Treatment

A special diet may be effective in managing severe intestinal complications that result from radiation treatment in children with cancer.

The new work in radiation enteritis—intestinal disease caused by radiation—was done by Dr. Sarah Donaldson, while she was a visiting fellow at the Institut Gustave Roussy in Villejuif, France. She recently described her continuing work on a meeting of the American Society of Therapeutic Radiologists.

Dr. Donaldson and her colleagues studied 44 children in France who had received whole abdominal irradiation as part of the treatment for their malignant disease.

It was demonstrated that subsequent inflammation of the intestines and bowel obstruction in these children was caused by the radiation, not by recurrence of the tumors.

The problem may be life-threatening, even though the cancer has been arrested. According to Dr. Donaldson, "No specific dietary therapy has been developed for this condition in children."

The diet consists of a blended mixture of substances that can be taken through a tube if the patient is too sick to eat or drink it. It is free of gluten (the protein of wheat and other grains), free of protein obtained from cow's milk and lactose, low in fat, and low in residue.

"Diet by Omission"

Dr. Donaldson called it a "diet by omission," since it was developed by eliminating all the food items that affected the enteritis.

"Our work under the microscope gave us the clues," she explained. "We made it free of fat and milk products, since we saw that the damaged bowel could not absorb milk. We made it low residue to avoid further obstruction."

Dr. Donaldson described a "dra-
Guide for Sending Hazardous Materials Via Passenger Aircraft Issued by NIH

A guide to regulations governing shipments of hazardous materials, prepared by NIH, may be obtained by intramural scientists from the Quarantine Permit Service Office, Bldg. 51, Room 7A-50. Labels which should be attached to such shipments are also available there.

Several months ago airline pilots threatened an embargo on shipments of hazardous materials on passenger aircraft. The pilots' action was based on alleged violations of regulations relating to shipment of such materials as micro-organisms causing human disease, biological products, or human and animal material for diagnostic purposes.

Pilots Take Stand

Although the Airline Pilots Association originally pressed for legislation restricting air transport of hazardous materials to cargo planes, this stand was subsequently relaxed.

Transportation of etiological agents on passenger aircraft is still allowed, but a careful check is being made for proper packaging and labeling.

Responsibility for compliance with regulations rests on investigators as well as their institutions. Dr. Earl Chamberlayne, of NIH's Quarantine Permit Service Office, cautions that the NIH guide is just that—a document which will help researchers comply with the variety of regulations governing transportation of pathogenic materials.

These regulations are extensive, complex, and subject to varying interpretations, according to Dr. Chamberlayne. Even though a scientist may be complying fully with the transportation act, there may be other regulations imposed by the PHS, the Departments of Agriculture and Commerce, and the Energy Research and Development Administration which must also be taken into consideration.

"For example, most people think that shipment of tissue cultures is simple," says Dr. Chamberlayne. "However, a scientist might find that if he wants to import tissue cultures from certain countries, he would have difficulties with the Department of Agriculture because the media contains fetal calf sera and might carry foot-and-mouth disease of cattle."

Procedures Worked Out

Fortunately, the regulations are complicated only in their broad application. If a laboratory generally ships only one kind of material, appropriate procedures which may be repeated over and over can be worked out.

For a copy of NIH's policy guidelines, call the Quarantine Permit Service Office, Ext. 82516. This office assists NIH laboratories and contractors in meeting responsibilities for shipments in and out of the country.

NIH grantees and other scientists should contact the Foreign Quarantine Office, Center for Disease Control, Atlanta (404-633-3883), or the agencies responsible for administration of pertinent regulations.

Metro Will Open Bids, Begin Construction Here Starting in Midsummer

Bids will be opened tomorrow, April 9, for the tunneling contract of the Metro Rapid Rail System between the Beltway and Elm Street in Bethesda.

Work should begin along this section of Rockville Pike by midsummer. The Medical Center Station will be located at South Drive and Rockville Pike.

At this location the contractor will construct a shaft to remove material excavated from the tunnel. Later this shaft will be used for the escalator banks to the station platform.

This work is expected to have a very minor impact on NIH facilities. South Drive will be closed from 9 a.m. to 4 p.m. to facilitate contractor activity.

Blasting is expected to be unnoticeable except perhaps by sensitive instrumentation. The Division of Engineering Services will monitor vibrations.

If problems develop, a limited system of pre-blast warnings may be initiated.

A second contract will be let in about one year for the construction of the station platform, vault, and surface facilities. Metro expects the station will be operational in early 1980.

Dr. Saunders Is Honored For Apollo Animal Tests

Dr. Joseph F. Saunders, deputy associate director for international affairs, National Cancer Institute, is one of the recipients of the Group Achievement Award presented to the M212 Biocore Experimental Team by the National Aeronautics and Space Administration.

Dr. Saunders, as chief of biology in NASA Headquarters, was the scientist responsible for management of the experiment, which was part of the payload of Apollo 17.

In the experiment, the effects of high-energy, high-atomic-weight particles of cosmic radiation were studied as they interacted with non-replicating cells of the brain and the eye.

The citation was: "For outstanding contributions to the development and qualification of the first animal experiment carried in a manned spacecraft." "Undertaken in an effort to investigate the pathological behavior of animals exposed to the deep space environment, this experiment has provided fundamental information needed in planning man's future interplanetary exploration."

During a visit to the Soviet Union in December 1974, Dr. Saunders was the guest of Prof. Oleg G. Gazenko, Director of the Institute of Biological Problems, USSR Ministry of Health, which is responsible for the Soviet efforts in space biology and medicine.