Recombinant Virus Vaccine

Created by NIAID Scientists

Scientists at the National Institute of Allergy and Infectious Diseases have combined vaccinia virus, used to immunize against smallpox, with genetic material from hepatitis B virus to produce what may be the first of a new generation of live, recombinant vaccines.

The hybrid vaccinia virus contains the gene for hepatitis B surface antigen and stimulates protective antibodies against hepatitis when injected into animals.

Drs. Geoffrey L. Smith, Michael Mackett, and Bernard Moss have identified sites on the vaccinia virus genome at which foreign DNA can be inserted without the virus losing infectivity.

They have also devised a way to introduce foreign DNA into the virus so that the protein encoded by the new DNA is produced along with normal vaccina protein during the growth cycle of the virus.

The investigators anticipate that this technique could be used to insert genes for antigens of various disease-causing agents and to make a number of different live vaccines.

In a study recently reported in Nature, the scientists used the gene from hepatitis B virus that directs production of the antigen.

(See RECOMBINANT VACCINE, Page 8)

Fredrickson Named to Posts

At Sloan-Kettering Institute

Dr. Donald S. Fredrickson, former Director of the National Institutes of Health, has been elected a Vice Chairman of the Sloan-Kettering Institute for Cancer Research, as well as an Overseer of the Cancer Center, and a member of the Board of Managers of the center, the institute, and the hospital.

In announcing the appointment, Benno C. Schmidt, Chairman of the Boards of Memorial Sloan-Kettering Cancer Center, said "...As Director of the National Institutes of Health, Dr. Fredrickson was an exemplar of quality among biomedical researchers. His unmatched knowledge of the biomedical research enterprise of the Nation and the world and his instinctive sense of excellence and fairness will serve us well. He is a great addition to our leadership ranks."

Dr. Fredrickson served as NIH Director from 1975 to 1981.

See PHS Awards, Page 6

NIDR Opens Dry Mouth Consultation Service in Clinical Center

Do you feel the need to sip liquids frequently? Are you often thirsty? Does your mouth feel dry at night or upon awakening? Do you have trouble eating foods such as cereal or toast?

These are just some of the questions asked by Drs. Bruce Baum and Philip Fox of the National Institute of Dental Research in screening patients for their new dry mouth consultation service in the NIH Clinical Center.

Dr. Baum, clinical director and chief of NIDR's Clinical Investigations and Patient Care Branch, and Dr. Fox, an oral surgeon and staff scientist in the clinical investigations section, are seeking patients who have constant complaints of dry mouth and wish to be evaluated.

Interested patients should have their dentist or physician call or address a letter of referral to Dr. Bruce Baum, Bldg. 10, Rm. B1N107, NIDR, NIH, 9000 Rockville Pike, Bethesda, MD 20205 (301-496-1363).

Dry mouth, also known as "xerostomia," is a common side effect of numerous medications and other therapies. It is also a symptom of certain diseases. Dry mouth is regarded as a significant health problem because it can affect nutrition, oral health, and psychological well-being.

When dry mouth occurs, it is associated with alterations in salivary gland function, either through a diminishing of saliva flow or qualitative changes in the saliva.

"Dry mouth conceivably represents a spectrum ranging from absolute shutdown of saliva to normal amounts of saliva with alterations in composition," explained Dr. Baum.

Saliva has several important functions: it cleanses the teeth of food particles; limits the growth of bacteria that contribute to the development of tooth decay (without sufficient saliva to provide a natural defense, extensive decay may rapidly develop which can lead to total destruction of the teeth); and preserves the teeth by bathing them with protective minerals such as calcium, phosphorus, and fluoride.

Also, it moistens and lubricates the soft tissues that line the mouth and helps to keep them pliable; provides the moisture needed to stimulate the taste buds because taste sensations only occur when a substance in the mouth is dampened; and plays an important role in the digestive process by altering the consistency of food.

Patients who suffer from dry mouth experience varying degrees of discomfort. Some may observe only a dry or burning sensation. But in severe cases, cracking of the lips, slits at the corners of the mouths, changes in the surface of the tongue, and difficulty in eating, swallowing, tasting, and speaking may be reported.

"I've seen a number of patients who are depressed by the chronic nature of their symptoms. Having a dry mouth significantly affects their ability to taste and enjoy food. And with the current lack of effective treatment, even after the problem has been identified, it's a frustrating situation for both the patient and the doctor," observed Dr. Fox.

One of the most startling aspects found in examining the causes of xerostomia is that over 200 drugs list dry mouth as a side effect. These are drugs used quite commonly, and include antihypertensives (for treating high blood pressure), pain killers, sedatives, and even over-the-counter antihistamines. Anti-Parkinson's drugs such as artane have also been implicated.

Many of these drugs are frequently used by older persons. Although it is often
CC Runners Create Own Marathon To Benefit Three Local Charities

Running 280 miles from New York to Bethesda was the best way two Clinical Center employees felt they could benefit three local charities.

Mark Brown, health aide, and coworker Braun Cameron, phlebotomist, of the CC's Clinical Pathology Department, phlebotomy section, ran their rainy 2-week April marathon through 56 cities and towns in New York, New Jersey, Pennsylvania and Maryland.

Together the runners hoped to raise enough money to make a substantial donation to the American Cancer Society; the NIH Patient Emergency Fund, which among many responsibilities provides financial support for patient's relatives staying in the area; and Lifeline, a local medical emergency telephone service.

Mark thought of the idea last September, when his job drawing blood samples brought him into daily contact with CC cancer and acquired immune deficiency syndrome (AIDS) patients. After consulting with Braun and doctors about his idea, they decided on the run as a way of raising money to help patients fighting and suffering from the two diseases.

Getting sponsors wasn't easy. They sent letters asking for support and donations to over 200 businesses, but only 3 finally contributed. CC nurses, physicians, and the run-a-thon team made private donations to the fund, but the total amount raised has fallen very short of what was hoped for.

Getting sponsors wasn't easy. They sent letters asking for support and donations to over 200 businesses, but only 3 finally contributed. CC nurses, physicians, and the run-a-thon team made private donations to the fund, but the total amount raised has fallen very short of what was hoped for.

Many people contributed food instead of money to the fund throughout the trip.

Mark and Braun were given a police motorcade escort out of New York's Holland Tunnel to start running. The two men then alternated up to 18 miles of running a day, 10 hours during daylight, and 10 hours at night.

It took 13½ days for A. J. (l), Mark (c), and Braun to journey from New York to NIH in their marathon run to benefit the patient charities.

A.J. Horne, Braun's cousin, drove a camper vehicle for the trip, which stopped at 20-mile intervals ahead of the runner. On their travels south, they met and talked with Larry Holmes, World Boxing Council heavyweight champion, while passing through his town, and Mark got lost for about 24 hours while running at night through small towns in Pennsylvania. He was later found by a state trooper after an 'all-points bulletin' was released with his description.

Blood samples were taken from the runners at the beginning, middle, and end of the race for lipoprotein and stress level studies, which were later examined in the CC.

Mark and Braun's efforts were successful in terms of running, but their objectives in assisting the patients were not accomplished. If interested in making a donation in care of "The New York-NIH Run Fund," contact Phyllis Mason, director of the Montgomery County chapter of the American Cancer Society.

Training Tips

The following courses, sponsored by the Division of Personnel Management, are given in Bldg. 31.

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*For new DELPRO users only

To learn about these and other courses, contact the Development and Training Operations Branch, DPM, 496-6371.
NIH Big Winner in Parklawn Classic Race

They're off and running ......

Mr. Forbush (l) and Dr. Koop get ready to lead the 2-mile walk race.

Runners from the National Institutes of Health showed their heels to competitors from the rest of the Public Health Service in the eighth annual Parklawn Classic 5-Miler, held at noon, Friday, Apr. 29.

Leading the contingent of 62 NIH race entrants was Jerry Moore of the Division of Management Policy. He conquered both a hilly course and unusually warm weather to place first in 28 minutes, 48 seconds, a new record.

Behind him were seven other NIH runners who placed fourth through tenth, respectively: Edward Berg, William Pitlick, Jaap Van Laar, Terence Sanderson, Bill Willmering, Phil Snoy and Louis Mocca. They competed in the Men's Open category, for runners under 40. In the Masters category, for men 40 and older, Alfred Yergey came in fourth, followed by Audry (Jack) Shawver, who finished fifth.

Corporate Cultural Values Discussed During Forum

"An organization's culture can be defined as 'the way we do things around here,'" according to Dr. Terrace Deal, associate professor at Harvard University, and coauthor of the best-selling book Corporate Cultures.

Dr. Deal's research was the subject of a recent executive-management forum sponsored by the Development and Training Operations Branch, Division of Personnel Management.

Based on his study of cultural values of 80 organizations, Dr. Deal concluded that each has a culture, weak or strong, and that understanding the culture enables managers to identify why an organization succeeds or fails.

A culture has several characteristics that shape it—its business activities, values, heroes, rituals, myths, and cultural network. These components work together to create four major culture types:

The tough guy/macho culture, which takes high risks and gets quick feedback; the work hard/play hard culture, where fast feedback but low risk is the rule; the bet-your-company culture, which invests millions of dollars in the future; and the process culture, which operates under a low risk/slow feedback process.

He cautioned, however, that every organization does not fall rigidly into one of these categories.

Dr. Deal stated that in the past, successful organizations have been those whose leaders have created strong cultures. A strong culture lets employees know what type of work is expected of them, which encourages employees to produce work that makes the organization succeed.

In order to save American business institutions from decline, he suggests managers should concentrate on strengthening their home-grown culture instead of looking to adopt Japanese management practices.

Adult-Onset Diabetics Needed as Study Volunteers

Volunteers, ages 18 to 65, are needed to participate in a study of noninsulin-dependent diabetes (also called type II and adult-onset diabetes) conducted by the National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases.

Candidates should contact Dr. George Grunberger, Diabetes Branch, NIADDK, Bldg. 10, Rm. 8S243, 496-2718.

May 24, 1983

The NIH Record
The NIH Fitness Center is now open and ready for business. "This is quite an achievement for NIH and something NIH has needed for a long time," said Dr. Thomas E. Malone, NIH Deputy Director.

The center will offer a total health and well-being broad-based program on preventing health problems by improving employee physical fitness, educating and motivating the employee to improve life habits, nutrition and managing stress.

The center was brought about via an Executive Order to the President's Council on Physical Fitness and Sports to "strengthen coordination of Federal agencies to participate in an interagency committee to coordinate physical fitness and sports activities in the Federal establishment."

Working hard to get NIH's Fitness Center established for the past year was the Employee Fitness Facility Committee whose members are: Dr. Barbara Wasserman, ORS, chairman; Robert Bingaman, ORS; Susan Stoiber, CC; Jerome Kerkhof, NLM; Otis Watts, OA; Jerry B. Harris, ORS; Maggie Knemeyer, CC; Dr. Brian Safer, NHLBI; Donna Speigler, ORS; Randy Schools, R&W; and Howard Hyatt, OD.

"This committee has been working exceptionally hard to make sure that NIH has a well-rounded facility and not just one where you go and exercise on your own with no professional supervision," said Dr. Wasserman.

"Here at the NIH Fitness Center you will receive a personal evaluation which will include blood pressure, resting heart rate, cardiovascular endurance, percentage of body fat, muscular endurance and strength."

Following the evaluation, a YMCA certified fitness specialist will meet with individuals to discuss test results and provide guidelines for a total individual fitness program.

The center is located at the south end of the NIH reservation near Bldg. 41 and the Bldg. 14 complex.

Hours of operation will be Monday through Friday, 6 a.m. to 8 p.m., Saturday, 9 a.m. to 1 p.m., and closed Sunday.

There will be two types of memberships available. A full membership which will include health assessment and an individual exercise prescription, use of conditioning equipment, health and exercise classes, and use of showers. The associate membership includes participation in health and exercise classes only.

The cost is $15 for the course or $5 for single sessions. For more information or to sign up, call Louis Mocca, 496-1920. •

A goal of the current laboratory studies of Drs. Baum and Fox is to develop pharmacological regimens aimed at eliminating the specific underlying problem causing a patient's dry mouth. Relief for dry mouth has typically consisted of using artificial saliva, available by prescription. Patients have also been encouraged to drink extra fluids or take frequent sips of water.

Practicing scrupulous oral hygiene by using fluoride gels, fluoride dentifrices, and dental floss daily has also been recommended to help circumvent severe dental problems.

In addition, to prevent mouth irritations, patients should avoid cigarettes, alcohol, and spicy, salty, and highly acidic foods.

—Jody Dove •

Bicycle Repair Course Offered

The NIH Bike Club is offering a practical bicycle repair course open to all NIH employees and their families.

The course, taught by two experienced club members, will be held on four consecutive Mondays beginning June 6, from 5:30 to 6:30 p.m., in the lunchroom of Bldg. 22, west entrance.

Sessions will cover basic understanding of bicycle operation and how to maintain proper operating condition. In addition, there will be a discussion on how to overhaul a bike. The last session will deal with brakes, wheel timing and spoke replacement.

The cost is $15 for the course or $5 for single sessions. For more information or to sign up, call Louis Mocca, 496-1920. •

Mr. Klein is receiving his second degree from the University of Maryland in kinesiology (study of human movement). He has been teaching physical fitness to adults and children at the YMCA for the past 2 years.

He has trained in weights for the past 6 years and for 2 years was in competition for weights and running.

For more information on the types of equipment available and membership prices, call the NIH Fitness Center, 496-TRIM. Applications are available at the R&W Office, Bldg. 31A, Rm. B1W30. □

Mr. Klein demonstrates the bench press at one of the 34 exercise stations available at the fitness center.

Ms. Vizard shows that flexibility of the lower back can help prevent low back pain.

Dr. Wasserman shows that fitness can be fun while executing the shoulder press.

Page 4

The NIH Record

May 24, 1983
NIH To Hold First Health and Safety Expo

There will be a variety of hands-on activities, demonstrations, films, publications, vendor booths, and raffles. Snacks, sandwiches, fruits, desserts and beverages will be available for purchase from GSI, Inc.

Among the activities scheduled, attendees will have the opportunity to have their blood pressure, vision, and hearing checked; find out their blood type; see whether they can resuscitate “Resusci-Annie” and learn the Heimlich maneuver to aid choking victims; have their eating habits analyzed; and compare their actual age to their “health risk age.”

Also operate different types of fire extinguishers; sample new laboratory safety equipment available; bring their bicycles in for a safety check and have the brakes and gears properly adjusted; and talk to Division of Safety staff regarding chemical, biological and radiation safety, as well as home and office safety.

In addition, NIH employees will have an opportunity to obtain copies of publications on health promotion and disease prevention that NIH routinely provides the general public and the research community at large.

The official opening of the NIH Fitness Center, scheduled for 10 a.m., June 8, will kick off the Expo. Dr. Edward N. Brandt Jr., Assistant Secretary for Health, and Glenn V. Swengros, representative of the President’s Council on Physical Fitness, have been invited to attend. For more information on the kick-off event, call 496-TRIM. Tours of the new facility will be conducted on both days.

Bike races, sponsored by the NIH R&W Bicycle Club are also planned for June 8. Registration forms for the race are available at the Information Desk, Bldg. 31, A Wing, and at the Visitor’s Center desk in the ACRF.

Expo events will take place primarily on the 2nd floor mezzanine of the ACRF.

Keeping the Health in NIH

Expo logo identifies the four major areas around which events will revolve—safety, nutrition, physical fitness and health screening.

During the Expo, the Occupational Medical Service, located on the 6th floor, ACRF, will hold an open house.

Other activities will be held on the lawn outside Bldg. 10 cafeteria, and at the new Wells Fargo Gamefield located on South Drive behind Bldg. 10.

The game field, acquired by the Clinical Center under a grant, consists of a series of warm-up and cool-down exercises arranged in a square configuration.

Plan to participate and learn how to keep fit just for the health of it. Call 496-1985 if you have any questions. A full schedule of activities will appear in the next NIH Record.

Personnel Facts on Code-A-Phone

Employees may call 496-4608 for prerecorded tapes on personnel topics. These tapes play for approximately 3 minutes and are available on a 24-hour basis.

The following topics are scheduled: The Employee Assistance Program (May 23-27); Social Security and You—Future Benefits (May 30-June 3); Payment of Health Premiums While in a Nonpay Status or Because of Insufficient Pay (June 6-10); and the Privacy Act (June 13-17).

Also, The Freedom of Information Act (June 20-24); Keeping Your Official Personnel File Up-to-Date (June 27-July 1); It Helps to Keep a Personal File on Yourself (July 5-8); and Political Activity (July 11-15).

To suggest future code-a-phone messages, call the Personnel Communications Staff, 496-4543.

R&W Holds Annual Meeting, June 1

The NIH Recreation and Welfare Association’s annual meeting will be held on Wednesday, June 1, from noon to 1 p.m., in Masur Auditorium, Bldg. 10.

Door prizes will be given to lucky winners attending the meeting. Premeeting festivities begin at 11:30 a.m.

All members are invited to attend.
Twenty-eight NIH staff members will be recognized for their outstanding achievements and contributions at the ninth annual Public Health Service Honor Awards Ceremony on Thursday, May 26, at 1:30 p.m. in the Department Auditorium, HHS North Building.

Dr. Edward N. Brandt Jr., Assistant Secretary for Health, will present the awards. NIH Director Dr. James B. Wyngaarden will assist with the presentations. A reception for PHS and NIH officials, awardees, and their guests will be held in the Hubert H. Humphrey Bldg. immediately following the ceremony.

The PHS Superior Service Award, the highest award for civil service employees presented by PHS, recognizes superior contributions of an extraordinary nature over a period of time. Six NIH staff members are to receive this recognition.

The PHS Special Recognition Award acknowledges and honors an outstanding and specific contribution of meritorious benefit to the PHS which has substantial impact toward the advancement of its mission. Five NIH employees will receive this award.

The Assistant Secretary for Health's Award for Exceptional Achievement is ASH's highest personal award. It recognizes accomplishments and outstanding work performance demonstrating exceptional commitment to the PHS mission, work reflecting a high degree of efficiency and effectiveness or resulting in significant cost reduction. Three NIH staff members will receive this recognition.

Outstanding Performance

The PHS Outstanding Handicapped Employee Award brings recognition to employees who, in spite of severely limiting physical factors, have demonstrated outstanding job performance and courage. An NIA employee will receive this award.

The PHS Equal Opportunity Achievement Award emphasizes the PHS policy to provide equal opportunity for its employees; to demonstrate the value that top-level management places upon employees, supervisors, and managers who actively and effectively participate in equal opportunity activities; and to give honor and recognition to those employees who have excelled in their efforts to promote equal opportunity. One NIH employee will receive this award.

Six NIH commissioned officers will receive the Distinguished Service Medal, the highest award given to a PHS commissioned officer. It is granted to an officer with a genuine sense of public service who has made outstanding contributions to the mission of the Department.

Four commissioned officers stationed at NIH are to receive the Meritorious Service Medal. It recognizes a single important achievement, a career notable for accomplishments in technical or professional fields of unusually high quality and initiative.

The following NIH staff members will be recognized for their achievements:

**PHS SUPERIOR SERVICE AWARDS**

Dr. Catt  
Mr. Hodgen  
Dr. Kevin J. Catt, chief, Endocrinology and Reproduction Research Branch, Intramural Research Program, National Institute of Child Health and Human Development

"For exceptional ability and achievement in leading and managing an unusually productive research program in the areas of molecular endocrinology, and reproductive biology."

Dr. Gary D. Hodgen, chief, Pregnancy Research Branch, Intramural Research Program, National Institute of Child Health and Human Development

"For building an internationally recognized preclinical pregnancy research branch, and for being recognized by obstetricians and gynecologists as a world leader in pregnancy research."

**PHS SPECIAL RECOGNITION AWARD**

Michael I. Goldrich, administrative officer, Division of Cancer Treatment, National Cancer Institute

"For skillful and innovative administrative management of the Division of Cancer Treatment."

Dr. Paul L. Kornblith, chief, Surgical Neurology Branch, National Institute of Neurological and Communicative Disorders and Stroke

"For developing a nationally recognized program for the study of human brain tumors which has produced new insights into their biology, immunology and therapy."

H. Richard Miller, assistant director for budget, Division of Financial Management, Office of the Director, NIH

"For overall excellence, patience, dedication, ingenuity and leadership in meeting unprecedented demands in the budget activities of the National Institutes of Health."

Dr. Louis H. Miller, head, Malaria Section, Laboratory of Parasitic Diseases, National Institute of Allergy and Infectious Diseases

"For discovery of the Duffy malaria receptor on the red blood cell, and leadership of a highly productive team effort in malaria research."

**PHS OUTSTANDING PERFORMANCE**

Dr. Beebe  
Ms. Cooke  
Mr. Hoffman  
Dr. Brooks (l)  
Dr. DiChiro (c)  
Dr. Sank  
Ms. Siebert
PHS SPECIAL RECOGNITION AWARD CONT'D:

Dr. Gilbert W. Beebe, expert, Clinical Epidemiology Branch, National Cancer Institute

“For excellent analyses concerning the health effects of ionizing radiation, and for developing resources that simplify and lower the cost of epidemiologic research.”

Juanita P. Cooke, director, Office of Special Concerns, National Heart, Lung, and Blood Institute

“For innovative approaches to enhancing research opportunities for minorities and stimulating interest in research careers in minority educational institutions.”

ASH'S AWARD FOR EXCEPTIONAL ACHIEVEMENT

Dr. Galasso

Dr. George J. Galasso, chief, Development and Applications Branch, National Institute of Allergy and Infectious Diseases

“For significant contributions to public health through administrative and scientific skills in the development of antiviral drugs and vaccines.”

Dr. Joseph Leiter, associate director for Library Operations, National Library of Medicine

“For outstanding and consistent achievements and innovations in the creation and distribution of information services to the national and worldwide biomedical community.”

DISTINGUISHED SERVICE MEDAL

Dr. DeVita

Assistant Surgeon General Vincent T. DeVita, Jr., Director, National Cancer Institute

“For development of curative combinations of anticancer drugs resulting in hope and life for thousands of cancer patients and for decisive leadership of the NCI.”

Medical Officer Joseph F. Fraumeni, Jr., associate director, Field Studies & Statistics Program, DCCP, National Cancer Institute.

“For outstanding leadership in developing and directing a highly productive program of epidemiologic research designed to clarify the environmental and host determinants of cancer.”

Dr. Fraumeni

Dr. Goldstein

Dr. Kapikian

Assistant Surgeon General Murray Goldstein, Director, National Institute of Neurological and Communicative Disorders and Stroke

“For long and devoted service to the advancement of research in the neurological and communicative disorders.”

Medical Director Albert Z. Kapikian, assistant chief, Laboratory of Infectious Diseases, National Institute of Allergy and Infectious Diseases

“For discovering new viruses that are important causes of acute epidemic gastroenteritis and for elucidating their epidemiology and developing strategies for their control.”

PHS OUTSTANDING HANDICAPPED AWARD

Mr. Rogers

Daniel S. Rogers, public affairs specialist, Office of the Scientific Director, National Institute on Aging

“For exceptional contributions to the Gerontology Research Center and for furthering the cause of the handicapped by both example and deed.”

PHS EQUAL OPPORTUNITY ACHIEVEMENT AWARD

Dr. Kirschstein

Dr. Ruth L. Kirschstein, Director, National Institute of General Medical Sciences

“For leadership as Director, NIGMS, in providing equal opportunity for the Institute's employees, and for support of the Institute's Minority Access to Research Careers Program.”

SEE PHS AWARDS (Continued on Page 12)
Progress, Treatment of Digestive Diseases Featured During Science Writer's Seminar

Progress being made in defining immunologic defects and improving treatment of various digestive diseases was the subject of a recent NIH Science Writer's Seminar. The moderator, Dr. Jerry D. Gardner, chief, Digestive Diseases Branch, NIADDK, described the substantial economic burden of the spectrum of these diseases which cost Americans $17 billion a year for direct medical care.

Dr. Warren Strober, chief, mucosal immunity section, Laboratory of Clinical Investigation, NIAID, discussed the headway that he and others are making in identifying the cause of Crohn's disease, a chronic inflammatory disease of the intestine.

Currently, Crohn's disease is thought to be caused by an abnormal and uncontrolled immune response.

Dr. Strober and Dr. Stephen James have found an increased number of certain kinds of suppressor T cells in the blood of patients with Crohn's disease. This increase in the circulation is accompanied by a notable lack of these suppressor T cells in the GI lesions of these patients.

**Cells Not Localized**

This suggests that the suppressor T cells do not localize in the GI mucosa as they do in normal individuals and, as a result, unrestricted immune responses occur against ingested antigens, resulting in the chronic inflammation.

Dr. Robert T. Jensen, senior investigator, Digestive Diseases Branch, NIADDK, described his trials of drugs to control gastric acid levels in patients with Zollinger-Ellison syndrome (ZE).

This disease is characterized by severe recurrent peptic ulcers due to the production of 10 to 25 times the normal amounts of gastric acid as a result of the release of the GI hormone gastrin by an islet cell tumor of the pancreas.

Dr. Jensen recently published a report that a new drug ranitidine was three times as potent as high doses of cimetidine in controlling the gastric acid hypersecretion in these patients and did not produce the antiandrogen side effects that developed in half of the male ZE patients who received high doses of cimetidine.

The DD group will be starting a trial of another drug in the same class as cimetidine but which is 50 to 100 times as potent, a drug known as the hepatitis B surface antigen (HBsAg) carrier state.

This condition—in which the person may be free of symptoms but the liver remains inflamed and the virus persists in the body—is probably the single most important cause of cirrhosis and liver cancer in the world.

Dr. Hoofnagle's group conducted trials of recombinant DNA-produced interferon and of the antiviral drug, ara-AMP. Each of these agents caused only a transient improvement in the chronic hepatitis B infection.

Dr. Hoofnagle found, however, that when patients who had been treated with corticosteroids for their chronic hepatitis were withdrawn from them prior to starting the antiviral trials, many of them developed a spontaneous worsening of the disease, followed by long-term improvement.

It appeared that the withdrawal of the patients from the immunosuppressive corticosteroids induced an overactivity of the immune system and, with that, an acute hepatitis which eradicated the persistent viral infection in the liver.

The scientists have now started a controlled trial to see how effective this form of immune manipulation will be in eradicating the HBsAg state.

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**RECOMBINANT VACCINE**

They hooked the hepatitis antigen gene to the specific pieces of vaccinia DNA that are required to make it active, and inserted this modified gene into an independent segment of genetic material called a plasmid.

Next, they infected cells with the plasmid and with regular vaccinia virus. During replication in the cell, the modified hepatitis gene took the place of certain, known marker genes in the vaccinia virus. The investigators then identified and recovered the hybrid virus containing the hepatitis gene.

When the hybrid virus was injected into rabbits, it produced a local reaction to vaccinia virus and stimulated significant amounts of antibody to hepatitis antigen. In humans, equivalent levels of antibodies would provide protection against hepatitis B virus infection.

Further studies are under way to increase the amount of antigen produced by the hybrid virus and to measure safety and effectiveness of the virus in other animals.

Dr. Moss and his colleagues are optimistic that this new type of recombinant virus shows promise for use as a less costly and more easily administered hepatitis B vaccine than the one now available. The vaccinia virus, given in one inoculation, has already proved itself in the successful campaign to eradicate smallpox.

An effective recombinant vaccinia virus would be ideal for mass immunization campaigns, particularly for children in Asia and Africa, areas where hepatitis B is a serious and widespread problem. Worldwide, an estimated 200 million persons have chronic hepatitis B, and many die from acute liver disease, cirrhosis, or liver cancer.

The present hepatitis B vaccine is made from antigen harvested from the blood of persons with chronic hepatitis B. Using expensive and complicated procedures, the antigen is separated from other blood factors, purified, and chemically inactivated before it is made into a vaccine.

Two, or in some cases, three doses of the vaccine provide safe and effective protection. However, the cost and required multiple doses may make this vaccine impractical for general immunization programs, particularly in developing countries.
Studies Show Link Between HTLV and AIDS

Scientists from the National Cancer Institute and Harvard University recently reported in *Science* that some patients with acquired immune deficiency syndrome have been infected with a virus associated with an unusual form of adult leukemia and lymphoma.

Another paper, from the Pasteur Institute in Paris, reported the virus infection in a homosexual patient with a series of infections and persistent lymph node enlargement, who may be at risk of developing AIDS.

The virus is a member of a family of rare viruses called human T-cell leukemia/lymphoma viruses, or HTLV.

"Taken together, these studies demonstrate a relationship between HTLV and AIDS, not that the virus causes AIDS," said Dr. Vincent T. DeVita, Jr., NCI Director.

He added that HTLV, one of several viruses seen in AIDS patients, may be simply a passenger, or part of the pattern of opportunistic infections that characterize people with the disorder.

In addition, Dr. DeVita said, scientists believe HTLV is not easily transmissible, apparently requiring prolonged and intimate contact for transmission between individuals.

AIDS is a recently recognized, often fatal condition that leads to a breakdown of the body's immune function. Resulting AIDS disorders include Kaposi's sarcoma, a rare tumor that starts in cells of blood vessel walls, *Pneumocystis carinii* pneumonia, and other opportunistic infections. Cases of AIDS have been reported primarily among homosexual men, intravenous drug abusers, recent Haitian immigrants and hemophiliacs.

"Using a wide variety of studies, we hope to find answers to the pressing questions remaining about the exact role of HTLV in the development of AIDS," Dr. DeVita said.

Answers may come relatively quickly, he said, because scientists can easily grow the T-cells that are targets of the HTLV infection. "A great deal of work now can be done."

Big Question

A big question, Dr. DeVita noted, is whether the research on HTLV will lead to ways to prevent or control AIDS.

Other questions he identified include: Are there important differences between the viruses isolated from the adult T-cell leukemia and lymphoma patients compared to the AIDS patients? Is the virus detectable in other tissues or fluids? How does the virus spread in such an apparently limited way?

In addition, he said, scientists need to look for HTLV viruses in blood samples stored for long periods to determine whether the viruses are new or simply newly identified.

One of the papers by Dr. Robert C. Gallo, chief of the NCI Laboratory of Tumor Cell Biology, and his colleagues, in collaboration with the New York Veterans Administration Hospital (affiliated with New York University), reported the isolation of an HTLV virus from T-cells of a patient with AIDS.

The paper also reported that two other AIDS patients had T-cells with proteins from the core of the virus, suggesting that they also were infected.

In another paper from Dr. Gallo's laboratory, Dr. Edward Gelmann and NIH laboratory and clinical colleagues and the New York Veterans Administration Hospital and New York University, reported that 2 of 33 patients with AIDS had the genetic sequences of an HTLV virus in the DNA of their T-cells. This indicates those cells were infected by the virus. When tested at a later time, the patients' T-cells showed no evidence of the virus.

Meaning Uncertain

However, the scientists detected antibodies in the patients' blood to core proteins of the virus. Antibodies to core proteins are found only when the virus is actively reproducing in the target cells. The precise meaning of these findings is not understood yet, Dr. Gallo said.

Dr. Max Essex and other scientists from the Harvard School of Public Health and the Centers for Disease Control provided the first report of a striking increase in HTLV-related cell surface antibodies in AIDS patients.

A group of homosexuals with lymphadenopathy but not AIDS also had relatively high levels of HTLV antibodies. It is not known whether lymphadenopathy is an early stage of disease that may lead to AIDS. The antibody levels of both groups were compared to matched healthy homosexuals, whose tests for these HTLV-related antibodies were essentially negative.

Dr. Gallo directed the research that led to the first isolation of a human retrovirus in 1980. This is the virus called HTLV. Since then, the virus has been isolated several times by Dr. Gallo and his colleagues, and by other investigators in this country and abroad.

Elvira Carter Dies; Former NIH Employee

Funeral services were held May 11 at St. Ambrose Catholic Church in Cheverly, Maryland, for Elvira Deasur Carter, a retired NIH employee, who died suddenly, May 8, 1983.

Mrs. Carter worked as a data transcriber in the Division of Computer Research and Technology from 1965 until her retirement in 1978.

Her husband, James V. Carter, who has served since 1968 as an aide and driver to NIH Directors Marston, Stone, Fredrickson, and Wnygaard, is one of the best-known members of the NIH community.

Our chief want in life is someone who will make us do what we can.—Ralph Waldo Emerson

3-D Microscopic Viewing Devised at Oak Ridge

A team of researchers at the Oak Ridge National Laboratory in Tennessee, headed by Drs. Donald E. and Ada L. Olins, has developed a new technique for visualizing the three-dimensional structure of biological specimens viewed in an electron microscope. This will enable scientists to observe spatial relationships within cell structures with greater accuracy.

The technique, which the researchers call electron microscope tomography (EMT), uses an image-processing computer system somewhat similar to that in a CAT scanner (where it produces cross-sectional images of internal structures in the human body). In EMT, the computer uses tiny gold spheres absorbed on the specimen as reference points to align a series of electron photo-micrographs (photos made with an electron microscope) with each other.

The image-processing system then reconstructs the three-dimensional object, which can be viewed on a television screen with 3-D glasses.

The Olinses' work on EMT is an outgrowth of their research on basic chromosome structure and function and, of their need to know the three-dimensional structure of chromosomes in various active and inactive states.

They have been involved for many years in the studies of the macromolecular structure of chromosomes, and were the first to observe the fundamental subunit of the chromosome—the nucleosome—with the electron microscope.

In an article published in the Apr. 29 issue of *Science* magazine, the researchers describe their use of EMT to define the three-dimensional arrangement of newly synthesized RNA within a highly active gene that is present in chromosomes of the water midge, *Chironomus tentans* (an insect model for these studies).

Collaborators and coauthors on the *Science* paper were S. David Dover, of the University of London, who developed an earlier, limited version of EMT, and Richard C. Durfee, Stephen M. Margie, Ed P. Tinnel, and Henri A. Levy of the Oak Ridge National Laboratory.

The laboratory is operated for the Department of Energy by Union Carbide Corporation's Nuclear Division. The work was supported by the National Institute of General Medical Sciences, the Department of Energy, the American Cancer Society and the Wellcome Foundation.

FAES Sponsors Art Lecture

The Foundation for Advanced Education in the Sciences, Inc., is sponsoring a lecture on "What's Happening in Los Angeles Art?" It will be presented by Jan Myers and B. J. Wilson, both from Southern California, on Friday, June 3, at 8 p.m., in Bldg. 10, ACRF Little Theater (in the Visitor's Center).

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Approximately 250 people crowded the Ambulatory Care Research Facility amphitheater of the Clinical Center Mar. 26 to hear about research advances during a Diabetes Day program.

In his opening remarks, Dr. Lester B. Salans, Director, National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases, noted that “There has been unprecedented accomplishment in basic research, as well as in clinical investigations in all aspects of diabetes that have provided both a theoretical and a practical basis for development of a broad range of therapeutic interventions....

The program for physicians, diabetes educators, and nursing staff was cosponsored by the CC, the NIADDK Diabetes Branch, and the Washington, D.C. area affiliate of the American Diabetes Association.

The morning session was devoted to noninsulin-dependent diabetes mellitus (NIDDM), which accounts for 85 percent of the diabetes in the U.S. It is often characterized by normal or elevated plasma insulin levels, suggesting insulin resistance.

Dr. William G. Blackard, Medical College of Virginia, spoke about the pathophysiology and treatment of NIDDM. He said that today, many diabetologists believe that insulin resistance, observed in obese as well as other diabetogenic states, may be the result of postreceptor defects.

Regardless of the causes of NIDDM, current forms of therapy include diet, exercise, and oral agents. Dr. James Anderson, University of Kentucky, addressed the nutritional options for diabetic patients, outlining the pro's and con's of high fat, high protein, high carbohydrate, and high fiber diets.

Dr. Simeon I. Taylor, NIADDK Diabetes Branch, discussed some unusual forms of NIDDM, stating that the entire disease is a poorly understood syndrome. Even the name tells us what it is not, rather than what it is. Over the past decade, however, disease mechanisms have been identified for a few unusual forms of NIDDM.

Afternoon talks were devoted to type I diabetes, or insulin-dependent diabetes mellitus (IDDM). Diabetes may result in long-term complications, possibly involving every body tissue. The blood vessels, nervous system, kidney, and eyes are particularly affected.

While successful control of blood glucose levels may reduce risk of complications, the exact relationship between these factors is not fully understood. The “glucose hypothesis” proposes that better physiologic control of blood glucose lessens the clinical complications of diabetes.

Dr. Charles M. Peterson, who led the afternoon sessions, is an associate professor at Rockefeller University. He addressed the relationship of glucose “control” to secondary manifestations, or sequelae of diabetes from a biochemical approach.

A number of variables associated with hyperglycemia have been shown not only to be preventable, but also reversible if blood glucose levels are brought into normal range.

Dr. David Nathan, assistant professor of medicine at Harvard Medical School, presented his overview and perspective on insulin pumps.

The last speaker was Dr. Lois Jovanovic, who has joint appointments in both medicine and obstetrics and gynecology at Cornell University. She spoke of her expertise in treating the pregnant diabetic woman.

Dr. Jesse Roth, chief, NIADDK Diabetes Branch, summarized highlights of Diabetes Day by recapping advances in the pathophysiology, diagnosis, and therapy of diabetes. He noted that recent advances in basic research have provided new and important insights into the mechanism of insulin action in regulating glucose transport.

From the diagnostic viewpoint, he emphasized that both IDDM and NIDDM seem to be a series of disease. Physicians should look carefully at individual patients, which would lead to a differential diagnosis of diabetes and perhaps to more effective therapy.

Finally, Dr. Roth urged the audience to remember nondrug treatment methods for NIDDM diabetics. Diet and exercise should be given their appropriate priority and other treatment should be used only when diet and exercise are not effective.

“The specialist is giving more information and guidance to the generalist, and the physician is turning more and more responsibility to the patient. This extension of expertise has reaped enormous benefit,” he concluded.

### New ‘NIH Organization Handbook’

A revised edition of the **NIH Organization Handbook** has just been published by the Management Analysis Branch, Division of Management Policy, OD.

The handbook—an internal publication—contains organization charts, listings of principal staff, and descriptions of the functions of each major component, as well as the historical development of NIH.

This edition is completely revised, from the front cover drawing of the Shannon Bldg.—donated by the artist, Brent Jacquet—through charts, listings of staff, and descriptions of functions.

### Distributed by DMP

**Chief, public information section, Office of Research Reporting, NICHD**—to the looseleaf binder which will enable changes to be made in an efficient and cost-effective manner.

While most organization charts use boxes to display components, this edition uses bars. This technique will facilitate future computer preparation of the handbook.

Call MAB, 496–2461, for further information.

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**Ultrasound Conference, June 5–8**

The Clinical Center is joining the National Bureau of Standards to sponsor the Eighth International Symposium on Ultrasonic Imaging and Tissue Characterization in Washington, June 5–8.

Clinical Center and NIH researchers will join representatives from 10 countries making presentations at the conference, recognized as the world’s leading forum on the use of ultrasonic techniques in medical diagnosis.

Dr. Thomas Shawker, chief of the ultrasound section in the Clinical Center’s Diagnostic Radiology Department, will introduce one of the conference’s two sessions devoted entirely to clinical applications of ultrasound June 7.

Collaborative research on the use of ultrasound in diagnosing speech disorders conducted by Drs. Shawker and David Kurtz and Ms. Kathy Morris of the Diagnostic Radiology Department and Drs. Maureen Stoner and Barbara Sonies, CC Rehabilitation Department, will be the subject of one of the presentations in the clinical science session.

Dr. Shawker and Dr. Van Hubbard, Pediatric Metabolism Branch, National Institute of Arthritis, Diabetes and Digestive and Kidney Diseases, will discuss their work on pancreatic sonography in chronic pancreatitis.

Those wishing additional information on the conference should contact Kathy Stang, National Bureau of Standards, (301) 921–3295.
NIH Scientists Will Describe Lab Studies at FIC Seminars

A series of evening meetings, arranged by Fogarty International Center scholar-in-residence Dr. Jamshed R. Tata, in cooperation with the Foundation for Advanced Education in the Sciences, will provide an opportunity to hear several NIH scientists review their field of interest and describe recent studies in their laboratories. At the conclusion of their talks, speakers will entertain questions.

The meetings will take place in Stone House (Bldg. 16) on the following Wednesdays at 6:30 p.m. Topics and speakers are noted:

- May 25, “Crystallin Genes and Crystallin Gene Expression in the Eye Lens,” Dr. Joram Piatigorsky, NEI
- June 15, “Recent Studies of Chromatin Structures,” Dr. Gary Felsenfeld, NIAID
- June 22, “Interactions of Hormones (and Other Ligands) With Receptors: Beyond the Lock and Key,” Dr. Jesse Roth, NIAID
- June 29, “Biochemistry of Emotion,” Dr. Candace Pert, NIMH.

Grants Associates Seminar Series Application Deadline Is June 9

Thursday, June 9, is the deadline for receipt of nominations for the 1983-1984 Grants Associates Seminar Series. Those interested should forward a CV and statement of interest through their immediate supervisors to their BID Director. Please be sure to include current title, BID organizational component, and room, building and phone number.

BID Directors are asked to forward no more than three nominations with the above mentioned documents to A. Robert Polcari, Executive Secretary, Office of Grants Associates, Bldg. 31, Rm. 1B55, by the deadline. This will permit ample time for consideration of all nominees for the limited number of spaces.

Final selections will be made by Dr. William Raub, NIH Associate Director for Extramural Research and Training.

For further information, contact Mr. Polcari, 496-1736.

International Women Scientists To Meet Each Month

Each year female scientists from all over the world come to NIH to study and to do research. Their stay lasts from a few months to several years. A group consisting of some of these women scientists has been recently formed.

The group aims to help fellow non-Americans make their stay at NIH and in the Washington area an enjoyable and worthwhile experience. In the process, it hopes to foster social contacts between women of different countries and increase the understanding of other cultures.

Meetings will be held on the third Tuesday of each month at 8 p.m. The next meeting will be June 17 at the home of Marrietta Swift. For directions and transportation, call Ms. Swift on 460-4648.

For further information call Janet Bartch, foreign visitors assistant, FIC, 496-4335.

DRS Director's Secretary Jean Holland Retires

Jean Holland, secretary to Dr. Joe R. Held, Director of the Division of Research Services, retired May 6 after 22 years of government service, 21 at NIH. She had served as secretary to three DRS Directors, Dr. William B. DeWitt, Dr. Roger D. Estep, and Dr. Held.

At a luncheon held to honor Mrs. Holland, Dr. Held told the guests, “During 12 years of working with Jean, it was comforting to know that I could always be confident that operations would run smoothly with the help of her wide knowledge, efficient organization and initiative, and her good, clear communications. Her concern that what we do be well done and her insistence that it be presented with excellence have reflected well on the whole Division.”

She received the NIH Director’s Award of Merit in 1981 for superior performance as a secretary to the Director of DRS and for the prominent role she played in communicating the Division’s policies.

Mrs. Holland came to NIH in 1962 as a clerk-typist in the Clinical and Professional Education Branch of the Office of the Director, CC. In 1964, she became secretary to the chief of the Research Facilities Planning Branch, DRS, and the next year was promoted to secretary in the Office of the Director of the Division of Research Facilities and Resources.

In 1966, she joined the staff of the first administration at Vanderbilt. His major research interests are neurochemistry and toxicology.

He is a member of several committees of the Association of American Medical Colleges. He is also vice president of the American College of Clinical Pharmacology, vice chairman of the American Medical Association Section on Medical Schools and chairman of the board of directors of the Health Education Medical Association.

Mr. Foley, a hospital administrator and an authority on public health, joined Overlook Hospital in 1971. He received his M.S. degree in administrative medicine from the Columbia University School of Public Health, where he has been a lecturer since 1976.

Cellular Membranes

Dr. Osborn’s principal interests are the biogenesis, structure and function of cellular membranes. She received her Ph.D. in biochemistry from the University of Washington, Seattle. She was elected to the National Academy of Sciences in 1978. She is president of the Federation of American Societies for Experimental Biology. Since 1978, she has been an associate editor of the Journal of Biological Chemistry. She also serves on the advisory council of the Max Planck Institute of Immunology in Germany.

My concern is not whether God is on our side; my great concern is to be on God’s side.—Abraham Lincoln

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Medical Director Thomas A. Waldmann, chief, Metabolism Branch, DCBD, National Cancer Institute

"For many important contributions to our understanding of the human immune response and how it influences development and control of disease."

Medical Director William J. Zukel, associate director for Scientific Programs, Office of the Director, National Heart, Lung, and Blood Institute

"For distinguished service and outstanding achievements in the planning and conduct of scientific programs in the National Heart, Lung, and Blood Institute."

Dr. Barkley Dr. Goggins

Sanitary Engineer Director W. Emmett Barkley, director, Division of Safety, Office of Research Services, Office of the Director, NIH

"For outstanding national and international leadership in the design and development of programs to assure the safe conduct of biomedical research."

Dental Director John F. Goggins, deputy director, National Institute of Dental Research

"For effective leadership and noteworthy contributions to program administration and continuing period of outstanding service to NIDR."

Medical Director Gary L. Peck, senior investigator, Dermatology Branch, DCBD, National Cancer Institute

"For pioneering work in demonstrating the extraordinary effectiveness of retinoid treatment in patients with severe cystic acne, skin cancer and keratinizing disorders."

Dr. Peck

3/14 Dr. Valeria Koyfman, Stateless. Sponsor: Dr. John Petricciani, Office of Biologies, FDA, Bldg. 29A, Rm. 1C12.

4/1 Dr. Eva Marie Donner, Finland, Mammalian Mutagenesis Section. Sponsor: Dr. Heinrich Malting, NIEHS, Research Triangle Park, N.C.

4/1 Dr. David Healy, Australia, Pregnancy Research Branch. Sponsor: Dr. Gary D. Hodgson, NICHD, Bg. 18, Rm. 101.

4/1 Dr. Thomas M. Redmond, Ireland, Laboratory of Vision Research. Sponsor: Dr. Gerald Chader, NEI, Bg. 6A, Rm 8107.

4/1 Dr. Toru Saito, Japan, Laboratory of Molecular Biology. Sponsor: Dr. Kenneth Yamada, NCI, Bg. 37, Rm. 8E18.

4/3 Dr. Bhabatarak Bhattacharyya, India, Clinical Endocrinology Branch. Sponsor: Dr. Jacob Robbins, NIA, Bg. 10, Rm. 8N315.

4/3 Dr. Michael Blumenthal, Israel, Clinical Branch. Sponsor: Dr. Carl Kupfer, NEI, Bg. 31, Rm. 6A03.

4/3 Dr. Haruhide Hayashi, Japan, Neurobiology & Anesthesiology Branch. Sponsor: Dr. Ronald Dubner, NIDR, Bg. 30, Rm. 8110.

4/3 Dr. Masao Hayashi, Japan, Laboratory of Molecular Biology. Sponsor: Dr. Kenneth Yamada, NCI, Bg. 37, Rm. 8E18.

4/3 Dr. Chunnai Lal Khetrapal, India, Laboratory of Chemical Physics. Sponsor: Dr. Edgar Becker, NIA, Gerontology Research Center, Baltimore.

4/3 Dr. Yasuteru Oki, Japan, Mineralized Tissue Research Branch. Sponsor: Dr. Vincent Hasscl, NIDR, Bg. 30, Rm. 8E18.

4/3 Dr. David Roberts, United Kingdom, Diagnostic Systems Branch. Sponsor: Dr. Richard L. Webber, NIDR, Bg. 10, Rm. 5N256.