Scientists Achieve Breakthrough in Gene Transfer Research

In a major advance in genetic engineering, scientists have transferred a gene for growth hormone from rats to mice, resulting in mice that grew to twice the normal weight. "This is the first time we have seen such dramatic expression of a transferred gene throughout an entire animal," said Dr. William Sadler, chief of the Reproductive Sciences Branch in the National Institute of Child Health and Human Development, which supported the research.

This breakthrough was reported in a recent issue of Nature by a group of scientists including Richard Palminter from the University of Washington, Ralph Brinster from the University of Pennsylvania, Michael G. Rosenfeld from the University of California—San Diego, and Ronald M. Evans from the Salk Institute for Biological Studies, along with their colleagues Drs. Robert Hammer, Myrna Trumbauer, and Neal C. Birnberg.

Scientists have speculated for some years about the possibility of transferring genes from one animal into another, as a way of replacing defective or missing genes with normal genes from another source.

Until recently, however, it was not clear that this would be technically feasible or, if it were, whether the transferred genes would work properly in their new host.

New 24-Hour Herpes Test Developed By NINCDS for Pregnant Women

By Diane Striar

A new 24-hour test to detect herpes simplex infections in pregnant women and their babies has been developed by scientists in the Infectious Diseases Branch of the National Institute of Neurological and Communicative Disorders and Stroke.

The new test is almost 100 percent accurate and takes only 1 day to complete rather than the 7 days required by most currently available tests.

"The most important value of the 24-hour herpes test is to pregnant women who may have an active genital herpes infection," said branch chief Dr. John L. Sever. "These women should be tested as close to the time of delivery as possible so that their children are not exposed to infection."

By establishing a diagnosis of herpes (or no herpes) near the time of delivery, the new test will help physicians decide whether to perform a cesarean section to prevent transmitting the infection to the newborn.

With most standard tests, a woman near term may not find out that she has an active case of herpes until she has already delivered her baby vaginally, and perhaps passed the infection. About 1 in 7,000 babies is born with herpes.

Infected babies may suffer serious consequences—including seizures, permanent brain damage, and mental retardation. The virus is dangerous to newborns because

(See HERPES TEST, Page 9)
The NIH Record

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NIH Record Office
Bldg. 31, Room 28-03, Phone 496-2125

Editor, Acting
Edward Driscoll

Staff Writers
Joyce F. McCarthy
Annie Barber

Staff Correspondents
CC: Barbara Smakula; DCRT, William Hall; DPM, Judy Fouch; ORG, Sue Meadows; DDR, Barbara Menick, DRS, Jim Doherty; FIC, Susan P. Stark; HOD, Patricia A. Newman; NEI, Marsha Corbett; NHLBI, Bill Sanders; NIA, Jeanine Win- nick; NIAID, Barbara Weldon; NICHD, James Hadley; NIDR, Sally Wilberding; NIEHS, Hugh J. Lee; NIGMS, Wanda Wardelli; NIH, Harry Bell; NINDS, Diane Sisir; NLM, Roger L. Gilkeson.

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

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To learn more about these and other courses, contact the Development and Training Branch, DPM, 496-6371.

NICHDI Seeking Women Volunteers for Study
The National Institute of Child Health and Human Development is seeking women to participate in a study of fluctuation in hormone levels and moods. Candidates should be between the ages of 18 and 50 and not be taking oral contraceptives.

Participants will keep daily records of their moods and come to NIH for a blood test and interview once weekly for 10 weeks. Compensation is $400 for the 10-week study.

For more information call Dr. Michele Koppelman at 496-4686.

New Inclement Weather Policy Issued for Handicapped Workers
Are you mobility impaired? Do you need a wheelchair, braces, crutches, or a cane to get around? If so, you may find it extremely difficult during icy winter conditions to reach your office.

Did you know that in such cases there is a way to be granted administrative leave?

HHS and the Division of Personnel Management, NIH, have issued policy memorandums stating reasonable accommodations for handicapped employees during severe, inclement weather.

This policy provides for a separate liberal leave policy agreement to be developed between the employee and his or her supervisor. The agreement must specifically detail the conditions under which travel would be unreasonably hazardous for the employee.

The key to providing such hazardous weather leave is that identification of the individual employee affected must be made by the BID in advance of inclement weather, and a mutual agreement must be made in advance, documented and signed by the employee and supervisor.

Copies of each employee/supervisor agreement must be retained either in the Administrative Office or in some other central location within the BID.

The NIH Handicapped Employee Advisory Committee suggests that any employee or supervisor who thinks that he/she or someone under their supervision may fit into the mobility impaired categories listed (e.g., use of wheelchair, braces, crutches, etc.) contact their BID personnel office or special placement officer for further details on this policy.

“Operation Clean-Up” Starts in February
The 17th annual “Operation Clean-Up” will be conducted at NIH during the month of February. The campaign’s objective is to effect economies in the government by utilizing idle equipment and supplies.

Last year, the campaign resulted in identifying 611 line items of equipment valued at $450,860, which were subsequently transferred to Property Utilization and reissued to other NIH or government activities.

Willie Bowles, Jr., assistant director for materiel management, DAS, states that each NIH component should initiate a “house cleaning” in order to make the campaign successful.

NIH organizational segments are requested to organize internal “walk-thru” teams, to be accompanied by a representative of the Property Branch. The teams hope to identify administrative, laboratory and scientific equipment which can be made available for redistribution on a cost-free basis to other activities.

In the interest of safety, fire hazard, and general appearance, it is suggested that special attention be given to cluttered hallways and/or storage areas. BID property representatives will notify areas of specific dates of the walk-thru.

It is requested that NIH personnel cooperate and make this year the most successful “Operation Clean-Up.”

SINGERS WANTED
It’s not too late—the NIH Singers resumed rehearsals Jan. 17. Among the events planned for this spring is a joint concert with the NIH Chamber Orchestra. There are still openings available in all voice parts.

To arrange an audition or obtain additional information, please contact Tony DeMarinis, 496-6442.
Jerry Gordon, NIH Record editor for the past 2 years, retired Dec. 31, after a colorful and varied career in communications.

Before coming to the Record, Jerry was assistant information officer for the Division of Research Resources for 10 years.

Originally from Brooklyn, N.Y., and one of six brothers, Jerry grew up during the Depression years. Starting his career in 1937 earning $12 a week with the Butcher’s Advocate Publishing Company in New York, he first learned writing and editing skills there that benefitted him in later years.

“These early years really set the course for the rest of my life,” he said. “I knew I wanted to write for my livelihood.”

In 1938, Jerry came to Washington, D.C., married in 1939, and began working for Muzak, Inc., eventually becoming general manager, writing all advertising and planning promotional campaigns for the next 14 years. During World War II, he enlisted in the Coast Guard and became company correspondent. After the war, he took all the communication courses offered by American University.

Jerry moved to Pueblo, Colo., in 1953, where he was an account executive and later national sales manager of the NBC-affiliated television station KCSJ. At the station, he wrote commercials, produced, announced and acted in programs, which were sold to various sponsors. “I was able to do all the things I love to do,” he said.

One program he created was called “Judge for Yourself,” a “People’s Court” type program in which citizens “sounded off” on various issues. He was also the weekly host of “The Late Night Movie,” and coproduced A Christmas Carol, starring as Scrooge.

His favorite character creation, however, was named “Fryin’ Pan,” who appeared in a weekly program featuring a live barn dance complete with Clydesdale horses.

Jerry produced a series of free children’s shows, but the audience had to pass through the model homes area to get to the outdoor theater. Employing Bob Fred, a booking agent and wrestling announcer as emcee, the two booked and produced 12 different shows for the Levitt development.

The themes ranged from a Mexican fiesta to a circus, with trained dogs and horses and even featured retired welterweight Bobby Foster in a boxing exhibition. A tremendous success, children loved the show, parents were delighted with the free professional entertainment, and Levitt enjoyed the sales.

Jerry eventually became a free-lance writer, covering Washington for 2½ years for a string of trade publications. He was known as “Your Man in Washington.” He later became associate editor of Life Association News, a monthly insurance magazine published by the National Association of Life Underwriters.

In March 1971, he joined DRR’s Office of Science and Health Reports. In 1979, he won the First Award for Distinguished Medical Writers from the American Medical Writers Association.

Drama and entertaining are Jerry’s favorite pastime. He has directed the Mt. Olivet players; a Masonic dramatic group; has written three plays, one of which was based on the life of John Wesley (founder of the Methodist Church) and produced nationally. The play, The Warm Heart, has been copyrighted and donated to the United Methodist Church.

He is an active member and past president of the NIH Toastmasters Club. Throughout his years at NIH, he has acted as master of ceremonies at special NIH functions and also entertained with his unique characterizations. Some of these were “Fryin’ Pan,” “Professor Grantswing-Ler,” “The Preacher,” and as a carnival Barker.

In 1981, Jerry became editor of the NIH Record. He described the position as “demanding, with a lot of headaches, but also a lot of fun.”

In retirement, he plans to relax. “Then I will probably do some free-lancing here and there. It won’t be technical writing; I’d like to do more creative work! No more ‘9 to 5,’” he said.

Jerry may take advantage of his recently earned certificate on the “Art of Clowning” from Northern Virginia Community College as “Old Dusty,” a tramp (shades of Emmett Kelly).

In retirement, he plans to relax. “Then I will probably do some free-lancing here and there. It won’t be technical writing; I’d like to do more creative work! No more ‘9 to 5,’” he said.

R&W Travels to ‘Big Apple’

To See Hit Play, ‘CAT’S’

R&W is offering a weekend trip to New York City on Saturday, Apr. 23, to see the Broadway play CAT’S. The cost is approximately $150 per person and includes a night’s stay at the Milford Plaza Hotel, ticket to CAT’S, bus transportation, and more. A deposit of $25 is required.

For further information contact the R&W Activities Desk, Bldg. 31, Rm. 1A18. □
Dr. George Brooks Retires; Leaves for Saudi Arabia

Dr. George T. Brooks, associate director, Division of Extramural Activities, NIADDK, will retire Jan. 21 after 33 years of government service to become medical research administrator and advisor at King Faisal University in Saudi Arabia.

During his 8 years at the Institute, Dr. Brooks directed the scientific and administrative management of NIADDK's program for awarding research and training grants, and served as principal advisor to the Institute Director in planning and administering programs, policies, and operating procedures.

From 1971 to 1974, he was associate director for Extramural Collaborative Programs, National Eye Institute, and was deputy director of the Division of Research Grants from 1969 to 1971.

Dr. Brooks performed his undergraduate and graduate work at the University of Kansas. He received his Ph.D. degree in entomology from that university in 1949, and spent the following 3 years in teaching and research.

In 1952, he joined the Information Cooperation Administration, the forerunner of the Agency for International Development, as a research specialist in entomology. He was initially assigned to advise the government of Nepal on establishing a plant protection service and malarial control program.

Katmandu, Nepal, a country high in the Himalayas, had been closed to foreigners for 100 years. According to Dr. Brooks, he and his family were among the first Americans to be admitted to the country. "When we got to know the Nepalese, we realized the universality of human values." During this time, he became friends with an elderly Nepalese man and his young son. The man was very concerned about the son's future.

"One day the boy appeared on my doorstep with a note from his father asking me to take him and rear him as my own," Dr. Brooks said. "The boy was about 13. We put him in a local private school and when our assignment was completed, left enough money in the bank to cover his college expenses. Being very bright, the boy won several scholarships, today, that young man is one of the outstanding textile engineers in Nepal."

Dr. Brooks' own two sons, who were babies in Nepal, are now grown. One serves in Brazil as assistant manager of a bank in Belo Horizonte, and the other works as food production manager of a Chicago hotel.

After living in Nepal for 5 years, he and his family began a series of assignments in Pakistan, Lebanon, and Iran, where he assisted and advised the governments of the Middle East, North and East Africa, and south Asia on the control of locusts and other pests.

In 1962, he became a grants associate with NIH, and in 1963, was appointed training consultant to the National Institute of Child Health and Human Development. In 1965, he became director of the NIAMD Hematology Grants Program. He was made deputy chief of NIH's Latin American Office in 1966, and appointed chief of that office in 1968.

His honors include nomination in 1954 for the Arthur S. Flemming Award, which recognizes outstanding young people in the Federal Government in scientific and administrative careers. In 1960, he was selected to organize the first U.S. government-sponsored seminars on insect control for all independent countries in Africa. In 1973, he received the Department's Superior Service Award.

With his new assignment as advisor at King Faisal University, Dr. Brooks and his wife will return to the Middle East. Mrs. Brooks, an avid art collector, has bronzes, sculptures, and paintings from all over the world. She was formerly the oriental art consultant with a local department store.

"Our new assignment will give us an opportunity to travel to new and interesting places," he said. "I have enjoyed working with people at NIH, but now it's time to move on. This is a good time to start a new career—I think I have a few good years left," Dr. Brooks concluded.

Gene Transfer (Continued from Page 1)

In the last 3 or 4 years, several reports have appeared of the transfer of genes from one cell type into another, and even from one animal into an animal of a different species.

In an earlier study funded by NICHD, Drs. Palmiter and Brinster were among the first to successfully transfer nonmouse (viral) genes to mice, where the genes produced a viral enzyme. But until now, there had been no indication that transferred genes worked in a useful manner.

The critical feature of the experiments reported in *Nature* is the fusion of a strong and active regulating genetic element to a useful gene.

The investigators combined the gene that produces growth hormone in the pituitary gland of rats with a regulating element from a blood protein gene of mice. This fused gene complex was transferred to fertilized mouse eggs by a sophisticated microinjection procedure.

The eggs containing the injected gene complex were then placed in surrogate mothers where they continued their development. A number of the injected eggs gave rise to healthy embryos which were born after the usual gestation period.

Although the newborn mice appeared normal, within the next few weeks many of them grew very rapidly and continued growing until their body weights were almost twice that of normal mice.

The accelerated growth of these animals clearly indicated that the injected genes were working in the developing mice. This was confirmed by chemical analyses of their blood, which showed that the rapidly growing mice contained unusually large amounts of growth hormone.

The investigators discovered that growth hormone was being produced in substantial amounts by the liver, presumably because the gene-regulating element is normally active there.

Although it is impractical to apply this technology to humans, it nevertheless has a number of important implications. The experiments show that it is possible to transfer genes from one animal to another and to have the transferred genes function in a more or less normal way.

Applications of this technology to large farm animals may have practical consequences; for example, it may allow the production of important biological products such as hormones which are not now available or are available in only limited amounts.

Also, the ability to accelerate growth rates in domestic animals could have beneficial effects by increasing the yield and quality of meat and milk. An especially important advantage is that the injected genes should be passed to the animal's offspring which, in turn, are likely to produce large amounts of the desired gene products.

Finally, these discoveries will provide productive lines of experimentation in laboratory animals, allowing new approaches to studying how and why genes turn on, or "express" themselves. Through research on gene expression, a central mystery of modern molecular biology, a better understanding of both congenital diseases and cancer should be gained.
Highly Sensitive Tests Developed To Detect Malaria Parasites in Mosquitoes

Tests that can detect malaria parasites in infected mosquitoes have been developed by a scientific team from New York University and the National Institute of Allergy and Infectious Diseases.

The tests are radioimmunoassays and grew out of research designed to develop a malaria vaccine. Proven successful in the laboratory and with wild-caught mosquitoes, the assays could improve our understanding of the epidemiology of malaria.

Malaria occurs when protozoan parasites of the genus Plasmodium are inoculated into the bloodstream by the bite of Anopheles mosquitoes carrying the infectious, or sporozoite, stage of the parasite.

Until now, the only way to detect sporozoites in the mosquito was by hand dissection and microscopic examination of the tiny salivary glands of individuals freshly caught mosquitoes. Not only was this tedious, but the species of the parasites could not be determined.

Thus, one had no way of knowing whether observed parasites belonged to one of the four species infective to man or were species that infect animals.

The dissection technique was also time-consuming, since most mosquitoes, even in tropical areas where malaria exists, are not infected. During African malaria epidemics, 1 percent to 5 percent of the mosquitoes may be infected, but in Central or South America or Asia, infection rates may be as low as 1 in 1,000.

The new techniques simplify detection of malaria parasites since they rely on readily automated procedures based on immunologic principles (the reaction between antigens and antibodies) rather than laborious dissection and microscopy.

Highly specific monoclonal antibodies, produced by hybridoma technology, indicate the presence and identity of sporozoites. If two or more species are present in a mixed infection, they can be identified simultaneously by labeling each species-specific monoclonal antibody with a different radioactive isotope.

The assays have two additional advantages: (1) mosquitoes can be tested in groups as well as individually since the techniques are sensitive enough to detect one infected mosquito in a pool of 25, and (2) the assays can be performed on dead, dried mosquitoes long after collection, with no special storage required. Keeping the dried mosquitoes at room temperature for months will not affect the test results.

The assays will enable epidemiologists to determine what percentage of a mosquito population is infected and therefore capable of transmitting malaria to man. Being able to calculate mosquito infection rates will allow scientists to study patterns of malaria transmission and to assess the effect of control campaigns using antimalarial drugs or insecticides.

If mosquitoes are separated by species before testing, it is also possible to determine which mosquito species are transmitting which malaria species, so that mosquito control programs can be aimed at the appropriate vector.

Funded primarily by the U.S. Agency for International Development and the World Health Organization, a team from NIAID and NYU has evaluated the tests under field conditions in The Gambia, West Africa.

When confirmed, these techniques could be applied to malaria studies throughout the world, and similar tests using specific monoclonal antibodies could be used to detect other vector-borne parasites of humans or animals.

This study was initially reported in Nature (Oct. 21, 1982) by Drs. F. Zavala, R. S. Nussenzweig, and V. Nussenzweig of NYU and by Drs. R. W. Gwadz and F. H. Collins of NIAID.

Visiting Scientist Program Participants

11/8 Dr. Osborne Almeida, United Kingdom, Developmental Endocrinology Branch. Sponsor: Dr. George Merriam, NICHD, Bg. 10, Rm. 10B09.
11/8 Dr. Indira Krishnan, India, Laboratory of Pathophysiology. Sponsor: Dr. Pradman K. Qasba, NICL, Bg. 10, Rm. B1842.
11/1 Dr. Wang Lai-che, China, Immunology Branch. Sponsor: Dr. Dinah singer, NCI, Bg. 10, Rm. 5B17.
11/5 Dr. Joanne Chou, China, Laboratory of Preclinical Pharmacology. Sponsor: Dr. Erminio Costa, NIMH, St. Elizabeths Hospital.
11/1 Dr. Doris G. Pfeiffer, West Germany, Developmental Endocrinology Branch. Sponsor: Dr. George Merriam, NICHD, Bg. 10, Rm. 10B09.
11/8 Dr. Aydin Tozeren, Turkey, Biomedical Engineering and Instrumentation Branch. Sponsor: Dr. Seth Goldstein, DRS, Bg. 13, Rm. SW13.
11/2 Dr. Robert Callahan, NICL, Bg. 37, Rm. 1A07.
11/4 Dr. R. W. Gwadz, F. H. Collins, Laboratory of Molecular Biology. Sponsor: Dr. Martin Gellert, NIAID, Bg. 2, Rm. 322.
11/1 Dr. Charles Theillet, France, Laboratory of Cellular and Molecular Biology. Sponsor: Dr. Robert Callahan, NICL, Bg. 37, Rm. 1A07.
11/1 Dr. George Merriam, NICHD, Bg. 10, Rm. 10B09.
11/8 Dr. George Merriam, NICHD, Bg. 10, Rm. 10B09.
11/5 Dr. Joanne Chou, China, Laboratory of Preclinical Pharmacology. Sponsor: Dr. Erminio Costa, NIMH, St. Elizabeths Hospital.
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11/8 Dr. George Merriam, NICHD, Bg. 10, Rm. 10B09.
11/8 Dr. Bahige Baroudi, Lebanon, Laboratory of Molecular Oncology. Sponsor: Dr. George Vande Woude, NCI, Bg. 41, Suite 100.
11/8 Dr. Indira Krishnan, India, Laboratory of Pathophysiology. Sponsor: Dr. Pradman K. Qasba, NICL, Bg. 10, Rm. B1842.
Dr. Warren Strober has been appointed chief of the recently created mucosal immunity section in the Laboratory of the production of IgA.

To discover why this is so, and what regulates

In the mucosa, white blood cells known as B lymphocytes produce a greater proportion of one type of antibody, called immunoglobulin A (IgA), than of other classes of antibody (IgG and IgM). One major research thrust of the new section is to understand the immunoglobulin A production and function.

Another area of investigation is the mucosal immune system, which leads to intestinal blockage. The exact cause of these diseases is not known, but they appear to be due to an imbalance in the mucosal immune system, which leads to chronic inflammation.

The symptoms of Crohn's disease, or ileitis—a not uncommon disorder from which President Eisenhower suffered—initially include abdominal pain, diarrhea, weight loss, and fever. As the disease progresses, fistulas, or small open passages, can develop through the wall of the intestine, causing intense pain and sometimes infections. Intestinal blockage may also occur.

There is no cure, but treatment with anti-inflammatory drugs such as sulfasalazine or with steroids is useful. Surgery is sometimes necessary but usually not curative.

In collaboration with Dr. Hidenori Kawanishi, a guest scientist from the Veterans Administration, Dr. Strober is studying blood from patients with Crohn's disease for increased levels of certain immune system proteins.

**NIH/NIMH BONUSES**

(Continued from Page 1)

Health Service nominees. After Departmental review, the final list was approved by the Secretary.

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Dr. Strober has received several honors, including a PHS Distinguished Service Award in 1979 and the Distinguished Achievement Award from the American Gastroenterological Association in 1981.

Dr. Strober is a native of Brooklyn, N.Y., he began his NIH career in 1964 as a clinical associate in the Metabolism Branch of NCI. In 1967 he was promoted to the position of senior investigator and became head of the immunophysiology section in 1977.

Recognized as an authority on the breakdown of immunoglobulins, Dr. Strober is particularly known for his work on celiac disease, in which patients have a sensitivity to bread and other cereal products, due to abnormal immune function.

Another area of investigation is diseases of the mucosal system, which leads to intestinal blockage. The exact cause of these diseases is not known, but they appear to be due to an imbalance in the mucosal immune system, which leads to chronic inflammation.

The symptoms of Crohn's disease, or ileitis—a not uncommon disorder from which President Eisenhower suffered—initially include abdominal pain, diarrhea, weight loss, and fever. As the disease progresses, fistulas, or small open passages, can develop through the wall of the intestine, causing intense pain and sometimes infections. Intestinal blockage may also occur.

There is no cure, but treatment with anti-inflammatory drugs such as sulfasalazine or with steroids is useful. Surgery is sometimes necessary but usually not curative.

In collaboration with Dr. Hidenori Kawanishi, a guest scientist from the Veterans Administration, Dr. Strober is studying blood from patients with Crohn's disease for increased levels of certain immune system proteins.

**NIH/NIMH BONUSES (Continued from Page 1)**

Health Service nominees. After Departmental review, the final list was approved by the Secretary.

The 1982 awardees were:

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Dr. Manning Feinleib, associate director for epidemiology and biometry and chief of the Epidemiology Branch of NHLBI's Division of Heart and Vascular Diseases, has been appointed Director of the National Center for Health Statistics.

In his new position, Dr. Feinleib will assume the responsibility for coordinating the collection of statistical information about the Nation's health and its dissemination.

He began his career at NIH in 1966 as a research epidemiologist for what was then the National Heart Institute. His research activities have included the establishment of the Framingham Offspring Study, a continuation of the Framingham Heart Study to a second generation, and the NHLBI Twin Study.

Dr. Feinleib has published extensively on many aspects of cardiovascular epidemiology as well as on biostatistical and genetic methodology. He has served as vice-chairman of the NIH Epidemiology Committee since its establishment in 1977 and was instrumental in setting up the PHS Epidemiology Training Program.

In addition to his positions at NIH, he is a visiting lecturer on epidemiology at Harvard University, clinical professor in the department of community medicine and international health at Georgetown University, and associate at the Johns Hopkins University.

During 1971-1972, Dr. Feinleib served as president of the Society for Epidemiologic Research, and in 1972 he received the Speigelman Gold Medal Award from the statistics section of the American Public Health Association.

He is the immediate past president of the American Epidemiological Society and, in 1982, received the PHS Superior Service Award.

Dr. Feinleib received his A.B. degree from Cornell University, his M.D. from the State University of New York Downstate Medical Center, and his M.P.H. and Dr. P.H. from Harvard University.

NIA Launches Prevention Effort On Accidental Hypothermia

The National Institute on Aging has begun its yearly effort to warn the public of the dangers, especially to the elderly, of accidental hypothermia and to advise on ways to prevent it.

According to NIA, winter weather poses a special danger to the elderly because, with age, the body becomes less able to respond to the cold. Accidental hypothermia, a drop in body temperature to 95 degrees or below, can be fatal if not detected and treated properly.

Precautions Listed

Listed in NIA's "Aging Update," the best precautions against hypothermia are:

- Dress warmly even when indoors, eat enough food, and stay as active as possible.
- Because hypothermia may start during sleep, keep warm in bed by wearing enough clothing and using blankets.
- Heat only one or two rooms of the house to save fuel costs.
- Ask a doctor whether some of the medications being taken - especially those to treat anxiety, depression, nervousness, or nausea - might affect the body's temperature.
- Have friends or neighbors look in regularly, particularly during a cold spell. Some communities have a telephone check-in or personal visit service for the elderly or homebound.

In addition to preparing press releases and radio spots, the NIA has sent material to utility companies across the Nation suggesting that brief advisories on preventing hypothermia be sent to customers with billing notices or in customer newsletters.

Caution, common sense, and prompt medical care can help older people have a healthy winter. A copy of NIA's brochure A Winter Hazard for the Old: Accidental Hypothermia may be obtained by calling 496-1752 or writing NIA, Bldg. 31, Rm. SC35, Bethesda, Md. 20205.

Judo Applications Accepted

The NIH Judo Club is accepting applications for the winter beginner's class, to be sponsored by the NIH Recreation and Welfare Association.

Ten classes in basic judo will be held on Tuesdays from 6 to 7:30 p.m., beginning Feb. 1, in the old gymnasium, Stone Ridge School, at the corner of Cedar Lane and Wisconsin Avenue.

Dr. Thomas E. Malone, NIH Deputy Director, will serve as chief instructor, or sensei. He has had extensive experience as a judo instructor and holds a second degree black belt (nidan). Dianne Moore will be co-instructor.

The fee for the 10 sessions is $35. Application forms can be obtained from Kathleen Thomas or Dr. Malone, Bldg. 1, Rm. 132, 496-2121.

For further information, call Susan Allyn, 496-7195.
Surgery Unit of Veterinary Resources Branch Provides Excellent Care for Research Animals

A visit to the surgery unit of the Veterinary Resources Branch, Division of Research Services, points up the invaluable services the unit renders to NIH biomedical researchers.

Investigators from many Institutes perform animal surgery there, assisted by unit personnel, following aseptic surgical standards established and maintained by the unit. “The animal care here is quite excellent; this facility is patterned after a human operating room,” said Ursula Spenser, R.N., operating room nurse in the unit. “Our program includes complete pre- and post-operative veterinary care.”

Veterinary surgeon John D. Bacher supervises a staff of seven in the unit, part of VRB’s veterinary medicine and surgery section, headed by Dr. David K. Johnson. The unit is located in Bldg. 14E, which was completely remodeled over a 4-year period ending in 1980.

“This is an ideal environment for aseptic surgery on laboratory animals,” Dr. Bacher said. “It meets current and proposed animal care requirements, and we’re accredited by the American Association for Accreditation on Laboratory Animal Care.”

Upon request, Dr. Bacher will perform surgery on animals in collaboration with specific experimental protocols or assist in developing new animal models. He frequently consults MEDLINE and MEDLARS to search for new surgery techniques and recent drug conversions for animals.

Because surgery is especially important in the research of the National Heart, Lung, and Blood Institute, part of Bldg. 14E is occupied by NHLBI, which conducts its own research program there, making use of VRB’s preparation and recovery room, sterilization rooms, and other VRB resources.

The surgery unit was designed primarily for use of the larger species of laboratory animals such as the monkey, sheep, goat, miniature pig, dog, and cat, although smaller animals have also been used in recent studies.

Most of the large animals are housed in VRB’s comparative medicine unit in nearby Bldg. 28 while on research protocol. Monkeys are housed in the primate research unit in Bldg. 14D. The veterinarians in charge of these units provide veterinary care to the animals held there before or after surgery.

Research surgery on monkeys has included brain tissue grafts for the treatment of Parkinson’s disease, and the development of new techniques for intraperitoneal treatment of hydrocephalus, spina bifida, and other developmental abnormalities. Surgery on sheep has included pituitary investigations and blood-brain barrier studies.

Dogs have been used for heart studies, pancreatic transplantation, tendon transplants, and the testing of synthetic vascular grafts. “The range of studies is wide,” Dr. Bacher said. “For example, miniature pigs are used to study rotavirus enteritis, hypertension, and malignant hyperthermia.”

“The unit staff’s assistance to investigators is very like the work in a human surgery,” Mrs. Spenser said. “We set up and maintain the operating rooms, sterilize the instruments and supplies, premedicate the patient, induce anesthesia, clip and scrub the animal, maintain proper levels of anesthesia so that the animal will feel nothing, monitor EKG and blood pressure during the procedure, and monitor the patient during recovery.”

The operating rooms look remarkably like those used for human surgery. Conveniently located among the operating tables is an array of equipment that includes anesthesia machine, ventilator, defibrillator, and emergency drug cart. Wall-mounted outlets for oxygen, nitrous oxide, vacuum, and anesthetic evaporator are available.

Other equipment present includes monitors that give digital readouts of heart rate, temperature, and systolic-diastolic and mean blood pressures.

Water from a heat exchanger is available to maintain normal body temperature or produce hypothermia. Much of the equipment has been modified to allow easy access and use during surgery.

“We monitor EKG’s and temperature on this facility is patterned after a human operating room.

The Yucatan pig, originating in Mexico, serves as a research animal model for studying diabetes.

Besides being valuable for monitoring the surgical patient, this information often helps evaluate the underlying pathophysiology in various experiments and helps determine the treatment regimen in acid base disorders,” Dr. Bacher said.

After surgery, the animals are placed in intensive care cages that are both oxygen and temperature controlled for optimal recovery.

A digital readout of the temperature and relative humidity gives a rapid means of monitoring the environment. An oxygen analyzer is used to maintain a 40 percent oxygen supply during the recovery.

This unit provides for optimum recovery of the surgical patient,” said Dr. Bacher. “It was developed to promote improved experimental results through the best possible surgical and postsurgical care.”

R&W Offers Computer Classes

R&W is sponsoring hands-on computer classes with a maximum of two students per computer, now being offered by Electronic Learning Facilitators, at the Bethesda Country Day School, approximately one-half mile from the NIH campus.

Courses for adults in basic programming will be held every evening and on Saturday mornings. Special classes for families are available during the winter session.

A 10 percent discount is available to all R&W members and their families. Brochures containing complete course descriptions, class dates and times, and registration forms for the winter session can be obtained at the R&W Activities Desk, Bldg. 31, Rm. 1A18.
HERPES TEST  
(Continued from Page 1)

their immune systems are not fully matured.

The new test is simple enough that hospi-
tals with virology labs can readily use it.
However, “personnel trained in tissue culture
techniques are essential,” said NINCDS
immunologist Dr. Lata S. Nerurkar, the prin-
cipal investigator on the research team that
developed the test.

Like currently available tests for herpes,
the new technique involves growing the pos-
sible virus on human cells in tissue culture.
The suspected virus is grown in eight-

chambered slides which have been inocu-
lated with specimens obtained from genital
lesions of maternity patients.

“This method allows for an increase in the
ratio of the virus to tissue culture cells, mak-
ing the test more sensitive,” said Dr.
Nerurkar.

The cultures are allowed to grow in the
slide chambers for at least 24 hours before
staining. The staining technique developed
by the NINCDS scientists involves the use of
herpes-specific antibody, chemically bound
with biotin (a B-vitamin). The fixed cultures
are allowed to react with this antibody for 1
to 1½ hours.

The slides are then washed and stained
with avidin-bound fluorescein. Avidin is a
protein which has a high affinity for biotin.
The staining process makes any herpesvirus
in the culture fluorescent so it can be seen
under a microscope.

The new test, described in the January
1983 issue of the Journal of Clinical Micro-
biof (Vol. 17, pp. 149-154), is the first
reported use of the “biotin-avidin-
fluorescence” stain method for the detection
of viruses.

This method may eventually be used to
detect other viruses. For now, the NINCDS
Infectious Diseases Branch is working on an
even shorter herpes test. “We’re really aim-
ing for a 10-minute test,” said Dr. Sever, “but
a 24-hour test is a significant step in the
right direction.”

NIEHS Has Successful
CFC Campaign

The National Institute of Environmental
Health Sciences scored a record success in
its participation in the Research Triangle
Area Combined Federal Campaign for 1982–83,
raising a total of $16,278.50 in cash dona-
tions and payroll deduction pledges for the
coming year. This surpassed by $3,992 last
year’s contributions, and by $1,750.50 the
previous record year, 1980–81.

“That this extra effort has been made in a
time of economic difficulty, when even prosp­
erous households feel the pinch, shows a
real commitment to helping,” NIEHS Direc-
tor Dr. David P. Rall said.

Executive officer Paul G. Waugaman
served on the Research Triangle Area CFC
Steering Committee. Chairperson this year
was Ernest W. Chapman of NIEHS’ Office of
Administrative Management, and Cochair-
person was Carol Matheny, NIEHS Extr­
mural Program.

From a permanent pool of 468 employees,
236 contributed for 50.4 percent participa-
tion. Cash contributions were made by 83
employees totaling $1,755, and average cash

Payroll deduction contributions were
made by 153 employees for $14,521, with the
average payroll deduction being $94.91.
Average contribution Institute-wide was
$68.97, for all employees was $34.78.

NEI Grantees Win
Awards for Excellence

Four National Eye Institute grantees are
recipients of this year’s Research to Prevent
Blindness, Inc. awards for research of un-
usual promise.

Dr. Robert Eugene Anderson, an NEI grantee
for the past 11 years, received $60,000.
This is the largest individual award for eye
research given annually by a private philan-
thropic organization.

His work explores the role of lipids in
degeneration of the photoreceptors, the
light-sensitive retinal cells that send visual
signals to the brain.

A professor of biochemistry at Baylor Uni-
versity in Houston, Dr. Anderson is a pioneer
in the study of photoreceptor lipid metabo-
lism in rod cells. His work raises the possibil-
ity that certain retinal degenerations may
result from oxidative damage to photo recep-
tor membrane lipids.

In humans, this type of photoreceptor cell
degeneration results in blinding eye diseases
such as senile macular degeneration in the
aging and retrolental fibroplasia in prema-
ture infants. These two diseases are major
causes of blindness in the United States.

Dr. Dean Bok of the University of Califor-
nia at Los Angeles, whose investigations of
how cell renewal in the retina may relate to
retinal degenerations, was recognized with a
$35,000 award.
Dr. Henry F. Edelhauser, Medical College of
Wisconsin, Milwaukee, was awarded
$25,000 to continue research on factors
which cause corneal edema in humans—
natural causes, surgery, and drugs.

Dr. Robert F. Miller, Washington Univer-
sity, St. Louis, will receive assistance in
establishing a tissue culture laboratory to
expand his studies of basic retinal neural
circuitry.
DR. GOLDSTEIN
(Continued from Page 1)

(1976 to 1978), director, extramural program (1961 to 1976), and chief, special projects branch (1960 to 1961).

In an interview, he reaffirmed the Institute's commitment to research aimed at understanding the brain, central nervous system, and mechanisms of human communication, and at improving methods for diagnosing, treating, and preventing neurological and communicative disorders.

"Of all major systems of the body, the nervous system remains the least understood," Dr. Goldstein said. "We need to discover how the brain and nervous system work, why they fail to work, and how to prevent these failures. And when disorders do occur, we need to find ways of preventing their effect."

Research on stroke, the number one neurological problem in the United States, will remain a top Institute priority, according to Dr. Goldstein. "There has been major progress against stroke mortality over the past two decades," he said, "and neurological research being supported at this time offers the promise of even more success for the prevention of brain damage and the return of threatened body function.

"Research on brain and spinal cord injury—particularly on nerve cell regeneration—will also still be a major priority of the Institute."

Calling communicative and sensory disorders "the most poorly appreciated of the serious disturbances of mankind," Dr. Goldstein pointed to several programs the Institute is organizing to remedy this problem.

Two intramural laboratories for communicative disorders have been established, one for basic research, the other for clinical studies.

In the NINCDS extramural program, communicative disorders and sensory disorders research centers are being funded in which multidisciplinary teams will address such problems as hearing loss, language impairment, and disorders of taste and smell.

Commenting on the Institute's contribution to basic research, he said, "Past research has given us the insights and methods needed to develop a more meaningful model of how the brain works. We are on the threshold of knowing how the nervous system acts as the master regulator and coordinator of most body functions."

Dr. Goldstein believes that basic neuroscience research is preparing scientists for achieving the Institute's most important goal: prevention.

"We will be giving even greater attention to identifying the vulnerable points in pathogenesis at which therapy can intervene to prevent the death or malfunction of the nerve cell," he said, adding that prevention "will receive even greater emphasis in the years to come."

A native of New York City, he holds the degrees of doctor of osteopathy and master of public health. From 1967 to 1988, he was a visiting scientist in neurology with the Mayo Clinic and Graduate School.

Dr. Goldstein has been a medical officer in the PHS Commissioned Corps since 1953, when he entered service with the NIH as assistant chief of the Grants and Training Branch, National Heart Institute. He has also held positions with the NIH Division of Research Grants.

He is a consultant to the World Health Organization, and holds membership in the major professional neurological and neuroscience societies, including the American Academy of Neurology, the Society for Neuroscience, the American Heart Association Council on Stroke, and the World Federation of Neurology. He is second vice-president of the American Neurological Association.

Dr. Goldstein is a member of the editorial boards of the International Journal of Neurology, the Journal of Neuroepidemiology, and Osteopathic Annals, and associate editor of Stroke.

The four Fogarty scholars have offices in Stone House and can be reached at 496-1213.

NCI Awards $2.3 Million To University of Chicago

The National Cancer Institute has awarded $2.3 million to the University of Chicago Cancer Research Center to fund its continuing programs in cancer research, treatment and education over the next 3 years.

Now in its ninth year of support from NCI, the center coordinates a diverse range of basic scientific research programs and clinical activities to solve the problem of cancer.

Major investigations are under way in virology, tumor immunology, cell biology, carcinogenesis, radiation therapy and radiation physics, steroid hormone cell surface receptors and many areas of clinical research.

Treatment involves almost every medical specialty. Over 1,100 new cancer patients started treatment during the past year.
Measuring of Infant Perception Explored

How well do newborns hear and see? How can their hearing and vision best be measured? Some 20 scientists from the United States and Canada deliberated on techniques used to measure these sensory systems in infants during a recent conference.

The meeting, Measurement of Audition and Vision During the First Year of Life, was sponsored by the Human Learning and Behavior Branch of NICHD’s Center for Research for Mothers and Children.

Drs. Norman A. Krasnegor, HLB branch chief, and Gilbert Gottlieb, chairman of the department of psychology at the University of North Carolina, cochaired the event.

“An estimated 1 to 2 percent of children and youth are hearing-impaired in the United States. Some 3 percent are believed to suffer from amblyopia or dimness of vision,” said Dr. Krasnegor.

Since hearing and vision are essential for full development of speech, language, and reading skills, their proper functioning is crucial for the intellectual and social development of the child.

In the past 10 years, improved testing techniques and the establishment of norms have allowed earlier detection and treatment of sensory dysfunctions in infants than ever before.

Development of the inner and middle ear of the human fetus starts in the third week of gestation and much of the structural architecture is finished by mid-pregnancy.

Hardening of the cartilage continues throughout pregnancy and postnatally. However, many scientists believe that the fetus, suspended in an aquatic environment, is quite capable of hearing during much of the last trimester in utero.

Most of the eye structure is completed in the first trimester, but the retina continues to develop during the second and third trimester and after birth.

Most experts concur that by 3 months of age, a child’s vision can accurately be measured for acuity, pattern and color, although these functions continue to develop through the first few years of life.

At the conference, scientists discussed various behavioral and physiological techniques for assessing visual and auditory development in infants.

The techniques involve blinking or tightening of eyelids, startle reflex, eye movement, nonnutritive sucking, respiration, heart rate, skin resistance, and pupil size, as well as cortical and brainstem-evoked potentials (electrical activity).

Among overt motor responses, nonnutritive sucking and conditioned head turning appear to be the most useful in testing vision and hearing in infants.

“Conditioned head turning was described by Drs. Bruce A. Schneider and Sandra E. Trehub of the Center for Research in Human Development at the University of Toronto. They tested infants ages 6, 12, and 18 months.

The subject was placed on its mother’s lap in one corner of the testing booth. When the infant was quiet and looked straight ahead, the researcher would present a signal at one of five different sound levels from one of two speakers placed on either side of the baby.

The signal remained on until the infant made a head turn of 45 degrees or more toward either side. If the child moved its head toward the sound, a toy above the speaker would light up for 4 seconds. This would reinforce the response and keep the baby’s interest high.

The procedure allowed Drs. Schneider and Trehub to determine auditory thresholds for the three age groups. The results demonstrated that the 6-month-old group was approximately five to eight decibels less sensitive than the older infants at the lower frequencies but that the auditory threshold for the 12- and 18-month-olds was similar across the frequency range studied.

By developing more powerful methods of measuring vision and hearing in infants, researchers should become able to more precisely assess what infants hear and see during their first year of life.

Ultimately, such new methods should stimulate the development of screening procedures for early detection and treatment of visual and auditory deficits.

—Tineke Bodde

Gifts to the NCI recently made possible the acquisition of the R.A. Bloch International Cancer Information Center, formerly the Credit Union building, on Old Georgetown Road. It will house the staff of the International Cancer Research Data Bank, Journal of the National Cancer Institute, Division of Cancer Treatment Scientific Information Branch, and headquarters of PDQ, an information service for physicians and patients to obtain information on cancer treatment. Participating in the Dec. 16 closing were I to r: Robert Namovicz, deputy executive officer, NCI; Ellen Cook, attorney, Department of Justice; Robert Lanman, NIH legal advisor; Louis Mancuso, Office of General Counsel, HHS; Jeff Bolotin, attorney, Rozansky and Kay Construction Co.; Richard N. Brown, Shannon and Lucas Realty; Ronald Rresh, attorney, NIH Federal Credit Union; Jerry deSeve, comptroller, NIH Federal Credit Union; not visible is John Cooney of Metro Title Corp.; Fred Kruhm, manager, NIH Federal Credit Union; and Dr. Normand Goulet, president, NIH Federal Credit Union.

Univ. of Pennsylvania Honors NEI Director

National Eye Institute Director Dr. Carl Kupfer recently was awarded an honorary doctor of science degree by the University of Pennsylvania. The degree was given at a convocation marking the 10th anniversary of the University’s Scheie Eye Institute.

Sheldon Hackney, university president, conferred the honor on Dr. Kupfer, commending him as "a distinguished and articulate administrator, a dedicated researcher, and a compassionate physician."

Dr. Carl Kupfer was commended for his encouragement of research on nutritional blindness and other eye diseases that are of great public health significance in other parts of the world.

Dr. Kupfer was cited in the award presentation for his leadership in employing collaborative clinical trials to solve major problems in ophthalmology. NEI-supported trials on laser treatment of diabetic retinopathy and senile macular degeneration were also singled out for special mention.

In addition, he was praised for his continued involvement in glaucoma research and in patient care.

Dr. Kupfer in delivering the convocation address outlined the major challenges and needs facing the vision research community between now and the end of the century. Vision researchers must foster the clinical applications of ideas and technology arising from the current scientific revolution, he said.

They must continue to make progress in research in an era of stable or diminishing financial resources. New ways must be found to prevent the aging-related eye diseases that are becoming more frequent as the proportion of aged people in the world increases. Finally, researchers must take responsibility for ensuring that advances in ophthalmology reach people in developing nations.

Receiving honorary degrees along with Dr. Kupfer at the convocation were three longtime NEI grantees—Nobel laureate Dr. Torsten Wiesel of Harvard, Dr. Arnall Patz of the Retinal Vascular Center at Johns Hopkins University Medical School, and Dr. Charles Schepens of the Retina Foundation in Boston.
NIH Achieves 90% of CFC Goal

Final contributions have been counted and the names of raffle winners drawn, marking the end of a successful drive that helped NIH achieve 90 percent of its Combined Federal Campaign goal.

NIH CFC chairman Dr. Carl D. Douglass, DRG Director, commenting on the fact that although only 39 percent of NIH employees participated, NIH was still able to achieve 90 percent of its goal, said: “This year’s campaign represented an extremely positive effort on the part of many NIH employees and I would like to express my appreciation to the CFC keyworkers for their dedicated efforts and to those NIH employees who gave so generously.”

As an incentive to contribute during the CFC, contributors were given a raffle ticket for every $26 donated. Four winning tickets were drawn by Dr. Douglass on Jan. 3.

The first prize, a $50 R&W gift certificate, was awarded to Kathleen O’Brien, secretary, Division of Heart and Vascular Diseases, NHLBI.

Second prize, a $20 R&W gift certificate, was awarded to Dr. William A. Eaton, acting chief, Laboratory of Chemical Physics, NIADDK.

Third prize, a $10 R&W gift certificate, was awarded to Fred Yamada, computer systems analyst, DCRT, and fourth prize, an original drawing of NIH’s Stone House by artist Brent Jaquet, was awarded to Ronald Washington, tool and parts attendant, Division of Engineering Services, OD.

Final contributions for each BID are as follows.

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<tr>
<th>BID</th>
<th>GOAL</th>
<th>AMOUNT OF CONTRIBUTIONS (%)</th>
<th>NUMBER OF CONTRIBUTORS</th>
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<td>TOTALS</td>
<td>$294,056</td>
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*NIEHS, located in Research Triangle Park, N.C. was not included in the National Capital Area CFC Campaign. (See page 9 for NIEHS campaign results.)

News Branch ‘Adopts’ Chinchilla at Philadelphia Zoo

The NIH News Branch has become the proud parents of “Andy”—a chinchilla who lives at the Philadelphia Zoo. Andy is one of the many animals available for adoption under the zoo’s ADOPT program—Animals Depend On People Too.

For a modest sum, individuals or groups can finance the care and feeding of the animal of their choice for 1 year.

To make visiting more feasible, the News Branch would have preferred to adopt an animal at the National Zoo, but it has no such program. However, staff members hope to visit Andy in Philadelphia on “Parent’s Recognition Day” for a family picture.