

the



Record

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

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NATIONAL INSTITUTES OF HEALTH

HEW Safety Standards On Chemical Carcinogens To Be Issued in Manual

The final draft of safety standards for laboratory research involving cancer-causing chemicals has been developed by the Subcommittee for Carcinogen Standards of the DHEW Committee to Coordinate Toxicology and Related Programs.

The standards document, which will set mandatory safety practices for chemical carcinogens for all HEW laboratories, will be issued by the HEW Director of Safety as part of the Department's Safety Management Manual.

Based on NCI Guidelines

These standards are based on minimum safety guidelines for research in cancer developed by the Cancer Research Safety Committee of NCI, headed by Dr. W. Emmett Barkley.

The subcommittee also heard testimony from approximately 45 representatives from government, industry, and academia on their experiences in controlling exposure to carcinogens. More than 100 other scientists and safety profes-

(See *CARCINOGEN*, Page 5)

Study Needs Patients With Recurrent Canker Sores

Patients with recurrent canker sores, aphthous oral ulcers, are needed to participate in a new etiology and treatment study conducted by the National Institute of Dental Research.

These ulcers occur inside the mouth as distinguished from "fever blisters," caused by herpes simplex virus, which occur outside on the lip margins.

Only those individuals with frequent attacks (at least twice a month) will be accepted for study. For more information and a possible appointment, call Dr. Edward A. Graykowski on Ext. 64571.

Participants will be requested to report to the Clinical Center dental clinic weekly for observation by the principal investigator.

Supreme Court Action Affirms Decision, Permits Photocopying for Library Loan

Almost 7 years to the day after the Williams & Wilkins Company filed a petition against the Federal Government alleging copyright infringement, the U.S. Supreme Court

announced that it would not overturn a lower court decision in favor of the Government.

The Justices were split four to four on the question, but by their deadlock they affirmed a 1973 U.S. Court of Claims decision that photocopying by the National Library of Medicine and the NIH Library of copyrighted journal articles for interlibrary loan is not a copyright violation.

Justice Blackmun abstained from voting.

Commenting on the case, Dr. Martin M. Cummings, NLM Director, noted that users of published health information owe a debt of gratitude to the many organizations that supported the Library's position.

The lengthy legal proceedings started on Feb. 27, 1968, when the Baltimore medical publishing firm filed a suit charging that the NLM and NIH, by providing health professionals with single photocopies of journal articles, had infringed the publisher's copyright.

The Government argued that such copying for interlibrary loan was within the definition of "fair use," and that such reproduction was necessary to insure the dissemination of published research results.

Previous Actions Reviewed

On Feb. 16, 1972, Commissioner James F. Davis of the U.S. Court of Claims, where the case was first argued, filed a report to that Court in which he held in favor of the plaintiff.

Government attorneys filed an exception to the report and, on Nov. 27, 1973, by a vote of four to three, the full Court of Claims found in favor of the Government.

That decision was appealed to the U.S. Supreme Court by Williams & Wilkins, and the final ruling was announced on Feb. 25.

communications facilities for the White House Situation Room, National Security Council Staff, and the Executive Offices of the President.

Communications Analyst Named Deputy Director Of Lister Hill Center



Mr. Erdman, who taught electrical engineering at Northeastern University, helped in setting up communications facilities for the White House Situation Room and the Executive Offices of the White House.

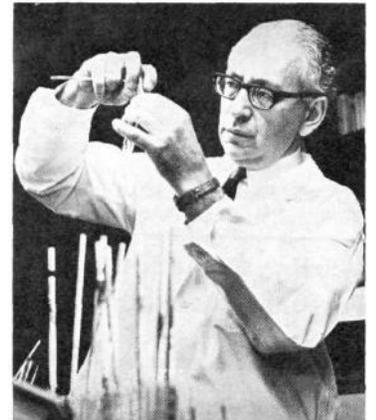
Ben Erdman has been named deputy director of the Lister Hill National Center for Biomedical Communications. He will assist Dr. Robert M. Bird, Director of the Lister Hill Center, in planning, developing, and executing scientific and technical research and development programs in biomedical communications.

Mr. Erdman received a B.S. degree in electrical engineering from Northeastern University in Boston—he is a native of that city. After graduation he spent several years studying at the Massachusetts Institute of Technology, and later accepted a teaching assistantship there. Following this assignment, he became a full time instructor in electrical engineering at Northeastern University.

Mr. Erdman's Federal career began in 1964 when he joined the Department of Defense as a computer systems analyst in the Defense Communications Agency. He came to NLM from that agency; his last position there was program manager and technical director.

Mr. Erdman helped provide improved information handling and

Cornell's Dr. E. Racker, Renowned Biochemist, To Deliver NIH Lecture



Dr. Racker, who started his research career at the Cardiff Mental Hospital in Wales, came to the U.S. in 1941. He has also taught at the University of Minnesota and New York University.

Dr. Efraim Racker, Albert Einstein Professor of Biochemistry at Cornell University, will deliver the NIH Lecture on Wednesday, March 26, at 8:15 p.m. in the Masur Auditorium.

Dr. Racker will speak on Ion Transport in Reconstituted Systems and in Cancer Cells. He will explain the role of proton translocation in oxidative phosphorylation, which is the formation of a high-energy compound—adenosine triphosphate—during respiration.

The movement of protons across membranes within the cell is believed to be the driving force in the production of biologically useful energy.

Explains Primary Function

The primary function of the respiratory chain of electron-transfer compounds is to accomplish this translocation within the mitochondria, subcellular organelles.

A proton "pump" (a complex structure of several proteins) reverses the flow of protons and in doing so causes the formation of ATP.

Dr. Racker and his colleagues have reconstituted the calcium ion and sodium-potassium ion pumps,

(See *DR. RACKER*, Page 6)

the  **Record**

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Martina C. MacDonald, Personnel Ass't, Dies

Martina C. MacDonald, senior personnel assistant at the National Heart and Lung Institute, died Feb. 14 in Suburban Hospital.

Mrs. MacDonald began her Federal service in 1941, coming to NIH's central personnel office in 1955. In 1959 she transferred to NHLI's Personnel Management Branch.

Known to her many friends as "Tina," she was the recipient of numerous awards in recognition of her dedication to excellence.

Her co-workers note that her friendly and helpful attitude as well as her detailed knowledge of personnel programs made Mrs. MacDonald an invaluable member of the Institute's staff.

Mrs. MacDonald, who was a resident of Bethesda, is survived by her husband, Warren H., and two sisters.

Commissioned Officers of PHS Charter Flight for Meeting

The Commissioned Officers Association of the U.S. Public Health Service has arranged a special charter flight from Washington, D.C., to Las Vegas, Nev., for members and their families to attend the 10th annual meeting of its Professional Association June 2-5.

For further information, telephone William J. Lucca, Jr., or Jacqueline Kramer, COA headquarters, (202) 298-8680.

Some 340 abstracts of professional papers have been submitted for presentation at the meeting, and a record number of 34 entries for the J. D. Lane Award competition has also been announced.

Md. Residents Asked To Register New Tags With Parking Office

Approximately 7,000 NIH employees residing in Maryland will be required to display new automobile license tags by April 1.

These new tags should be registered with the Parking Office, Bldg. 31, Room B1-C11, as soon as they are on the cars.

This helps the Parking Office to notify owners when vehicle lights are left on, gas is leaking, or accidents occur.

Soon after April 1, a questionnaire will be sent for registering new tag numbers not already recorded. These forms may be mailed or handed in to the Parking Office. Their prompt return will be appreciated.

If Maryland residents have not received this form by April 18, it indicates that the computer does not have their office address. Please call Ext. 66851 to make a correction.

After a reasonable time, NIH Special Police officers will begin checking tag numbers with permits.

Grant Given to Washington U. For Diabetes Research Center

The National Institute of Arthritis, Metabolism and Digestive Diseases has announced the award of a \$533,293 grant to establish a fifth Diabetes-Endocrinology Center at Washington University in St. Louis. This program will be under the direction of Dr. William H. Daughaday, principal investigator.

Photos Depicting History of NIH Requested by NLM

Requests for photographs depicting events at NIH that may be of historical interest have been made by the History of Medicine Division, National Library of Medicine. Dr. Peter D. Olch is deputy chief of the Division.

He stated that the public information offices at NIH and the staffs of other offices here have been asked to search their files for such material. NIH alumni are also requested to send such photos to Dr. Olch at NLM.

The photos may be candid shots taken in laboratories, the Clinical Center, on medical rounds, or in operating rooms.

The History of Medicine Division has been chosen as the repository for such photos. That office will organize, catalog, and make the material available to those with valid interests.

If requested, photographs that are not selected for the collection will be returned to the sender. All photographs—groups, lab scenes, instruments and other equipment—must be dated and fully identified, if possible.

Send dated and identified photographs to Dr. Peter D. Olch, History of Medicine Division, NLM, 8600 Rockville Pike, Bethesda, Md. 20014.

New Energy-Saving Goal of 15% Proposed for All Fed'l Agencies

During the last fiscal year, the Federal government reduced energy use by 24 percent, saving the equivalent of 90 million barrels of oil.

The new conservation goal in fiscal year 1975—for Federal agencies to save 15 percent below the amount of energy consumed in FY 1973—is expected to result in an additional savings of approximately 55 million barrels of oil.

Research Awards Prog. Unified

The consolidation of research training and fellowship authorities of the various components of NIH and the Alcohol, Drug Abuse, and Mental Health Administration into a unified National Research Service Awards Program was recently announced by Caspar W. Weinberger, HEW Secretary.

The proposed regulations governing the new program have been published in the *Federal Register*.

Safety Tips for NIH

WHAT ARE LAB COATS FOR?

Check one:

A.



B.



Correct answer: A.

Lab coats protect the clothing and bodies of laboratory personnel from chemical or biological research materials. They are not all-weather coats or lounging jackets. Call the Environmental Services Branch, Ext. 66034, for information on the use of laboratory clothing.

Lyman Moore Retires; In Gov't Three Decades

Lyman Moore, executive officer of the National Heart and Lung Institute, has retired after more than 30 years of Federal service. He has been with the Institute since 1970.

Mr. Moore started his Government career in 1940 with the Bureau of the Budget. His other Federal posts include serving as assistant executive officer of PHS, and as executive officer of NIMH, the Bureau of State Services Environmental Health Program, and the Bureau of Disease Prevention and Environmental Control.

Lectured at American U.

From 1968 until he joined NHLI he served in several executive positions with HSMHA.

During his Federal career, Mr. Moore had lectured at American



Mr. Moore received his undergraduate degree from Princeton University and his M.A. from the U. of Minnesota. He has also worked in private industry as a management consultant.

University for about 11 years. He was past national president of American Youth Hostels and received that organization's National Award for Distinguished Service to Hosting.

This past Friday (March 7) co-workers and colleagues gave a farewell party for Mr. Moore in Wilson Hall.

Rosalind Marimont Will Speak On EEO at Westwood Mar. 19

Rosalind B. Marimont, chairperson of the Equal Employment Opportunity Task Force on Numerical Goals and Time Tables, will speak at a NIGMS EEO Committee open meeting, March 19, in the Westwood Bldg., Conference Room D at 2:30 p.m.

Ms. Marimont will discuss statistics on employment of the minorities and women at NIH and whether progress has been made in recent years.

She will also talk about the Fair System for improving the representation of women and minorities in the middle and upper grades.

Gerontology Seminar Hears Dr. Danon on Macrophage Recognition, Red Cell Aging

How does the macrophage pick out old red blood cells that are "deteriorated" or "undesirable"? This question was examined by Dr. David Danon at a recent NICHD Gerontology Research Center seminar.

Dr. Danon's laboratory has conducted extensive studies on the biophysical aspects of red blood cell aging over the past 15 years. He heads the Biological Ultrastructure Section of the Weizmann Institute of Science, Rehovot, Israel.

An internationally recognized electron microscopist and expert on red blood cells, Dr. Danon is President of the 10th International Congress of Gerontology to be held in Jerusalem, June 22-27.

In their research, the Israeli scientists assumed that the macrophage does not recognize enzymatic activity levels within a red blood cell as the signal to remove it from circulation after its 120-day useful life span.

Studies Explained

Their studies point to the signs "read" by the macrophage as either a diminished ability of the cell to change form and return to its original shape without breaking (reversible deformability), or a reduced negative charge on the old cell.

Data collected in Dr. Danon's laboratory favor the reduced surface charge on the old cell membrane as the primary sign recognized by the macrophage.

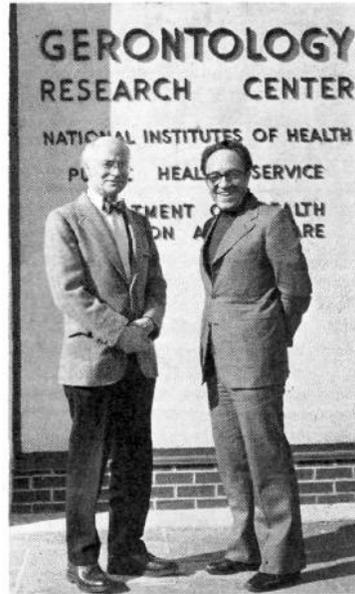
It may not be the only sign, Dr. Danon added, since there are increased numbers of antigens on the old cell membrane. Therefore, he said, the reduced surface charge may help the macrophage get closer to the cell membrane where it recognizes the surface antigens newly available for interaction.

Volunteer Linguist 'Bank' Sought for Bicentennial

During the Bicentennial year, many foreign visitors will come to the Washington area. Anticipating that some may not speak English or may be more comfortable speaking their native language, the District of Columbia is establishing a "language bank."

The PHS Office of Public Affairs recently distributed a memorandum giving PHS employees an opportunity to volunteer for this service between May and September of the 1976 Bicentennial year.

Employees or other persons may obtain further information and language bank application blanks by contacting Joseph Yakaitis, Room 17-35, Parklawn Bldg., 443-6397, or M. Q. Rosalind Lewis, The International Visitors' Service Council, 801 19th St., N.W., Suite L-3, Washington, D.C. 20006.



During a recent visit to Baltimore, Dr. David Danon (r) of Weizmann Institute shares a light moment with Dr. Nathan W. Shock, Chief, NICHD Gerontology Research Center.

NIH Visiting Scientists Program Participants

1/19—Dr. Georges R. Mohn, Germany, Environmental Mutagenesis Branch. Sponsor: Dr. Frederick de Serres, NIEHS, Research Triangle Park, N.C.

2/1—Dr. Dulal C. Chatterji, India, Pharmacy Department. Sponsor: Dr. Joseph Gallelli, CC, Bg. 10, Rm. 1N237.

2/1—Dr. Guido Forni, Italy, Laboratory of Immunology. Sponsor: Dr. Ira Green, NIAID, Bg. 10, Rm. 11N315.

2/2—Dr. Michael P. Alpers, Australia, Laboratory of Central Nervous System Studies. Sponsor: Dr. D. Carleton Gajdusek, NINDS, Bg. 36, Rm. 5B16.

2/2—Dr. Reinaldo D. Chacon, Argentina, Medical Oncology. Sponsor: Dr. Robert Young, NCI, Bg. 10, Rm. 12N236.

2/2—Dr. Atsushi Kurosawa, Japan, Laboratory of Preclinical Pharmacology. Sponsor: Dr. Erminio Costa, NIMH, Wm. A. White Bg., St. Elizabeths Hospital.

2/3—Dr. Sang S. Park, Korea, Viral Pathology Section. Sponsor: Dr. Adi Gazdar, NCI, Bg. 41, Rm. 200.

2/9—Dr. Sol Kugelmass, U.S.A., Laboratory of Psychology. Sponsor: Dr. David Rosenthal, NIMH, Bg. 10, Rm. 2N252.

Workers' Compensation Law Changes Outlined

Significant changes have recently been made to the Federal Workers' Compensation Program administered by the Office of Workers' Compensation Programs, U.S. Department of Labor.

The changes are summarized below:

- An employee who sustains a disabling, traumatic, job-related injury on or after Nov. 6, 1974, must be continued in a pay status for up to 45 days unless the employee elects to use sick or annual leave. Medical care during this period will also be covered.

Further Summaries

- A traumatic injury is one caused by an external force or strain identifiable as a single incident or series of incidents within a single day or work shift.

- An employee who recovers from an injury within one year is entitled to be restored to the same position, or its equivalent, held at the time of the injury.

- If recovery occurs after more than one year, the employee is entitled to priority placement in the same or equivalent job.

- Time "lost" while receiving compensation will be fully creditable for within-grade increases and other benefits related to length of service.

(See LAW CHANGES, Page 8)



Annie T. Randall recently retired from Federal Service. She had been with the Government for 32 years—16 were spent at NIMH as a statistical assistant in the Theoretical Statistics and Mathematics Branch. Earlier, she had worked for the U.S. Navy and the Air Force. Mrs. Randall has received letters of commendation from several sources, including the U. of Pennsylvania and the National Academy of Sciences. Her plans include returning to school for a masters degree in adult education. Colleagues and co-workers gave a farewell party for her.

Freezing and Birth of Rabbit Embryos Called Significant Aid to Research

A significant advance in cryobiological investigations—the successful freezing and birth of rabbit embryos—has been reported in a recent issue of *Experimental Cell Research*, a Swedish publication.

The article, entitled *Survival of Frozen Rabbit Embryos*, was written by Dr. Harvey Bank, assistant professor of pathology at the Medical University of South Carolina, and Dr. Ralph R. Maurer, of the Environmental Toxicology Branch, National Institute of Environment-

al Health Sciences.

Previously, with the exception of mouse embryos, only single cells had been frozen. The rabbit embryos used in Drs. Bank's and Maurer's research are considerably larger and more sensitive to change than their mouse counterparts, representing a cryobiological advance toward more complex systems.

Multicellular systems are more difficult to work with since these more complex systems differ from one another in their response to freezing. New procedures were needed for successful freezing and survival of frozen rabbit embryos.

The effect of various cooling and warming rates, thawing procedures, and other variables on the survival of Dutch-belted rabbit embryos was determined. When most favorable factors were reached, 65 percent of the frozen embryos developed in culture.

Some of these fetuses developed into live offspring when reimplanted to a foster mother. These baby rabbits were normal in every way, and eventually gave birth to live offspring of their own.

Results should be valuable in many ways, according to Drs. Maurer and Bank.

"Preservation of these embryos facilitates transfer of specific strains of experimental animals between laboratories and makes available large numbers of embryos for simultaneous experiments in different laboratories," they suggest.

Other Advantages Cited

"The response of embryos to freezing could aid understanding of the responses of complex tissues to freezing.

"The relative sterility of early embryos may eliminate quarantine requirements or might serve to introduce specific strains into a sterile environment," they concluded.

Drs. Bank and Maurer recently reported these findings with rabbit embryos to a workshop in Bar Harbor, Me., sponsored by several international research organizations including UNESCO.

In further studies, Drs. Maurer and J. K. Haseman, Environmental Biometry Branch, NIEHS, using an optimization procedure and morula staged embryos, reported *in vitro* development of 83 percent for frozen and thawed rabbit embryos.

At the Seventh Annual Meeting of the Society for the Study of Reproduction held in Ottawa, Canada, they reported these results and the fact that one-fourth of the frozen embryos developed to full-term fetuses.

New Technique to Gauge Pain Perception in Teeth May Aid in Other Areas

An objective way to measure and record brain responses to specific, painful electric stimulation of the pulp of human teeth has been reported by National Institute of Dental Research grantees.

Previously, it was impossible to measure pain perception objectively, and difficult to separate pain messages to the brain from such other sensations as pressure or temperature.

Now, Dr. Gian Emilio Chatrion and his associates at the University of Washington, Seattle, have added to other studies which have shown that the small nerve fibers in tooth pulp function almost exclusively in conducting painful stimuli to the brain.

Method Described

The researchers have developed a method of delivering electrical impulses of a known strength, duration, and wave form to selected teeth.

To accommodate the electrodes they drill two holes into the dentin where minute tubules give the current access to the pulp. After completion of the tests, the holes are filled.

The investigators then place electrodes at various positions on the surface of the head to pick up those brain waves that occur in response to series of short, moderately painful impulses to the teeth.

Use Computer

The scientists use a computer to extract these wave patterns and distinguish them from other coincidental electrical activities of the brain which tend to mask them. The clearest patterns come from electrodes placed at the top and at the center of both sides of the head.

The scientists recorded consistent and reproducible pain patterns among themselves and normal volunteers.

Explore Pain Patterns

In one instance they found no patterns when they stimulated a tooth from which the pulp had been removed. Another viable tooth in the same person gave normal pain patterns.

A man, who had never felt pain of any kind because of a defect in his nervous system, gave a flat, waveless, response to electrical stimulation similar to that from the dead tooth. This is believed to be due to the congenital absence of small, pain-carrying nerve fibers. Autopsy of the man's deceased brother, who also felt no pain, revealed such a lack.

In normal volunteers, the anes-

ENERGY TIPS



- Lower thermostats to 65°-68° during the day and 60° at night. If these settings are 6° lower than last year, heating costs will decrease about 15 percent.

- Energy savings result from lowering the thermostat for 3° or more over a period of 4 or more hours. Don't reset the thermostat higher than the desired level; this measure does not make the system work faster.

Service Furnace Yearly

- Have your furnace serviced once a year, preferably in the fall. Adjustments can mean savings of 10 percent in fuel consumption.

- For maximum operating efficiency, clean furnace heat exchanger surfaces regularly. Have the air adjustment checked by a professional to assure complete fuel burning and to minimize loss of hot air through the chimney.

- Clean or replace filters when they are loaded with dust or lint. Check filters about once a month.

- The smallest adequate heating or cooling system is the most economical.

- Leaks in ductwork can be repaired with cloth adhesive tape.

Dr. Stephen K. Carter Named to NCI Post

Dr. Stephen K. Carter, recently appointed acting deputy director of the Division of Cancer Treatment, NCI, has been the Division's associate director for Cancer Therapy Evaluation since 1973.

The Division is responsible for research with emphasis on anti-cancer drugs and on combined modalities utilizing drugs singly or in combination with surgery, radiotherapy, or immunotherapy.



Dr. Carter

Dr. Carter received his M.D. in 1963 from New York Medical College.

From 1963-67 Dr. Carter held positions at Lenox Hill Hospital in New York. In 1967, he joined NCI as a special assistant for clinical trials with the scientific director for chemotherapy.

Dr. Carter has co-authored two books, *Single Agents in Cancer Chemotherapy* with Dr. Robert Livingston and *Meningeal Leukemia* with Dr. Lawrence Broder. He is also a co-editor of *Cancer Treatment Reviews*. Dr. Carter serves on the editorial boards of four journals, and is a member of numerous professional societies.

Dr. O. K. Harlem, From Norway, Joins NLM as Visiting Scientist

Dr. O. K. Harlem has been appointed a visiting scientist at the National Library of Medicine. Dr. Harlem, who is from Norway, is a specialist in pediatrics.

At NLM, he will develop a monograph on biomedical communications which may form the basis of a course within a medical school curriculum.

Dr. Harlem has been associated with the Oslo University Hospital, the Bergen University Hospital, and the medical faculty of the University of Oslo. He is managing editor of the *World Medical Journal* and chief editor of the *Journal of the Norwegian Medical Association*.

thetic mepivacaine also abolished the brain wave responses to pain.

In other parts of the body, pain messages cannot be separated from other types of information to the brain as clearly as in tooth pulp because they contain a mixture of fibers that carry a wide variety of sensations.

Technique to Be Planned

Therefore, the scientists plan to use the technique described to study the effectiveness of various pain-relieving drugs as well as other procedures said to alleviate pain such as acupuncture, hypnosis, and stimulation of peripheral nerves.

This research has been reported by Dr. Chatrion, Dr. Robert C. Canfield, Ettore Lettich, and Dr. Richard G. Black in a recent issue of the *Journal of Dental Research*.

CARCINOGEN

(Continued from Page 1)

sionals contributed comments on the drafted standards.

The standards document will comprise two parts. Part I, *Carcinogen Safety Standards*, will set general safety principles for the handling, storage, transport, and disposal of chemical carcinogens.

This section assigns responsibility for safety practices at agency, supervisory, and lab worker levels; sets standards for medical surveillance and housekeeping in specified laboratory areas, and spells out requirements for personnel practices.

Part II, a series of *Carcinogen Safety Monographs*, provides specific technical and safety information for each chemical carcinogen.

Chemicals Listed

The chemicals regulated initially by the HEW standards will be those now regulated by OSHA standards. Other chemicals will be added by the subcommittee as determined by the following criteria for conclusive demonstration of carcinogenicity:

- Statistical significance of tumor incidence in mammalian species with respect to controls;
- Reproducibility (or confirmation in another species);
- Adequacy of experimental design, such as pathological evaluation and appropriateness of the route of exposure.

Dr. Myron Mehlman, of the Office of the Assistant Secretary for Health, chaired the Subcommittee for Carcinogen Standards.

Other members are: Dr. W. Emmett Barkley, NCI; Dr. Morris F. Cranmer, NCTR; Dr. Gary Flamm, NCI; Dr. Robert H. Huffaker, CDC; Dr. James A. Johnson, DHEW, and Dr. Herman F. Kraybill, NCI.

Also, Dr. John A. Moore, NIEHS; Dr. David P. Rall, NIEHS; Dr. Lester D. Scheel, NIOSH; Dr. Harry G. Steinman, NCI; Dr. Lloyd B. Tepper, FDA, and Dr. Larry Fishbein, NCTR.

Three New Members Join Advisory Council of NIEHS

Three new members have been appointed to the National Advisory Environmental Health Sciences Council: Dr. Harold R. Henry, John C. Sackett, and Dr. Paul F. Wehrle.

Dr. Henry is professor and head of the department of civil and mineral engineering at the University of Alabama.

Mr. Sackett, president of Doyon Limited in Fairbanks, is a member of the Alaska State Senate.

Dr. Wehrle is director of professional services of the Pediatric Pavilion at the Los Angeles County-USC Medical Center.

NIH Toastmasters Elect Rhoda Yarkin President

Rhoda Yarkin, microbiologist at the Laboratory of General and Comparative Biochemistry, National Institute of Mental Health, has been elected president of the NIH Toastmasters Club.

She is the first woman elected to head the speech-improvement organization which was chartered at NIH in 1969.

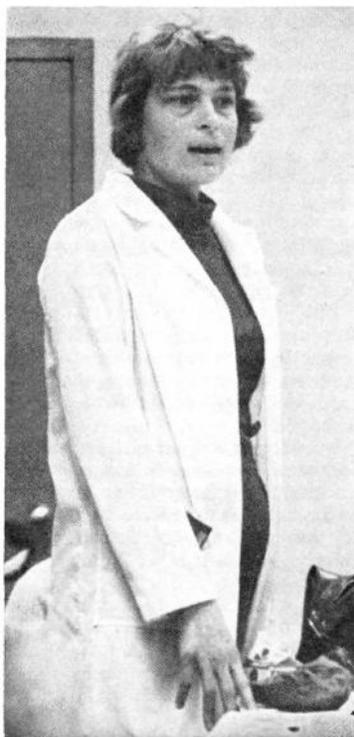
Other officers elected for the first 6 months of 1975 are: Jasper Cummings, educational vice president; Dr. Joseph Kadish, administrative vice president; Reginald Russell, secretary; George Mook, treasurer, and James Pomeroy, sergeant at arms.

Edward Nicholas, Jr., Director, Division of Personnel Management, (in a recent memo sent to the club) praised the NIH Toastmasters Club as a leadership and speech-improvement activity.

He noted that the official personnel folder of each toastmaster takes note of participation in the Communication and Leadership Program. This record of supplemental experience may later be taken into account by groups such as Qualifications Review Boards.

The NIH Toastmasters Club has a current roster of 27 members and is open to anyone interested in self improvement in speech communication.

Meetings are held every Thursday in the Bldg. 10 Cafeteria, Dining Room #2, from noon to 1 p.m.



A toastmaster for more than 2 years, Mrs. Yarkin served as educational vice president before being elected president of the group.

Survival of Baby With Usually Fatal Genetic Disease Suggests Early Therapy

By Klaudia M. Cox

Twenty-month-old Jimmy is responding so well to copper treatments for Menkes' Kinky Hair Syndrome—a usually fatal genetic disorder—that he recently went home for the first time in his life.

His doctors at the General Clinical Research Center of St. Christopher's Hospital for Children, Philadelphia, believe that early diagnosis and treatment is responsible for the baby's improved developmental abilities.

The research center is supported by the Division of Research Resources.

The disorder, caused by a rare inherited trait affecting only boys, is characterized by unusual hair, severe mental retardation, deterioration of muscular control, and failure to gain weight.

Early Symptoms Noted

Other symptoms include seizures, low or absent copper levels in blood plasma, and increased susceptibility to infection. Progressive brain deterioration often reduces the child to a vegetative state prior to his death within the first 3 years of life.

Named for John H. Menkes, who described this genetic affliction in 1962, the kinky appearance of the victim's white, coarse hair is caused by twisted hair shafts which vary in diameter; these also break spontaneously at irregular intervals.

Menkes' Kinky Hair Syndrome is associated with a defect in the passage of copper from the stomach and intestinal tract into the blood. The consequent copper deficiency seems to cause the disorder's characteristics.

Copper is an essential element in the function of many enzymes. These complex organic substances activate specific chemical transformations in the body.

Copper-dependent enzymes affect energy production, brain activity, and physical growth, in addition to other body processes.

Doctors now believe that deterioration of the body processes from Menkes' Syndrome may begin before birth since some infants die within the first weeks of life.

Previous attempts at treating children as young as 3 months old have been unsuccessful. According to physicians, death may have resulted from the late stage of the disease when treatment began. Jimmy began to receive copper at the age of 28 days.

Physicians at the NIH-supported clinical research center have changed Jimmy's outpatient treatment from intravenous to oral doses of copper with a chelating agent.

This substance helps the copper pass through the stomach and intestinal tract into the blood. It is hoped that this change will allow further improvements in the boy's development.



Doctors hope that Jimmy's response to treatment beginning at the age of 28 days will lead to earlier diagnosis and more effective treatment for other victims of Menkes' Kinky Hair Syndrome.

PHS Grants and Awards Of 6 Agencies Listed

Part I of the five-part series, *Public Health Service Grants and Awards, Fiscal Year 1974 Funds and Fiscal Year 1973 Released Funds*, was recently published.

Part I presents tabulations of 17,327 research grants and awards made by six PHS agencies from FY 1973/74 released funds, and from FY 1974 funds. Included in this total are 14,372 research grants and awards from NIH.

Research grants are listed by principal investigator, and by the state and city of the organization having professional responsibility for the work.

Awards Cross-indexed

Research career program awards, recently designated as a research rather than a training activity, are shown by area, organization, and awardee. A summary indicates the extent of financial support.

The remaining volumes, soon to be released, index all current PHS support to medical research training, health manpower education training, construction of research facilities, and research resources.

Single copies of Part I (DHEW Publication No. [NIH] 75-494) are available free of charge from the Division of Research Grants.

Multiple copies may be purchased at \$4 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Unit Chief George Blakeslee Retires After 21 Years Of Biomed. Engineering in CC—'Where the Action Is'

George Blakeslee, chief of the DRS Biomedical Engineering and Instrumentation Satellite Unit located in the Clinical Center, has retired after 34 years of Federal service.

Mr. Blakeslee came to NIH after 10 years at the Naval Gun Factory.

By the time he joined NIH, in the Instrument Section of what was then called the Laboratory Aids Branch, he had already earned a reputation as a highly skilled machinist with a strong motivation to work for the benefit of people.

A True Craftsman

One of the corps of craftsmen that ultimately evolved into BEIB, he helped create the character of the organization through personal initiative and example.

In 1954, Mr. Blakeslee chose to work in the newly completed Clinical Center. His reasons were simply stated: "I want to be where the action is; in health care, the action is where the patient is; at NIH, that's the Clinical Center."

He was among the pioneers who helped to develop practical heart-lung bypass machines that make open-heart surgery possible. Complex physiological monitoring systems, in cardiac and neurosurgeries for example, owe much of their utility and dependability to his influence, according to Dr. Lester Goodman, BEIB chief.

As a result of his work, Dr. Goodman added, X-ray and fluoroscopic examinations are faster; ECG and EEG recordings are more



Mr. Blakeslee leaves at NIH clear evidence of 24 years of creativity and skill at devising new and improved tools for research and patient care.

reliable; scalpels, syringes, and electrodes are simpler to use and less traumatic; laboratory tests are done more promptly and precisely, and patients are transported more easily and rest more comfortably.

Assists Researchers

He has assisted scientific researchers, clinical practitioners, and patients. He introduced many budding biomedical professionals to the technical aspects of modern instrumentation systems and the best means of using them.

A member of Rare Blood Donors, he has donated over 10 gallons since 1942.

Mr. Blakeslee often visited CC patients during his years at BEIB.

States, first to the department of physiology of the University of Minnesota, then to New York where he completed his training in clinical medicine and served on the staff of New York University for 8 years.

He left there to teach at Yale University where he served as associate professor of biochemistry. Later, he returned to New York for 12 years as chief of the Division of Nutrition and Physiology at the Public Health Research Institute of the City of New York.

In 1966 Dr. Racker went to Cornell University to assume the professorship that he still holds. At that time, he was also chairman of the section of biochemistry and molecular biology at the university.

From 1959 to 1972, Dr. Racker served on the editorial board of the *Journal of Biological Chemistry*. He is a member of the National Academy of Sciences.

Nitroglycerin May Cut Heart Muscle Damage, NHLI Scientists Report

A group of researchers from the National Heart and Lung Institute have found that nitroglycerin, a drug used for more than a century to relieve angina pectoris chest pains may also be effective in reducing heart muscle damage resulting from acute heart attacks and in reducing the threat of heart-rhythm disturbances that are a frequent, and sometimes lethal consequence of such attacks.

These findings, from a series of studies in animals subjected to coronary artery occlusion, were reported in a recent issue of *The New England Journal of Medicine* by Drs. Stephen E. Epstein, Kenneth M. Kent, Robert E. Goldstein, Jeffrey S. Borer, and David R. Redwood, of NHLI's Cardiology Branch.

Most heart attacks result from obstructions in one or more of the coronary branches that supply blood to the heart muscle itself.

The heart tissues normally receiving oxygen and essential nutrients via the obstructed vessel may suffer varying degrees of damage, depending upon the severity and duration of blood deprivation (ischemia).

Damage Is Critical

Because this damage is often a critical factor affecting survival and also the degree of permanent disability following recovery from the acute heart attack, scientists have been seeking means of minimizing the consequences of blood deprivation in order to limit loss of functioning heart muscle.

Nitroglycerin had previously been thought unsuitable for this purpose. The drug reduces the oxygen needs of the heart and may also improve coronary blood flow by dilating collateral blood channels in heart muscle—both beneficial to the ischemic heart.

But it also reduces arterial blood pressure and triggers a reflex increase in heart rate—both of which tend to increase, rather than reduce the area of ischemic heart damage.

In animals subjected to coronary occlusion, Dr. Epstein and co-workers report, nitroglycerin reduced mean arterial pressure by 14 mm of mercury and increased heart rate by an average of 21 beats per minute.

But while these factors opposed the beneficial actions of the drug, they did not negate them. The nitroglycerin-treated animals sustained less ischemic heart damage than did the untreated controls.

Moreover, the drop in arterial pressure and increased heart rate usually elicited by nitroglycerin could be prevented by giving the drug in combination with methox-

Jean Brotslow Retires; Chief of Heart Nursing

Jean Brotslow, chief of the National Heart and Lung Institute Nursing Service, is retiring after 21 years of service in the Clinical Center Nursing Department.

Employed in 1953 as head nurse of the Cardiology Unit, she subsequently served with NHLI's Kidney and Electrolyte Unit before becoming chief of the nursing service in 1969.

Recently, Miss Brotslow was feted at a retirement dinner by the nursing personnel of the Institute. The party, held at the National Naval Medical Center Officers' Club, was also attended by members of the CC Social Service Department, Nutrition Department, and medical staff.

She was presented with a silver tray and an engraved bracelet to commemorate her years here.

amine, an agent that countered these two effects of nitroglycerin apparently without impeding the drug's beneficial actions in heart muscle.

Nitroglycerin plus methoxamine provided substantially greater protection against ischemic heart damage than had nitroglycerin alone, as indicated by ECG recordings, gross pathological evaluation of affected areas of heart muscle, and biochemical determinations.

In other animal experiments, the investigators found that nitroglycerin also improves the electrical stability of ischemic heart muscle, making the heart less susceptible to heart-rhythm disturbances, particularly ventricular fibrillation.

The resistance of the heart to fibrillation induced by external electrical shocks was markedly reduced by coronary occlusion, was raised by nitroglycerin, and was restored to near-normal levels by nitroglycerin plus phenylephrine, a drug that prevented the fall in arterial pressure normally elicited by nitroglycerin alone.

From these studies, the investigators conclude that, whether by reducing heart oxygen requirements, increasing coronary blood flow, or both, nitroglycerin helps correct the imbalance between oxygen needs and oxygen availability in blood-deprived areas of heart muscle and helps preserve heart tissue that might otherwise be irreversibly damaged by ischemia.

In addition, the drug also enhances the electrical stability of ischemic heart muscle and confers some protection against the development of arrhythmias.

In the clinical management of acute heart attacks, nitroglycerin plus methoxamine or phenylephrine may prove valuable in the prevention or treatment of such life-threatening complications as arrhythmias, heart failure, or cardiogenic shock. Such clinical trials are now in progress at NHLI.

DR. RACKER

(Continued from Page 1)

systems simpler than the mitochondrial proton pump, and have discovered the operation of control mechanisms required for the efficient performance of these systems.

Both reconstituted pumps and the proton pumps within cancer cells seem to operate with low efficiency. Dr. Racker's finding may explain the high rate of glucose utilization and lactic acid production in tumor cells.

Current Work Explained

His current work is directed toward understanding the action of certain compounds that inhibit both lactic acid formation and the growth of cancer cells in tissue culture.

After receiving his M.D. degree from the University of Vienna in 1938, Dr. Racker left Austria to begin his biochemical research career at the Cardiff Mental Hospital in Wales.

In 1941, he came to the United

Seven Institute Directors Are Among 17-Member Commission on Diabetes

Six medical scientists and four laymen have been named to the newly created 17-member National Commission on Diabetes. The other seven members are NIH Directors whose Institutes are involved in various aspects of diabetes research.

The Commission was established by the National Diabetes Mellitus Research and Education Act which was enacted by Congress in July 1974.

Diabetes is the fifth leading cause of death in the United States and ranks second among primary causes of new cases of blindness. In addition, the complications of diabetes, particularly cardiovascular degeneration, have led to many other serious health problems.

The mandate of the Commission includes preparing for Congress a plan for a coordinated NIH research program with such aims as expanding the national research effort against diabetes mellitus.

This will include studies of the biological phenomena underlying the many severe complications of the disease.

The program would also educate and alert people to the early indications of diabetes mellitus and to the best methods of treatment and control. The plan is to be forwarded to Congress within 9 months after the Commission begins its work.

The Institutes involved are: the National Institute of Arthritis, Metabolism, and Digestive Diseases, the National Eye Institute, and the National Institute of Neurological Diseases and Stroke.

Also, the National Heart and Lung Institute, the National Institute of General Medical Sciences, the National Institute of Child Health and Human Development,

NCI Program Stimulates Innovative Teaching for Clin. Cancer Education

The National Cancer Institute has announced a \$4 million Clinical Cancer Education Program of grants to stimulate development of more innovative teaching methods in cancer prevention, diagnosis, treatment and rehabilitation.

Eligible institutions include schools of medicine, dentistry, osteopathy, and public health; affiliated hospitals, and cancer institutions.

NCI will fund carefully designed, multidisciplinary cancer instruction supplementary to the existing curriculum. Awards will not include fellowships or other individual stipends.

The program is intended to augment and coordinate undergraduate and graduate medical study of cancer chemotherapy and radiation therapy, special diagnostic techniques, cancer epidemiology and biostatistics, clinical cancer research, community clinic work, and organization of cancer conferences and seminars.

In dental schools the focus will be on oral diagnosis, pathology, surgery, and prosthetics as they relate to cancer. Students may participate in community programs such as oral cancer screening.

The program will also support planning, development, and testing of new teaching techniques.

For further information contact: Education Branch, Division of Cancer Research Resources and Centers, NCI, Westwood Bldg., Rm. 10-A-07.

and the National Institute of Dental Research.

The Commission will also make recommendations on the establishment of NIH programs to conduct and direct field studies, large-scale testing and evaluation, and demonstration of preventive diagnostic, therapeutic, rehabilitative, and control approaches to the disease.

Sickle Cell Disease Program Reports to Congress

The National Sickle Cell Disease Program has sent its annual report to Congress. The report describes the status of program components and activities and outlines eight program goals and needs for the next 5 years.

Among them are the need to expand efforts to develop quicker, cheaper, and more accurate methods for detecting abnormal hemoglobins and expanding investigations into the mechanisms responsible for changing the production of hemoglobin from fetal to adult.

The program conducts and supports research on sickle cell anemia and carries out demonstration and education projects concerned with diagnosis, control, and treatment of this disorder, which afflicts an estimated 50,000 Americans,

most of them blacks.

Program components described in the report include Comprehensive Sickle Cell Centers, Screening and Education Clinics, Mission Oriented Research and Development Programs, a Biomedical Research Program, an Education Program, and a Hemoglobinopathy Detection Training Program.

These activities are supported through several mechanisms including grants, contract support, and inter-agency agreements.

In addition to the National Heart and Lung Institute and the Health Services Administration, other agencies engaged in sickle cell activities include the Center for Disease Control, the Department of Defense, and the Veterans Administration.

Project ACORDE Films Dental Instruction Aids

A self-instructional course on *Restoration of Cavity Preparations with Amalgam and Tooth-colored Materials*, the first product of Project ACORDE (A Consortium on Restorative Dentistry Education), is now available for purchase from the National Audiovisual Center.

The 15 modules in the course are designed to teach dental students the skills for placing 11 different types of restorations.

The course includes a student syllabus with detailed descriptions of procedures, study questions, practice exercises, and an evaluation system; 14 films of procedures; a manikin head that simulates a patient; models of correctly and incorrectly completed restorations, and an instructor's syllabus.

Supplies, equipment, and tooth models must be provided by the schools. A list of supplies and equipment, as well as photographs of the study models, are provided in the appendix of the instructor's syllabus.

Teaching Time Explained

Course teaching time should extend over one semester, with an average of 9 hours of class time devoted to each module.

Project ACORDE was developed under the Division of Dentistry, Health Resources Administration. The National Library of Medicine's National Medical Audiovisual Center coordinated the production of motion pictures, still photographs, and manuals.

The schools of dentistry at the University of California at Los Angeles, the State University of New York at Buffalo, and the University of Florida cooperated in the development and testing of materials.

The Far West Laboratory for



A close-up reveals the instructor and student at work on the "dental patient"—a manikin filmed at eye level over the student's right shoulder.

Educational Research and Development, San Francisco, assisted in field evaluation and in preparing the manuals.

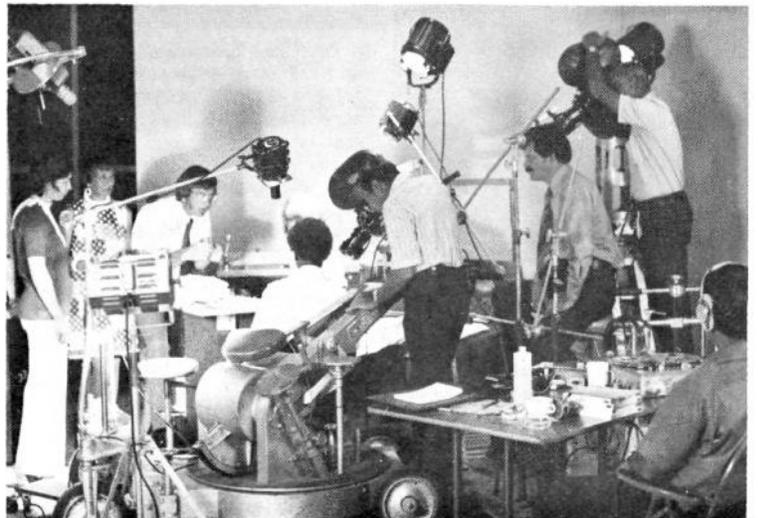
The audiovisual part of the course is priced at \$659.50 (16 mm film) and at \$505 (3/4-inch videotape). The student syllabus is \$15; the instructor's syllabus, including material in the student syllabus, is \$25.

Course materials are available for purchase from the Sales Branch, National Audiovisual Center (GSA), Washington, D.C. 20409.

Doull Serves on NIEHS Council

Dr. John Doull, professor of pharmacology and toxicology at the University of Kansas Medical Center, has been appointed to a term on the National Advisory Environmental Health Sciences Council ending Sept. 30, 1978.

He has published on pesticides, hibernation, biological aspects of ionizing radiation, and toxicology.



The production crew, light and sound technicians all but overshadow the instructor and student (center) on the set during the filming for Project ACORDE.

Speakers, Discussion In First STEP Module Scheduled Tomorrow

Module 1 of the 1975 STEP Committee Continuing Education Program will begin tomorrow (Wednesday, March 12) at 1:30 p.m. in Wilson Hall, Bldg. 1.

The module, Interagency Orientation, will explore ways issues are faced by programs at NIH and other Government agencies.

The topic is designed to add to participants' appreciation of the effect that these situations may have on achieving program goals.

Programs Described

At the first session, on Program Development, speakers will include: Dr. Diane Fink, NCI; Robert Allnutt, Senate Committee on Aeronautical and Space Sciences; Dr. Charles Eddington, ERDA, and Dr. Joel Snow, NSF.

The panel will describe factors leading to initiation and development of their programs and techniques they have found effective. Discussion will follow.

NIH employees, as well as module participants whose applications were reviewed by the STEP Committee, are welcome for the entire series, which will be held on the second Wednesday of each month through July.

Information Available

For further information, contact Dr. William H. Goldwater, Module 1 Director, Bldg. 1, Room 237, Ext. 62241, or Dr. Zora Griffo, STEP Coordinator for the Continuing Education Program, Bldg. 1, Room 314, Ext. 65356.



Dr. George P. Canellos has been named NCI's acting clinical director. Prior to this appointment he was assistant chief of the Medicine Branch and also headed the Section on Hematology Investigations in the Division of Cancer Treatment. In 1966 Dr. Canellos was a visiting research assistant and NCI special postdoctoral fellow in the University of London's Department of Hematology. He is an associate clinical professor of medicine at Georgetown University School of Medicine.

Via 2-Way Phone, Science Writers in Bldg. 31 Briefed On Allergy Research by Investigators Out West

A briefing—using a two-way conference telephone — on developments in allergy research was recently arranged by the National Institute of Allergy and Infectious Diseases with Washington science writers in Bldg. 31 and scientists attending the annual meeting of the American Academy of Allergy in San Diego.

The telephone set-up, used by NIAID for the last 3 years, allows reporters to question investigators directly about their research findings.

Among the several research topics discussed were reports on the development of cataracts in asthmatic children on steroid therapy; the use of insect venoms for diagnosis and treatment of insect sting allergies; new drugs for treating asthma and hay fever, and a relatively new occupational disease—"meat-wrappers' asthma."

Dr. Rudi Andrasch, University of Oregon, reported on "meat-wrappers' asthma," a complex of respiratory symptoms marked by cough, bronchospasms, headaches, and nausea.

Adhesive Is Responsible

Dr. Andrasch found that the heat-activated isocyanate compounds in the adhesive backing of price labels were responsible for the more severe symptoms of this asthma.

The syndrome was also partially caused by the polyvinyl chloride fumes produced by heat-sealed plastic wrap used to cover meat.

Dr. Hyman Chai described a study on 92 asthmatic children examined at Children's Asthma Research Institute and Hospital in Denver, which is one of NIAID's 17 Asthma and Allergic Disease Centers.

All except one of the children had been on corticosteroid therapy for at least 3 years.

Cataracts Found

Dr. Chai found that a significant number of these children had developed signs of cataracts, although only one child in a large group studied several years ago was found to have cataracts. He said that the type of steroid drug and dosage used may be responsible for the increase. Other factors may also be involved.

Results of trials of a new drug for treatment of asthma—beclomethasone dipropionate—were reported by Dr. Norbert Gilmore, Royal Victoria Hospital, Montreal.

The Canadian group substituted the drug for systemic steroids in the treatment of asthma patients and concluded that it was safe and effective.

The drug, known by the brand-name Bectotide outside the U.S., is administered by aerosol spray and was tested in a double-blind

study comparing the drug with the aerosol spray alone.

Dr. Paul C. Turkeltaub, Johns Hopkins University, and Dr. J. K. Kammermyer, University Hospital, Iowa City, described their studies on Flunisolide — a new synthetic corticosteroid drug for the treatment of allergic rhinitis, or hay fever.

Symptoms Reduced

They found that it significantly reduced the number and severity of symptoms. Also, their tests showed that Flunisolide did not suppress adrenal function which may cause serious side-effects in long-term treatment with corticosteroids.

Insect sting allergies—the cause of approximately 40 deaths a year—were the subject of two papers presented by NIAID-supported scientists, Drs. Martin D. Valentine and Kevin J. Hunt of Johns Hopkins University.

These investigators developed skin tests using pure venom from the honey bee, yellow jacket, white-faced hornet, and other stinging insects.

Drs. Valentine and Hunt found the tests clearly differentiate hypersensitive individuals from normal people. Skin tests using whole body extracts of the insects failed to distinguish between the allergic and the normal individuals.

Venom Immunizes

Also using pure venom, Dr. Valentine successfully immunized very sensitive patients against yellow-jackets and other stinging insects. A high sensitivity to insect stings often causes systemic reactions to a sting, resulting in anaphylactic shock.

Immunization with single or mixed venoms was carried out on those who had not responded to conventional therapy with whole insect body extracts.

One such patient, after several months of therapy, was deliberately stung with a yellow jacket. Only a small localized wheal appeared. There was no systemic reaction.

LAW CHANGES

(Continued from Page 3)

- An injured employee now has a free choice of initial treatment by a U.S. medical officer or hospital or by any private physician within a reasonable distance who agrees to accept the employee for immediate treatment.

- "Physician" now includes dentists, podiatrists, optometrists, clinical psychologists, and chiropractors—the last under very limited conditions.

- The statutory time limit for giving notice of injury to the im-

Dr. William Allen to Be New Assistant Chief Of NIAID Viral Branch

Dr. William P. Allen has been appointed assistant chief, Viral Diseases Branch, Extramural Programs of the National Institute of



Dr. Allen received his B.A. and M.A. degrees from the University of Buffalo and a Ph.D. in medical microbiology from the University of Michigan in 1956.

Allergy and Infectious Diseases.

Dr. Allen will work with the branch chief, Dr. Clarence A. Sooter, developing and administering the Institute's research and training grant programs in virology and rickettsiology.

The programs he will oversee are directed toward encouraging such scientists as molecular virologists and basic immunologists to cooperate with clinical virologists in achieving a better understanding of the pathogenesis of viral and rickettsial diseases.

Dr. Allen comes to NIAID from the Delta Regional Primate Research Center in Covington, La., where he had been administrative head of the Pathobiology Division and Virology Department since 1971.

While there, he was project director of two NIH research contracts, including a study supported by NIAID on hepatitis in chimpanzees, and lectured on virology at Tulane University School of Medicine.

mediate supervisor for compensation purposes is now 30 days from the date of injury; in practice, notice should continue to be given as soon as possible.

- An employee or survivor can continue to receive VA benefits while receiving benefits from OWCP as long as the benefits are not for the same injury or death.

For more specific information, contact the appropriate personnel office.