

NIAID Associates RS Virus With Respiratory Ills

The etiologic role of respiratory syncytial virus (RS) in lower respiratory tract illness in infants and children has been confirmed by studies supported or conducted by the National Institute of Allergy and Infectious Diseases. Results of previous investigations suggested, but did not prove, that infection with the RS virus was associated with pneumonia.

Designation Changed

The RS virus, first isolated from a chimpanzee studied during a localized outbreak of coryza, was originally identified simply as Chimpanzee Coryza Agent (CCA). The present designation was adopted following recovery of the virus from humans with respiratory disease in 1956 by NIAID's Dr. Robert M. Chanock and his associates, and observation of a characteristic effect produced in tissue cultures—cells infected with the RS virus tend to combine into a single, multinucleated cell.

Four recent studies on the RS virus, conducted at Children's
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NHI Scientists Visit Russia With U.S. Heart Delegation

Drs. James Watt, Director of the National Heart Institute, and Andrew G. Morrow, Chief of the NHI Surgery Branch, recently returned to NIH from a two-week trip to Russia as members of a United States delegation of cardiologists and surgeons.



Dr. Paul Dudley White, eminent cardiologist and a rocking chair enthusiast, stands beside the rocker of the famed Russian scientist, Ivan Pavlov. Dr. James Watt, NHI Director, took this picture at the Pavlov Institute at Koltushi, a suburb of Leningrad.

The group was in the Soviet Union under a 1960-61 agreement between the two countries for co-operation in exchanges in the scientific, technical, educational and cultural fields.

Discussions Resumed

While in the Soviet Union, they resumed discussions on cardiovascular research problems that began a year ago when a delegation of Russian scientists, headed by Dr. Alexander Mysanikov of the Institute of Therapy in Moscow, visited the United States.

In addition to Drs. Watt and Morrow, the U.S. delegation included Drs. E. Cowles Andrus and Alfred Blalock of Johns Hopkins University Medical School; Irvine E. Page of the Cleveland Clinic Foundation; Paul Dudley White, Consultant to the Massachusetts General Hospital; and John D. Turner of Massachusetts General Hospital.

Proposals Made

The group visited research centers in Moscow, Leningrad, Tiflis, Sochi, and Sukhumi.

In discussions with Soviet cardiologists, the American scientists made specific proposals and suggestions for future cooperation in common cardiovascular problems.

Dr. Watt proposed an exchange of pathological specimens and material between the two countries. He said that a set of uniform standards for the categorizing of sudden death would be desirable and proposed epidemiological studies in the Soviet Union, with an exchange of methods on these programs.

Dr. Watt also proposed further studies on conditioned reflexes and their related areas.

Dr. White suggested that Russian scientists come to this country to study pathologic anatomy and to attend the post-graduate course in cardiology at the Massachusetts General Hospital.

Dr. Page stressed the need for
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Officials of OIRA Discuss Research In Asia, Mid-East

Representatives of the Office of International Research Activities, NIH, returned in May from a 5-week trip through Asia and the Middle East where they conducted negotiations with officials of research institutions and with health and finance officials of host governments in Malaya, Indonesia, Pakistan, India, and Egypt on proposed research projects.

Among the NIH negotiators were Dr. Martin M. Cummings, Chief of the Office of International Research Activities; Robert H. Grant, Assistant Chief; Francis L. Mills, head of the Foreign Currency and Program Services Section; and Dr. Arnold E. Schaefer, NIAMD, Executive Director of the Interdepartmental Committee on Nutrition for National Defense.

12 Projects Planned

The proposed research would be carried out by foreign investigators at the participating institutions under a program of research agreements authorized by the International Health Research Act of 1960 (P.L. 86-610).

Totalling an even dozen, the projects range from studies of cancer, filariasis, and cholera to investigations of new and unusual mycoses. They include the epidemiology of malnutrition, the effect of diet on infectious diseases, and the pharmacological properties of certain plants.

The total foreign currency program for NIH in 1961 amounts to some \$3.7 million and would be extended in the form of U. S.-owned foreign currencies purchased by NIH in accordance with the provisions of the Agricultural Trade Development and Assistance Act of 1954 (P.L. 480). The P.L. 480 funds result from overseas sales of U.S. agricultural surpluses.

Purpose of the NIH discussions with the foreign officials and collaborating scientists was to provide a basis for formal research agreements outlining the types of research, the methods of procedure, and the amount of NIH support.

Summer Employment at NIH Provides Research Opportunities for Students

By George Jarboe

In the spring, a young student's fancy not so lightly turns to thoughts of summer employment.

If the student has some interest in medical research his thoughts frequently turn in the direction of the National Institutes of Health.

This spring, as in the past, science majors, medical and pre-medical students by the hundreds sought summer employment in the various NIH laboratories.

Their academic backgrounds ranged from undergraduate to senior medical student and Ph.D. candidates. Those selected, about 250 in all, have been assigned to junior positions supporting research in the physical, biological and behavioral sciences.

These young people, many of whom are returning for the second or third year, are earning part of next year's tuition and expenses while observing and experiencing at first hand the personal satisfaction of being a part of the world's largest medical research organization.

The program for summer employment in research areas is designed not only to accomplish necessary work but to further the interest of promising students in pursuing a career in research.

Also, the annual summer influx of clerks, typists and stenographers is well under way. Approximately 200 of these students are spending their summer vacations working in NIH offices.

the NIH Record

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PERSONNEL' TO PERSON

THE NIH Personnel Automation program was recently featured at the annual meeting of the Society for Personnel Administration.

SPA is a nationwide organization of individuals holding responsible and key positions in industry, government and education who are interested in the field of personnel management. Over 1,000 people attended this year's conference, held June 1 and 2 at the Statler Hilton Hotel in Washington.

System Demonstrated

The NIH demonstration was presented by PMB staff members Ron Ciminski, Jane Perry, and Rosemary Jackson. The demonstration showed how automatic typewriters will be utilized to type personnel actions while simultaneously capturing statistical data on tape.

The paper tape will then be used to establish and maintain a personnel statistical record on the Honeywell 800 computer.

The system is the result of an extensive study by staff members of the Computation and Data Processing Branch, DRG; the Management Policy Branch, OAM; and the Personnel Management Branch.

Conversion to the new system is scheduled to begin this summer.

The Doctor' to Report On Heart-Lung Machine

Dr. James Watt, NHI Director, appearing in the title role of the popular TV program, The Doctor Reports, will discuss the heart-lung machine in the eleventh of the series next Sunday.

The Doctor Reports is a five-minute public service program devoted to advances in medical research.

The program is seen locally each Sunday at 5:20 p.m. on WRC-TV, Channel 4.

RUSSIA

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"research in depth" on methods of measurement in diet and cholesterol, blood pressure in animals, excretory renal efficiency, hemodynamic changes in unanesthetized animals and fibrinolysin and thrombolysis.

The Russian cardiologists agreed to the proposals and outlined their progress in these areas.

Cites Program Importance

When interviewed by a Russian reporter, Dr. Watt said that the varied program of cooperative evaluation of cardiological problems between the United States and the Soviet Union is of great importance for the health of the peoples of both countries.

"I value highly our cooperative work with Soviet scientists," he said, "and I believe that close cooperation is desirable and useful, not only for scientists but also for our peoples as a whole."

Tree Surgeon Sits Tall in the Saddle, Sways in Breeze While Topping Trees

Since the first of May, sidewalk superintendents on the NIH reservation have been treated to a delight newer than the sight of gaping excavations or steel skeletons slowly turning into buildings.

The new delight is a "daring young man . . . who floats through the air with the greatest of ease." The daring young man is Ola Chamberlain, the first full-time tree surgeon ever to be employed here.

Heights Are Dizzying

Mr. Chamberlain's treetop activities, often at heights of 50 to 60 feet, are a routine part of his job of topping and clearing dead wood from the several thousand trees on the NIH grounds. This work was previously done on an emergency basis only.

A veteran of 13 years' experience as a "tree skinner," Mr. Chamberlain is the first member of the newly created Arboricultural Unit of the Grounds Maintenance and Landscaping Section, Plant Engineering Branch, DRS. At the present time he is assisted by two "ground men," Sype S. Pointer and Gabriel Palmer.

Repairs Cavities

He performs his dangerous treetop work seated in a leather saddle swung from a self-selected and self-tested 100-foot, manila hemp climbing rope, ½ inch in diameter and capable of supporting 1,800 to 2,000 pounds.

In addition to removing dead and storm- and wind-damaged branches, Mr. Chamberlain will repair tree cavities, cable-brace young or weakened trees, and treat diseased trees.

According to Milford D. Myers,

Chief of the Section, Mr. Chamberlain will "have enough work around here to keep him busy for 20 years, and then it starts over again."



"Tree skinner" Ola Chamberlain waves from the top of a 70-foot white oak tree behind the Clinical Center at the corner of Service Road and South Drive. Supporting arm of street light is visible in foreground.

Information Uses of TV Subject of Conference

The first in a series of Information Operations Conferences, sponsored by the NIH Office of Research Information, was held on Wednesday, June 7, in Stone House.

Arthur P. Cosing of the Heart Information Center, National Heart Institute, was the chairman for the 1½-hour program on the use of television in public information programs.

Relates Experiences

Mr. Cosing discussed TV programming and visual aids, and showed a film on television direction. He also related his experiences with a five-minute local program on medical research, The Doctor Reports, featuring Dr. James Watt, NHI Director.

The Heart Information Center furnishes script and special material for this Sunday afternoon show on WRC-TV.

The purpose of the Information Operations Conferences is to exchange ideas and knowledge on the various media used in information programs at NIH.

Among the future subjects tentatively scheduled are "Public Inquiries," "Publications," "Distribution," and "Keeping Up With the Literature."



Members of the U. S. delegation of scientists, attending seminars in Russian laboratories, hear a Russian investigator (not in picture) describe studies in physiology at the Institute of Therapy in Moscow. From front to rear: Dr. Alexander Mysanikov, Director, and Dr. Ivan Speranskiy, Vice-Director, Institute of Therapy, Moscow; Dr. Paul D. White, Dr. Irvine Page, Dr. John D. Turner, Dr. E. Cowles Andrus, and Dr. James Watt.—Soviet Photo.

New Mexico University Awards Dr. Stewart Honorary LL.D. Degree

Dr. Sarah E. Stewart of the Laboratory of Viral Oncology, National Cancer Institute, was awarded an honorary Doctor of Laws degree June 3 by New Mexico State University.

Dr. Stewart, a 1927 graduate of the university, was recognized for her "outstanding achievement in cancer research, leadership in investigations of virus-induced tumor, distinguished authorship of scientific articles, and inspiring career of dedicated public service in health and disease problems."



Dr. Stewart

Dr. Stewart has been in the Public Health Service since 1936 and a member of the staff of NCI since 1954. Her interest in laboratory research on cancer began in 1951, while she was with the USPHS hospital in Baltimore. It was there that she first recognized the virus which she later cultured at NIH with the collaboration of Dr. Bernice Eddy of the Division of Biologics Standards.

Studies Virus Role

This single agent, now known as the SE polyoma virus, causes a number of different types of malignant tumors in several different kinds of laboratory animals. This discovery helped stimulate the current increased interest in research on whether viruses cause human cancer—a line of investigation which Dr. Stewart herself is pursuing.

Dr. Stewart received her Ph.D. degree from the University of Chicago in 1939 and her M.D. degree from Georgetown University in 1949.

All Questions Answered In New NIH Phone Book

People at NIH need things. Some want sheep. Others need an altitude chamber. Still others want an elevator.

Prevailing circumstances may call for water and ice. Then, what does one do with dirty glassware?

Others have to phone Bill Abbey or Bertha Zorborg.

These and other varied but necessary items of information can be found in the new edition of the NIH Telephone and Service Directory.

Copies of the new yellow-covered Directory, produced by the Management Policy Branch, OAM, have been distributed to all NIH offices. Properly perused, it makes good reading.

NIAMD Study Indicates Possible Role Of Bacteria in Vitamin A Deficiency

Germfree rats on vitamin A deficient diets have been found by a scientist at the National Institute of Arthritis and Metabolic Diseases (NIAMD) to develop severe hepatic, renal and adrenal lesions which were not present in conventional rats on the same diet.

Since the liver in the conventional animal shows little or no morphologic changes in A deficiency, this study raises much speculation on the role of bacteria in vitamin A deficiency.

A prolonged lack of vitamin A causes, among other symptoms and signs, damaging alterations in the epithelia of various organs of the body which make the mucous membranes highly susceptible to bacterial invasion. In view of the constant occurrence of severe infection which obscures tissue changes, the NIAMD study with germfree rats was undertaken to clarify the role of this infection and to provide a clear pathologic picture of changes which have heretofore been masked in studies of vitamin A deficiency.

Controls Used

Ten germfree rats and a similar number of non-germfree control animals were kept on a vitamin A-free regimen by Dr. David L. Beaver of NIAMD's Laboratory of Pathology and Histochemistry (now at the School of Medicine, Washington University, St. Louis, Mo.) until 80 percent of the animals in each group had died. Three germfree animals lived for 109 days while four controls survived 108 days, indicating that survival time is not increased in spite of the germfree state.

The control animals exhibited the usual stigmata of A deficiency, including development of horny tissues (keratinizing metaplasia) and infection and inflammation of the tongue, salivary glands, respiratory and urinary tracts. The germfree group showed similar effects, which were modified by the absence of infection and inflammation, so that atrophy, degeneration and necrosis became the predominant features of the disease in this group.

Lesions Vary

Lesions present in the germfree group and not in the controls appeared in the adrenal glands and the kidneys. The most remarkable changes, however, occurred in livers where lesions varied from cytoplasmic droplets in occasional hepatic cells to actual liver necrosis. In several instances the necrosis alone was of sufficient magnitude to have been at least contributory to, if not the principal cause of, death.

The focal necrosis and hyalinization of liver cells bore no resemblance to the diffuse cell death of "dietary liver necrosis" related selenium deficiency.

Previous investigators have shown that the liver normally has a high concentration of vitamin A but exhibits no morphologic alteration in A deficiency. The hepatic lesions, unlike others produced in known deficiency states, raise questions as to why they should occur in germfree animals and not in conventional ones. Dr. Beaver, reporting in *The American Journal of Pathology*, speculates that vitamin A deficiency without normal bacterial flora may cause a deficiency of another substance.

NIH Savings Bond Drive Extended Through June

NIH participation in the Government Savings Bond Campaign increased one percent during the month of May, according to Howard Kettl, NIH campaign chairman. This brought the total NIH participation to 23 percent.

Hoping for greater NIH participation in this savings plan, Chairman Kettl has extended the campaign here through the month of June.

Persons wishing to buy bonds through payroll deductions may obtain authorization cards at their Institute or Division administrative office or from Mrs. Edna K. Shaffer in the Payroll Office, Bldg. 1, Rm. 222.

Government-wide participation was 53 percent on December 31, 1960. At that time, DHEW participation was 38 percent, and PHS participation was 27 percent.

Symbolic Pint of Blood Donated in Wilson Hall

Gladys Geise, a Bethesda resident, became Montgomery County's symbolic donor of the 30 millionth pint of blood to the Eastern Regional Area of the American Red Cross when the County Bloodmobile visited Wilson Hall June 15.

The Eastern Regional Area consists of the Atlantic seaboard states from Maine to Georgia.

Mrs. Geise, who has been a blood donor since 1954, was congratulated on her achievement and presented with a bouquet of roses by Comdr. Arthur D. Robertson, USN, the Volunteer Chairman of the Montgomery County Red Cross Blood Program.

Blood collected by the Bloodmobile on its visits here is for use of the NIH Blood Bank, which maintains a supply of whole blood for NIH employees and members of their families in case of need.

Rosenthal Retires After 33 Years Service at NIH

Dr. Sanford M. Rosenthal, Research Pharmacologist, retired from the Public Health Service on June 1, after 33 years of outstanding service at NIH.

He will continue his research studies with NIAMD as a special consultant in pharmacology and plans to spend the next year supervising the NIAMD burn-shock project in Lima, Peru.

At the time of his retirement, Dr.



Dr. Sanford M. Rosenthal (right) and Dr. Herbert Tabor, Acting Chief of NIAMD's Laboratory of Pharmacology and Toxicology, analyze results of one phase of the Institute's burn-shock project.

Rosenthal had been Chief of NIAMD's Laboratory of Pharmacology and Toxicology since 1948. He held the rank of Medical Director with the USPHS Commissioned Officers Corps.

During his career as a practicing physician and researcher, Dr. Rosenthal contributed highly important findings to several quite different fields.

His work included studies of arsenic compounds, sulfonamide drugs, liver function tests, therapy of shock, antidote for mercury poisoning, and biochemistry and physiology of amines.

In 1931 Dr. Rosenthal introduced the bromsulfalein test for liver function. Today, with very little modification, this test is still one of the more important diagnostic methods used for determining liver activity.

Other contributions include his studies on the role of the sulfhydryl groups in the toxicity of arsenical compounds and his pioneer research on sulfonamide therapy in various bacterial infections. Dr. Rosenthal introduced the use of sodium formaldehyde sulfoxylate for treating mercury poisoning. Until recent years this compound was the only treatment available for mercury poisoning and was used widely in emergency rooms and hospitals.

Dr. Rosenthal's work with sulfanilamide revealed the value of this (See ROSENTHAL, Page 6)

Metabolic Disease Treatment Progresses in Past 10 Years

This is the second and concluding portion of an address delivered by Dr. George W. Thorn, Physician-in-Chief, Peter Bent Brigham Hospital, and Hersey Professor of the Theory and Practice of Physic, Harvard Medical School, at the Tenth Anniversary celebration of the National Institute of Arthritis and Metabolic Diseases.

In the field of diabetes mellitus, the Institute can point with pride to its support of clinical evaluation of new drugs which have been found upon oral administration to lower the blood sugar. Individual investigators have been supported in this endeavor and, in addition, the Institute has supported a coordinated program with several institutions on the long-term effectiveness of these agents.

Paralleling the program of evaluating clinical usefulness is one designed to uncover the exact mechanisms by which these substances produce their pharmacological effects. There is evidence at this time that the sulfonylureas and phenformin may act by stimulating insulin secretion as well as by decreasing hepatic glucose production. For some of the milder cases of diabetes the oral agents alone provide good regulation, thus obviating the necessity for daily injections of insulin. In addition, certain severe diabetic patients appear to attain better regulation with a combination of one of the new agents and insulin, in contrast to the use of insulin alone.

Supports Studies

Members of the Institute have made a notable contribution in detecting substances in the blood of patients with diabetic ketosis which prevent or modify the effectiveness of insulin therapy. Such information will help pinpoint the failure of certain diabetic patients to respond to insulin therapy. The Institute has also supported in its extramural program important studies on methods which have proved useful in detecting early diabetes or those predisposed later in life to develop this disease. Such knowledge will make possible a large-scale effort in the area of preventive medicine. Other extramural studies have involved the important effect which insulin exerts on adipose tissue. These observations have not only elucidated the nature of the disorder in fat metabolism which characterizes diabetes, but also have provided a sensitive assay for blood insulin-like activity.

Insulin Use Studied

An effort to measure insulin in the blood and other body fluids is finally within our grasp—this, combined with studies on the exact chemical structure of insulin, will undoubtedly provide new stepping stones to important clinical ad-

vances. The possible use of synthetic insulin or insulin from human sources is under study in view of the complications which develop with our present insulin preparations derived from animal sources.

Opportunity Offered

One should not terminate this review of "highlights" in diabetic research without referring to the important studies on retinal, cardiac and renal-vascular disease, and on the isolation and identification of glucagon—a second hormone of pancreatic origin which has been shown to mobilize glucose. There are many indications that a study of diabetes, with its rapid rate of progressive and serious vascular changes, offers a unique opportunity to make critical observations on the fundamental nature of changes which predispose to early vascular disease in general.

In the field of adrenal medullary and cortical function, the Institute can well be proud of its contributions. Chemical methods for identifying epinephrine and norepinephrine and their metabolites have been devised by members of the Institute, and important relationships between the level of catechol amines and brain metabolism have provided an important breakthrough in the attempt to correlate chemical changes with psychological behaviour.

Hormones Standardized

In the field of the adrenal cortex, the Institute has sponsored many projects relating to the chemical, physiological and clinical aspects of these hormones. Diagnostic tests for adrenal hypo- and hyperfunction have been standardized with the use of ACTH and pituitary-inhibiting substances in which plasma and urinary hormone measurements are employed. The diagnostic accuracy of these methods has reached a degree of precision rarely attained before in clinical medicine.

Of great importance, however, to investigators all over the world has been the preparation and standardization of pure and isotopically labelled hormones. These substances, which include, in addition to the adrenal steroids and anterior pituitary hormone preparations, intermediates of protein synthesis, have made available to chemists and clinical investigators

Dr. A. W. Hilberg, NCI, Gets Honorary Degree

Dr. Arthur W. Hilberg, a pathologist with the National Cancer Institute, was awarded an honorary Doctor of Science degree June 4 by Elmhurst College, Elmhurst, Ill.



Dr. Hilberg

He was commended by the college for his "achievement in the field of science and distinguished efforts in research."

Dr. Hilberg has been associated with NCI since 1952. Previously he was with the Pathology Department of the Hospital for Joint Diseases in New York City.

He received a B.S. degree from Elmhurst College in 1944 and an M.D. degree from the Indiana University Medical School in 1946.

In 1947 Dr. Hilberg was an NCI trainee at Cornell University, where he was associated with Dr. George N. Papanicolaou, developer of the cytological test for uterine cervical cancer.

standardized substances of the highest purity. The early synthesis of an isotopically labelled steroid hormone reflected an awareness on the part of the Institute of the acute needs of investigators in this field.

New Field Opened

The contributions of the Institute and its extramural programs in unravelling the subtle mechanisms responsible for the control of aldosterone secretion deserve particular mention. This hormone, of paramount importance in patients with edema of cardiac, renal, and hepatic origin, exerts a striking effect on sodium excretion and blood pressure. The identification of a syndrome associated with primary excessive secretion of this hormone, and the frequent clinical occurrence of secondary hyperaldosteronism represent significant advances in our understanding of factors responsible for hypertension, heart failure, and muscular weakness. Improved techniques for measuring this substance, which occurs in minute quantities in the blood and urine, has opened a new field of approach to the relationship of kidney disease, angiotensin production, aldosterone secretion and hypertension.

In the area of thyroid and parathyroid secretion, one should mention the important genetically determined molecular disorders which have been identified in patients with goiter. Not only have these studies increased our under-

NCI Scientists Report On Studies of Rare Contagious Neoplasm

Scientists of the National Cancer Institute have reported studies of a contagious neoplasm observed in a two-year-old golden hamster. This is only the fourth such animal tumor recorded in the scientific literature.

A report on this study, by Darlene C. Brindley and William G. Banfield of the Laboratory of Pathology, appears in a recent issue of the *Journal of the National Cancer Institute*.

The tumor, a reticulum-cell sarcoma, arose spontaneously in the upper lip of the hamster. It was carried successfully through 12 transplant generations in hamsters bred at random. For the transplants, freshly excised tumor tissue was injected subcutaneously.

Widespread tumor infiltration and ulceration of the skin were observed in the first and second generations. In subsequent generations large ulcerating tumors developed at the site of injection, and there were widespread metastases to the pancreas, heart, lungs, and other organs.

Larynx Obstructed

Contagiousness of the tumor was indicated by a contact exposure experiment in which the scientists caged 10 untreated animals with an equal number of inoculated animals. Obstruction of the larynx from submucosal growth resulted in the death of seven. Two others died from widespread tumor metastases similar to those produced in animals injected with solid tumor transplants.

Tumor transmission also occurred when the animals' exposure to each other was limited by a wire screen separator. One of three animals exposed in this manner died of tumor obstructing the larynx. A final experiment resulted in the development of tumor in two out of five separately caged animals fed fresh tumor tissue.

(Inoculations of blood, ascites fluid, and brain tissue from tumor-bearing animals produced solid tumors. Although malignant cells were not found in the brain of dying, tumor-bearing animals, they were abundantly present in the peripheral blood at this time. This probably accounts for the successful brain transplants.)

An attempt by the authors to produce tumor with cell-free filtrates has been unsuccessful.

standing of the steps by which the thyroid gland traps iodine and subsequently synthesizes thyroxine, but we now have an explanation of why goiter may develop in some patients who have been given io-

Three-Day Conference On Measles Scheduled At NIH in November

An international conference on measles jointly sponsored by the National Institute of Allergy and Infectious Diseases, the Division of Biologics Standards, and the University of Colorado, will be held here November 7-9.

Dr. C. Henry Kempe, Professor and Head of the Department of Pediatrics, University of Colorado Medical Center, is in charge of plans for the conference. Dr. Kempe is well known for his work in the field of infectious diseases of children and has been engaged in the study of measles immunization for several years.

Sessions Vary

The three-day meeting will be divided into several sessions covering the world-wide epidemiological aspects of the disease; properties of attenuated measles virus strains; field data on the use of live attenuated vaccines; problems of production of the vaccines and biologic control; and the future of measles immunization.

Independent investigators from university and pharmaceutical laboratories, some of whom have conducted field trials with experimental vaccines in this country, and representatives from other nations where measles is a problem, have been invited to attend the November conference.

Impressive evidence of the effectiveness of an experimental vaccine has been gathered by a number of independent investigators in the country during the past several years, using the attenuated measles strains developed by Dr. John Enders, 1954 Nobel Prize winner, and one of the world's foremost virologists. Some of these data were presented at a meeting held here last year under the sponsorship of DBS.

CC Patients Will Hear Marine Band on July 6

The 50-piece United States Marine Band, conducted by Capt. James King, will present the first in a series of three outdoor concerts here on Thursday, July 6, at 7:30 p.m.

The band concerts, planned for Clinical Center patients, NIH employees, and their families and friends, will be held on the first floor terrace of the Clinical Center, just east of the auditorium. In case of rain, the auditorium will be used.

Other concerts in the series, arranged by the CC Patient Activities Section in cooperation with the Armed Forces Special Activities Division, will be given by the United States Army Band on August 3, and by the Marine Band on August 31.

'PLATFORM E, BUILDING 13' VITAL TO SUCCESS OF NIH RESEARCH

"Platform E, Building 13" is a location vitally important to support of medical research at NIH.

Across the concrete floor of Platform E goes approximately \$10 million worth of scientific equipment and supplies purchased by NIH annually.

These purchases are handled by 30 employees of the Shipping and Receiving Operation of the Property Supply Section, SMB, at the rate of 17,000 incoming packages per month, in response to 3,500 orders from NIH laboratories and offices.

These supplies include heavy freezing equipment, germfree animal tanks, many varieties of animals, electronic equipment, chemicals, and blood. NIH exhibits, at the rate of 10 per month, are shipped to all sections of the U.S. and to foreign countries.

Although most shipments are transported by motor freight, many other forms of transportation are also used.

Government Saves

Some companies offer discounts on bills paid within a specified time. By giving such shipments priority of delivery and encouraging prompt completion of the purchase order, Shipping and Receiving saves the government substantial sums.

The Shipping and Receiving Operation maintains an excellent system of carrier review. Records of past performance for each carrier indicate how the carrier transported the shipment, how long it took, the condition of the shipment on arrival, and whether or not the proper charges were made. Shipping and Receiving has eliminated several undesirable carriers with this review program.

Most outgoing shipments, at the rate of 1,300 packages per month,

are destined for NIH research facilities in other areas of the country, such as Hagerstown, Md.; Columbus, Ohio; and to NIH-supported clinics in about 15 foreign countries.

In one of its largest overseas shipping operations, Shipping and Receiving last year sent approximately \$100,000 worth of equipment and supplies weighing approximately 50,000 pounds to Dacca, Pakistan, for the International Cooperation Administration's Cholera Project.

Foreign Shipments Prepaid

Another major function of the Operation is arranging for shipment of goods from one foreign NIH installation to another. Such shipments, which must be arranged on a prepaid basis, often necessitate the use of several air carriers in different countries.

David S. Smith is Head of the Shipping and Receiving Operation. He and his assistants—Jordan Bryan, Superintendent of Receiving and Checking; Francis Farmer, Distribution Superintendent; and William De Weese, Freight Traffic Manager—aim to provide NIH with the best possible facilities for shipping and receiving.

"Our function is to back up the NIH research program by providing efficient handling of scientific equipment and supplies," Mr. Smith said. He pointed out, however, that many NIH laboratories and offices do not take advantage of this service.

Thomas V. White, Head of the Property Supply Section, said that although the phones are kept busy with requests for advice on shipping problems, the Operation could function to even better advantage if everyone would ask for its assistance in connection with their shipping problems. This service, he said, includes the wrapping of packages for shipping and mailing.



Jacob Kirkland, a packer (left), and David S. Smith, Head of Shipping and Receiving, SMB, unpack and check the contents of one of the packages received here at the rate of 17,000 per month. In the background, V. A. White, a packer, tightens a metal band on a furniture container prior to shipment.

Simple Test Gives Reliable Diagnosis Of Aldosteronism

Infusions of sodium-free albumin provide a simple, reliable diagnostic test for primary aldosteronism. In secondary aldosteronism, the infusions reduce aldosterone secretion by expanding blood volume. However, in primary aldosteronism excessive aldosterone production is the result of adrenal cortical tumors or hyperplasia, and is not sensitive to blood volume changes. This selective effect of albumin is responsible for the specificity of the test.

The new test was devised by Drs. B. R. Kliman, N. H. Bell, and F. C. Bartter, of the NHI Clinical Endocrinology Branch. Their findings were reported at the Atlantic City meeting of the American Federation for Clinical Research.

17 Subjects Tested

The test was evaluated in 17 subjects, all exhibiting elevated aldosterone during the control period and all maintained on a low-sodium diet. Four were sodium-depleted normal subjects, seven were patients with primary aldosteronism, and six were patients with secondary aldosteronism.

The group received daily infusions of 50-100 grams of sodium-free albumin for three to four days. The infusions caused a sharp drop from control values in the rates of aldosterone secretion and excretion in the normal subjects and patients with secondary aldosteronism, but had little or no effect on these rates in the patients with primary aldosteronism.

Plays Essential Role

Normally aldosterone plays an essential role in the maintenance of blood volume and fluid balance by regulating the excretion of sodium. However, excessive amounts of this hormone are produced in many disease states. Primary aldosteronism may result from an adrenocortical tumor, from excessive proliferation of otherwise normal adrenocortical tissue (hyperplasia), or, rarely, from adrenal carcinoma. Secondary aldosteronism may be produced by salt depletion and may result from organic diseases, especially of the liver or kidneys; from congestive heart failure; and from many other diseases.

Unless the underlying disease has its own clearly definable symptoms, distinguishing between primary and secondary aldosteronism can pose a difficult diagnostic problem. Frequently exploratory surgery has been necessary to establish the diagnosis.

ROSENTHAL

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compound in treating pneumonia. His other research with the sulfonamides paved the way to the development and testing of many related agents. One such agent, "Diasone," is being used currently in treating leprosy.

Since 1942 Dr. Rosenthal and his associates at NIAMD have been engaged in extensive investigations of burns and shock. Their earlier experiments with laboratory animals demonstrated that shock can be treated by a salt and soda solution administered orally.

Later, in adult burned patients, it was found that this saline solution was as effective in treating the shock resulting from severe burns as the traditional treatment of intravenous injections of whole blood, plasma, or a plasma-expander.

Peruvian Studies Made

Under Dr. Rosenthal's direction, the controlled clinical studies in burn and wound shock were initiated in Lima, Peru, in 1951. They selected Lima as the site of their clinical studies because there the annual mortality rate from burn shock was very high. At that time, very little plasma and whole blood was available in this area of the world.

Patients with burns over at least 10 percent of their bodies were used in the initial studies. In one group of 100 badly burned patients who received the saline treatment, not one death occurred during the shock period. It was thus shown to be as effective as plasma in adults.

As a result of this work, the U.S. Office of Civil Defense Mobilization has recommended the oral use of saline solution as an emergency treatment for burn shock in the event of a major bomb disaster (when plasma and trained personnel to administer it would not always be available).

Most recently, Dr. Rosenthal has carried out extensive research on post-burn infections, on spermine (a basic amine which is widely distributed in biological materials), and related compounds. He will continue these studies upon his return to the University of San Marcos in Lima sometime in July.

Native of Georgia

A native of Albany, Ga., Dr. Rosenthal received his M.D. degree from Vanderbilt University in 1920. He interned at Boston City Hospital and was a National Research Council Fellow in Pharmacology at Johns Hopkins Medical School, 1922-25. Before joining the NIH staff as a senior pharmacologist in 1928, Dr. Rosenthal was a lecturer in pharmacology at McGill University.

RS Virus Is Associated With Respiratory Ills

(Continued from Page 1)

Hospital, Washington, D. C., and NIAID's Laboratory of Infectious Diseases and Laboratory of Clinical Investigation, have been reported in the Journal of the American Medical Association. Two of these studies involved infants and children; the other two were based on tests involving adult male volunteers.

In the first of the studies, conducted at Children's Hospital, 56 strains of respiratory syncytial virus were isolated from 346 infants and children treated for respiratory illness at the hospital from March through July 1960. Only 4 strains were recovered from 272 control subjects without such illness. The virus was isolated most frequently from infants less than seven months of age who had bronchiolitis or pneumonia.

Control Yield Low

The RS virus was recovered from 42 percent of all patients with bronchiolitis and from 24 percent of all patients with pneumonia during the study period. Only one percent of the control patients yielded the agent. Virus was also recovered from 12 percent of infants and children with febrile respiratory illness not severe enough to require hospitalization.

Dr. Chanock is the senior author of this report.

During a three-year period at the same hospital, a second study by Dr. Robert H. Parrott of the Children's Hospital, and his associates, produced serologic evidence of RS virus infection in 11 percent of 1,038 infants and children confined with pneumonia, bronchiolitis, croup, or pharyngitis with bronchitis. This rate of infection was 5.5 times greater than that among control patients free of respiratory tract symptoms.

When serologic findings were adjusted for the known sensitivity of the complement-fixation technique used, it was estimated that 21 percent of the children with respira-

tory tract illness were infected with RS virus. Virus infection-illness association was more striking among infants than older children, and particularly among patients with bronchiolitis (an estimated 36 percent) or bronchopneumonia (estimated 21 percent).

This study showed that RS virus infection was present during each of the three years, although the months in which it was detected varied from year to year. The proportion of respiratory tract illness associated with RS virus infection also varied, being greatest during the fall and winter, 1958 to 1959, and the late winter and spring of 1960. RS virus infection was not detected in the late summer months during any of the years of the study.

The authors state that effective immunization against this agent in early infancy could prevent much of this type of illness, which at times is responsible for a large segment of severe and often fatal respiratory tract illness in children.

Protective Effect Suggested

A third report, by Dr. Howard M. Kravetz, of NIAID's Laboratory of Clinical Investigation, and associates, describes results of tests involving adult male volunteers. Nasopharyngeal inoculation with RS virus was followed by a common cold-like syndrome that lasted about five days in 20 of 41 volunteers. Virus was recovered from 85 percent of those who became ill, and from 62 percent of those who did not.

The observed illness was milder than that associated with RS virus infection in children, and it is suggested that this represented a protective effect resulting from previous infection.

The fourth study, by Dr. Karl M. Johnson, Laboratory of Infectious Diseases, NIAID, and associates, adds data obtained from the same adult volunteers. Administra-

Welch Lecture Feature Of June 26 Meeting Of Med. History Group

The third meeting of the Washington Society for the History of Medicine, formed recently at NIH, will be held Monday, June 26, at 8 p.m., in Wilson Hall.

Following a short business meeting, the society will present a recording of a lecture delivered in 1932 at Johns Hopkins University by Dr. William H. Welch, commemorating the fiftieth anniversary of the discovery of the tubercle bacillus by Robert Koch, German physician and bacteriologist.

In addition to the recorded lecture, there will be a showing of a film made shortly before Dr. Welch's death in 1934, in the early days of sound-on-film, depicting incidents in the latter period of his career.

Commentary on the film and a short biographical sketch of Dr. Welch will be provided by Morris Leikind, DRG.

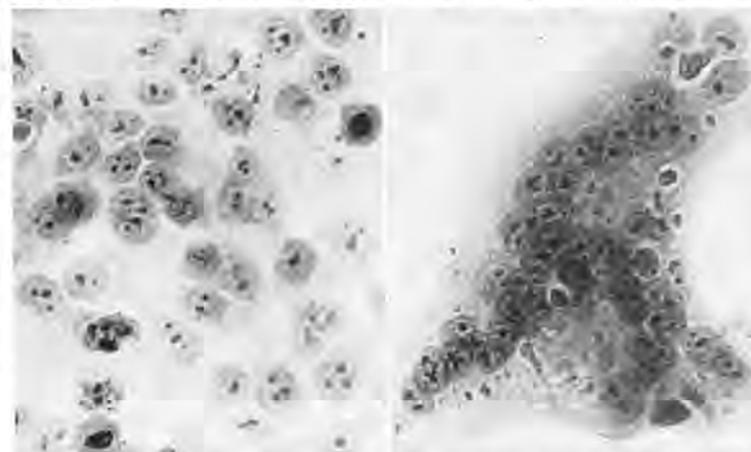
Dr. Welch, who was named the first Professor of Pathology at Johns Hopkins University in 1884, was one of the initiators of modern medical research and played a prominent role in its development in this country.

Prior to World War I, he served as a member of the Advisory Board of the Hygienic Laboratory, forerunner of NIH.

tion of the RS virus resulted in infection in 23, and mild upper respiratory illness in 20, of 41 of these men.

The observed association between virus challenge and subsequent illness was strengthened by the finding that illness never preceded initial RS virus isolation, and the fact that illness occurred for the most part in individuals who shed detectable virus for an interval of more than two days. All of the cases represented reinfection, since all volunteers had detectable RS neutralizing antibody prior to challenge.

In a separate editorial, the Journal of the American Medical Association points out that with these studies as much as 60 percent of children's severe respiratory illnesses may be explained. The NIAID Children's Hospital study group established the parainfluenza viruses as an important cause of respiratory disease in the young, two years ago. Another recent study suggested that the Eaton agent was associated with lower respiratory tract illness. Together, the RS virus, Eaton agent, parainfluenza, and the influenza and adenoviruses represent the 60 percent figure, and suggest, according to the Journal, the need for a program aimed at vaccine development.



Left: Uninfected human epitheloid carcinoma cells (HEp-2 strain). Right: HEp-2 cell culture infected with RS virus, showing the characteristic syncytial effect.

NIAID Scientists at MARU Study Tropical Diseases



Some of the work of National Institute of Allergy and Infectious Diseases' scientists at the Middle America Research Unit (MARU), located in the Panama Canal Zone, is shown in the pictures above. The laboratory, a part of NIAID's Laboratory of Tropical Virology, was established in 1957 under joint sponsorship of the National Institutes of Health and the Walter Reed Army Institute of Research. It places special research emphasis on two major tropical disease areas—arthropod-borne viral disease and the fungal disease, histoplasmosis. Left to right, top row: MARU headquarters in foreground with Gorgas Memorial Hospital buildings in background; a group of scientists make advance preparations for an epidemiological survey in the field. Middle row: Dr. Alexis Shelokov, MARU

Director, in the library; a MARU technician, using a spectrophotometer, standardizes reagents; and laboratory aides check animals used in an experiment. Bottom row: Ticks are identified by a scientist with the aid of a hand lens; laboratory equipment is prepared for re-use; and scientists examine tissue cultures microscopically for isolation of viruses. Dr. Shelokov, who has been serving in the dual capacity of MARU Director and Chief of the Laboratory of Tropical Virology, will return to Bethesda in July. He will be succeeded as MARU Director by Dr. Henry K. Beye who has been serving as Acting Director while Dr. Shelokov was in Russia as a member of the 1961 United States Infectious Diseases and Microbiological Exchange Mission to the USSR.

Lindsay and Gay Are Recognized By ACP Branch

Two NIH staff members have been singled out for recognition by the newly organized National Capital Area Branch of the Animal Care Panel, a national organization of persons professionally engaged in the production, care, and study of laboratory animals.

Dr. William I. Gay, Chief of the Animal Hospital Section of the Laboratory Aids Branch, DRS, was elected Vice-President at the recent organizational meeting of the new branch, and Dr. Dale Lindsay, Chief of the Division of Research Grants, will be the guest speaker at the first program meeting, to be held tonight (Tuesday) at 8 o'clock in the Dart Auditorium of the Armed Forces Institute of Pathology.

Dr. Lindsay's subject will be "The Role of the Animal Care Panel in Medical Research." The meeting is open to the public.

The new branch, according to its



Dr. Lindsay

Dr. Gay

announcement, has been formed "to assist in the solution of the many problems involved in the production and care of the some 8,000,000 animals used annually for scientific research in the Washington-Virginia-Maryland area."

The announced aim of the Animal Care Panel is "the production of a high quality animal for research purposes." It accomplishes this by means of seminars, training programs for animal caretakers, publications, coordination of efforts of those interested in animal care, and by conducting a national meeting annually.

Its membership includes veterinarians, medical investigators, animal supervisors, caretakers, technicians, animal suppliers, and feed and cage manufacturers.

President of the new branch is Dr. Charles G. Durbin, Chief of the Veterinary Division of the Bureau of Medicine, U.S. Food and Drug Administration.

Other officers, in addition to Dr. Gay, are Dr. John G. Keller, Chief of the Toxicology-Pharmacology Department, Hazelton Laboratories, Falls Church, Va., Secretary-Treasurer; and Berton F. Hill, Executive Secretary of the Institute of Laboratory Animal Resources, National Academy of Sciences, National Re-

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dine therapy. Other studies indicate that chronic thyroiditis, a hitherto unexplained disorder, may represent an autoimmune phenomenon. Finally, information is being obtained on the action of thyroxine at the mitochondrial level—an important step in our understanding of the mechanisms by which a molecule of thyroid hormone ultimately exerts its energy-stimulating effect.

In the case of the parathyroid hormone, we should note the progress which has been made in the purification of the active principle and in the demonstration that this substance has a profound effect upon the gastrointestinal absorption of calcium as well as upon bone and kidney tissue. The problem of the nature of osteoporosis—a weakening or demineralization of bones, which is very common in elderly individuals—will undoubtedly be open to a new attack with an increased understanding of parathormone action.

Pituitary Yields Secrets

Finally, the pituitary gland, that key regulator of metabolic processes with its adrenal, thyroid, and gonadotrophic hormones and its growth and lactogenic hormones is slowly yielding to the efforts of chemists in their effort to purify, identify, and synthesize these active principles. Again, the Institute has made a very substantial contribution to progress in this field by making available to approved investigators supplies of purified and standardized hormone preparations. Purified preparations of this type have not only enhanced the specificity of experimental observations, but have permitted investigators in different laboratories throughout the country to compare their biochemical and physiological data.

With regard to the secretion of antidiuretic hormone by the posterior pituitary gland, it is to be noted that by using modern techniques of ion exchange chromatography and countercurrent distribution, highly purified preparations of vasopressin and oxytocin have been obtained. Both of these sub-

stances have been shown to contain eight amino acids and three moles of ammonia. The peptide structure of each hormone has been determined, and both hormones have been successfully synthesized by du Vigneaud and his coworkers, representing a milestone in protein chemistry and hormone research.

As one views the field of endocrine disorders over the past ten years, there is every evidence of a spectacular advance in both our basic knowledge and clinical application. It may be pointed out that during this period two Nobel Prizes have been awarded in the field of hormonal identification and synthesis. The Institute, with its own intramural laboratories and clinical facilities, has provided outstanding training opportunities for many young scientists in addition to the long list of impressive contributions made by its own scientific staff. Its research grants to institutions throughout the country and its provision for the extramural training of a large number of basic and clinically oriented investigators are key factors in the notable accomplishments which have occurred in this area.

All inquiries concerning the organization should be addressed to the National Capital Area Branch of the Animal Care Panel, P.O. Box 647, Falls Church, Va.

Volunteers Greeted



Willard Maginnis, CC Volunteer Normal Control Program Chief, welcomes four college students arriving at the Clinical Center for their "vacations." Recruited through the Service Center of the Church of the Brethren, these young people joined 30 others who are serving as volunteer normal control patients in the CC's summer program, June 15 to September 1. Left to right: Wayne Judd of Luray, Va., Brethren Group leader; Ronald Bower, Roanoke, Va.; Mr. Maginnis, and Virgil Huber, Elida, Ohio.—Photo by Bob Pumphrey.

Directory-Bibliography For '61 in Distribution

The third edition of the NIH Scientific Directory and Annual Bibliography has been published and is now available to researchers both within and outside the Government.

The new directory-bibliography presents the broad outlines of NIH organizational structure, names the professional staff, and lists more than 1,600 scientific and technical papers deriving from the NIH program of direct research, both laboratory and clinical, during 1960. This number represents a 70 percent increase in published papers since 1956.

The current edition has a new feature—a subject index—which should increase its usefulness. This index reflects the scope of NIH research and provides quick reference to major and subordinate research areas.

Copies of the booklet are being distributed within NIH, PHS, and DHEW, including the NIH advisory councils; to other Federal agencies, medical schools and medical libraries, scientific and professional societies, foundations, and other organizations concerned with medical research.

Copies are also available upon request from the Public Information Section, Office of Research Information, Bldg. T-19, Rm. 115, Ext. 5895.

12 YEARS AGO—

These items are culled from the 1949 May and June issues of the NIH RECORD, then in its first year of publication:

... When Dr. John Bozicevich yelled "Batter up!" on May 11 to start the first NIH softball game of 1949, spring was officially here. Drs. Norman Topping, F. A. Arnold, J. J. Griffiths, and other medical ballhawks will be out there any day now.

... Dr. G. Robert Coatney and Dr. David E. Price, special consultants to the Pan American Sanitary Bureau in connection with field trials of chemotherapeutic agents in malaria and *onchocerciasis*, recently returned from a trip to the Dominican Republic.

... Dr. Norman Topping, Associate Director of NIH, and Dr. James A. Shannon, Associate Director of the National Heart Institute, have been elected to membership in the Association of American Physicians.

... Dr. C. J. Van Slyke, NHI Director, was elected to the Board of Directors of the American Heart Association at the recent convention in Atlantic City.