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# Record

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

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NATIONAL INSTITUTES OF HEALTH

## Dr. Seigel to Direct NICHD Epidemiology, Biometry Research

Dr. Daniel G. Seigel has been appointed director of the Epidemiology and Biometry Research Program, National Institute of Child Health and Human Development.

### Joined NIH in 1964

Dr. Seigel has been serving as acting director since the summer of 1974.

He joined the National Heart Institute in 1964, and transferred to NICHD in 1967 as a biostatistician, becoming chief of the Biometry Branch in 1971.

### Program Has 2 Functions

The Program which Dr. Seigel directs has two basic functions: research in statistical methodology and epidemiologic studies, which complement clinical and lab-oriented research, including research on population and maternal and child health; and advice and assistance to Institute staff on intramural and extramural programs.

The Epidemiology and Biometry Research Program also initiates contracts and sponsors collabora-

(See DR. SEIGEL, Page 4)

## President's Biomedical Research Panel Makes Report After 15-Month Study

Establishment of a statutory NIH Advisory Board—to replace the present NIH Director's Advisory Committee—was among the major recommendations in the recent Report of the President's Biomedical Research Panel.

The Report, submitted to the President and the Congress on April 30, recommended that the statutory board assist the NIH Director "in maintaining program balance and stabilizing efforts at a time when mission and organizational structure are subject to controversy."

In addition, the report recommended that the NIH Advisory Board should be composed of 18 members appointed by the President for 6-year terms.

Not more than 12 of the appointed members should be scientists or clinicians and not more than 6 should be representatives from the general public, the Report indicated.

The seven-member Panel, established Jan. 29, 1975, conducted an extensive study over a period of 15 months.

It assessed the state of the science; the impact of federally funded research on higher education;

(See PANEL REPORT, Page 5)

## NHLI to Change Name, Expand Blood Programs When Law Implemented

When the legislation signed by the President to revise and expand the National Heart and Lung Institute's responsibilities with respect to blood disease and resource programs is implemented, the Institute's name will be changed to the National Heart, Lung, and Blood Institute.

### Law Increases Activities

A major provision of the legislation is an increase in blood-related activities within the Institute and also throughout the National Heart, Blood Vessel, Lung, and Blood Program.

NHLI is the prime mover and coordinator of this Program, but it is a cooperative effort involving the participation of other Institutes of NIH, other Federal agencies, and private organizations and groups with program interests in cardiovascular, pulmonary, or blood diseases.

Blood-related activities of the Program include research on causes, prevention, diagnosis, and treatment of hemorrhagic diseases,

(See NHLI CHANGE, Page 8)



On May 19, Dr. John R. Seal (l), NIAID deputy director, was the first of almost 300 volunteers (c)—including "N.Y. Times" science writer Harold Schmeck, Jr. (r foreground)—to have temperatures taken, blood samples drawn, and a shot given in each arm to evaluate 11 possible combinations of flu vaccine for high risk groups. Dr. Robert J. Byrne (r), NIAID assistant associate director for Collaborative Research, gives medical data prior to his shots. Dr. Raphael Dolin of the National Institute of Allergy and Infectious Diseases and Dr. Frank Ennis of the Bureau of Biologics were in charge of the NIH trials. Similar studies were also conducted at Fort Ord, Calif., and at Lowry Air Force Base, Colo., to select dosages for a bivalent vaccine con-

taining the new type A swine-like influenza virus and A/Victoria. A separate vaccine for influenza B is also being evaluated. More than 2,000 adults participated in earlier trials to determine reactions to and doses for swine A vaccines for the general population. The Center for Disease Control is currently determining antibody levels in sera from those vaccinees. NIAID-supported trials of the swine A vaccine began May 2 at eight medical centers to determine pediatric doses. Trials of the bivalent (A/swine, A/Victoria) vaccine in the elderly began May 17 in two centers. An Influenza Workshop sponsored by NIAID, BoB, and CDC will review accumulated data on June 21.

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# Record

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Susan Gerhold, editor of "Closeup," receives an Equal Employment Opportunity Award for outstanding contribution to the Clinical Center EEO program through the CC employee newsletter from James Alexander, CC EEO coordinator, at a recent EEO Advisory Committee meeting.

#### Dr. Villee Joins DRR Council; Teaches Pediatrics at Harvard

Dr. Dorothy B. Villee, assistant professor of pediatrics at Harvard Medical School, has been named to the National Advisory Research Resources Council for a term ending Sept. 30, 1979.

Dr. Villee is an associate in endocrinology at Children's Hospital Medical Center in Boston, and a consultant to the National Foundation March of Dimes.

Her research interest is in the growth and differentiation of normal and abnormal endocrine tissue and in the factors controlling growth and differentiation.

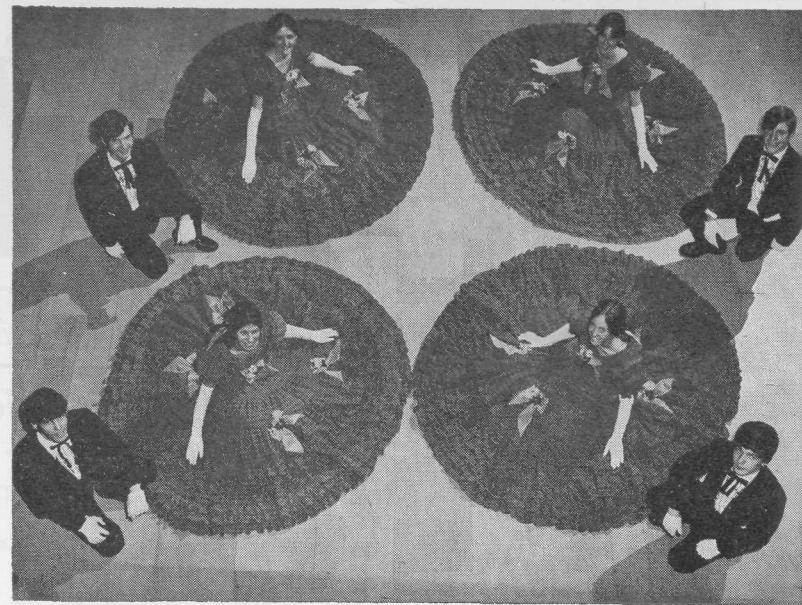
Few people realize that obesity can ultimately be fatal. Numerous life-threatening disorders stem from, or are aggravated by, excessive weight.

Hypertension, gallbladder and liver disease, symptomatic diabetes in predisposed individuals, and a host of other conditions can subtract years from a normal life span. A well planned diet-exercise program can do much to mitigate these risks.

*Facts About Obesity* explores the cause of overweight, motives for overeating, and obesity in children and adolescents.

The publication also addresses the numerous myths about weight reduction fad diets and starvation, as well as drug treatment and surgery for obesity.

The booklet is based on a chapter



**SPOKANE'S SILVER SPURS DANCERS**, sponsored by the R&W Association, will present a 2-hour program of dances from many nations on Thursday, June 24, at 8 p.m. in the Masur Auditorium. The group of teenagers previously performed at NIH in 1971. Tickets are on sale for \$3 each at the R&W Activities Desk in Bldg. 31 and in the Westwood Bldg. Gift Shop. Proceeds will benefit the Patient Emergency Fund.

#### HEW Fellow R. A. Ortiz To Aid EEO Staff Here

Richard A. Ortiz, an HEW Fellow assigned to NIH, has been appointed as special assistant to Raymond J. Jackson, Director of the Division of Equal Employment Opportunity.

Mr. Ortiz will assist the staff in reviewing NIH policy and procedures for applicability to minority problems and concerns and compatibility to minority health needs.

He will also help the NIH Spanish-speaking coordinator to develop programs which address the needs and concerns of the Spanish-speaking community.

Before coming to NIH, Mr. Ortiz was assigned to the Office for Civil Rights as special assistant to the Director of Health and Social Services.

Mr. Ortiz was formerly senior health specialist and marketing director for a management consultant firm. Previously he served as director of the Regional Medical Program of Texas, responsible for initiating and monitoring new programs in South Texas.

In addition, Mr. Ortiz has served as Southwestern Director for the National Spanish Speaking Management Association of Washington, D.C., designing training and technical assistance programs for Spanish-speaking agencies throughout a 13-state area.

on obesity from *Human Nutrition*, a recently published text by Dr. Benjamin T. Burton, associate director of NIAMDD.

Free single copies of the pamphlet are available from the Office of Scientific and Technical Reports, NIAMDD, Bldg. 31, Rm. 9A-04.

#### Parker Elected to Chair EEO Advisory Council; Iba Heads Exec. Board

At the NIH EEO Advisory Council meeting on April 21, Levon O. Parker, NINCDS, was elected chairperson of the Council, and Barbara Y. Iba, NIDR, was elected chairperson of the Executive Board.

#### Committees Listed

The Equal Employment Opportunity Council of NIH includes committees dealing with Supervisory Development; Upward Mobility and Employee Development; Recruitment, Placement and Promotion; Communications; Counseling; Employee Relations, and Civil Rights in Grants and Contracts in addition to its internal committees.

The Council meets the Wednesday following payday.

To place items on the Council agenda, individuals or groups should send them to Ms. Iba, Bldg. 30, Room 433, at least 2 weeks prior to the meeting.

#### Ida May Gaines Dies; Former NCI Technician Retired in '75

Ida Mae Gaines, a former research technician in NCI's Division of Cancer Cause and Prevention, recently died.

Mrs. Gaines joined NCI in 1949 as a technician in what was then the Cell Chemistry Unit.

During her years at NCI, Mrs. Gaines worked closely with Drs. Wilton Earle, Frank J. Rauscher, Jr., and Timothy E. O'Connor.

Prior to her retirement in 1975, she worked with mammalian RNA leukemia and solid tumor inducing viruses in the Tumor Virus Section.

## NIAID Scientists Report Recent Research-- Highlight of Clinical Society Meetings

Research on fever, malaria, kidney disease, and cellular defenses reported by scientists of the National Institute of Allergy and Infectious Diseases highlighted the early May plenary sessions of clinical meetings in Atlantic City.

- At the American Society for Clinical Investigation meeting, Dr. Charles Dinarello, Lois Renfer, and Dr. Sheldon Wolff of the Laboratory of Clinical Investigation reported the first successful production of specific antibody against human leucocytic pyrogen (LP).

This substance—which is released by white blood cells—acts upon temperature-regulating centers in the hypothalamus portion of the brain to produce fever.

### LP Antibodies Developed

Seven monthly injections of human LP were necessary to develop the potent antibody in rabbits. This production and subsequent purification of specific antibody against human LP represent a first step in the development of a sensitive test to detect this factor in the blood of patients with fevers of diverse origins and provide an opportunity to produce more potent, specific agents to suppress fever.

- Another group—Dr. Steven Mason, Dr. Louis Miller, Tsugiyoshi Shiroishi, and Dr. James Dvorak of the Laboratory of Parasitic Diseases—presented evidence that the absence of Duffy a and b antigens on the red blood cells of blacks (known as Duffy negative phenotype) is the basis of their resistance to *Plasmodium vivax* malaria.

When the scientists—along with Mary McGinniss, Clinical Center Blood Bank—examined the blood of individuals previously infected with *P. vivax*, they found that all Duffy negative blacks had resisted invasion. Duffy positive individuals had developed malaria.

Additional evidence enabled the



L. Earl Laurence, Clinical Center executive officer, has accepted a position as administrator at the Hinsdale Sanitarium and Hospital in Illinois beginning July 1. Mr. Laurence has been at NIH since 1961.

researchers to conclude that Duffy a and b determinants are the receptors for parasite invasion of red blood cells.

- In another paper at the ASCI meeting, Dr. Michael Gelfand of Georgetown University Hospital and a guest worker in NIAID's Laboratory of Immunology, Drs. Moon Shin and Raymond Nagle of the University of Maryland, Dr. Michael Frank, LCI, and Dr. Ira Green, LI, presented data suggesting that the receptors for complement on human glomeruli—the kidney's tightly coiled blood vessels—may play a role in the development of immune complex kidney disease.

### Receptors Reduced

They found that receptor activity for C3 (a complement component) was reduced or absent only in renal biopsies from patients whose diseases were associated with immune complex deposits.

This suggests that their receptors—located on the epithelial cells of the glomeruli—are already occupied by C3 deposits, a situation not found in specimens from patients with diseases not associated with immune complex deposits.

- At the General Session of the American Federation for Clinical Research, Dr. Harry Malech of NCI's Laboratory of Cell Biology, Dr. Richard Root of Yale University, and Dr. John Gallin of NIAID's Laboratory of Clinical Investigation presented their data on directed migration (chemotaxis) of white cells known as neutrophils towards a chemical stimulus, such as one generated at an inflammatory site.

These findings should enable scientists to identify specific structural defects which prevent neutrophils of certain patients with recurrent bacterial infections from migrating normally to the site of the organism's invasion.

### Microtubules Are Critical

Electron microscope analysis revealed that internal structures of the cell—centriole, associated microtubular array, and microfilaments—organize at the end of the cell nearest the chemical stimulus.

Furthermore, intact microtubules—and not microfilaments—were identified as the structures necessary for proper orientation and maintenance of this polarization.

The scientists believe that the oriented assembly of microtubules is critical for the change from random to directed migration.

## Area Agencies Check Blood Pressure, Urge Needed Treatment

During May, High Blood Pressure Month, the Washington Metropolitan area became a beehive of activity—in many localities public and private agencies were busy checking blood pressures and counseling those with elevated pressures to seek medical attention.

At the NIH Open House in early May, several thousand blood pressures were checked. One person had blood pressure so elevated that he was transported to the Suburban Hospital emergency room for further evaluation, and another person was urged to seek immediate treatment there.

Many others were not aware that their blood pressure was high. They are among the 12 million in the United States who have high blood pressure and do not know it.

In this country, over 23 million persons have high blood pressure—half are unaware of it, and half are under treatment. Of those under treatment, only half have their pressure adequately controlled.

The Prince Georges County Maryland Health Department in Cheverly, Fairmont Heights, and Mt. Rainier, along with the Heart Association of Southern Maryland, all presented programs for the detection of high blood pressure on a continuing basis during the month.

The Retired Persons Pharmacy in northwest Washington offered blood pressure screenings 3 days during the week, while District fire stations checked and referred

### Have Your Blood Pressure Checked—It Is Painless

High blood pressure can lead to heart attack, stroke, or kidney failure.

Having your blood pressure checked only takes a few minutes and is painless. It can be treated.

When it's under control, it can mean a longer, healthier life.

people to local clinics on Saturday and Sunday.

The Government Employees Insurance Company also screened all of its employees during May.

With all this activity, there is really no excuse for not knowing your blood pressure.

For information where blood pressures are being checked, call the local Heart Association or get in touch with your local health clinic or doctor.

## 'Sickle Cell Anemia' Film Wins Silver Medal Award At International Festival



Dr. Clarice Reid, SCD Branch chief, displays the plaque to Dr. Robert I. Levy (r), NHLI Director, and Dr. George Riley, NHLI administrator for the Chicago Center which produced the award-winning film.

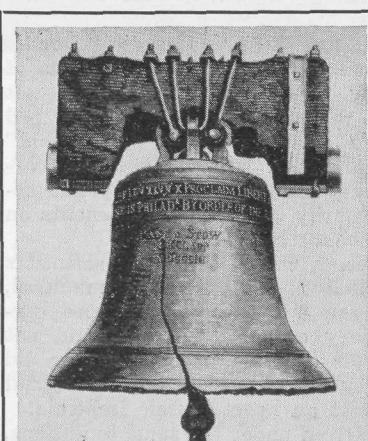
"Sickle Cell Anemia," a 5-minute documentary on the origin, distribution, symptomatology, and biochemical basis for the sickling phenomenon of red blood cells, has won the Silver Medal Award at the Virgin Islands International Film Festival.

The film was awarded second place among over 100 entries from around the world in the category, Documentary-Medicine and Health.

A silver medal on an ebony plaque was presented to the Sickle Cell Disease Branch of the National Heart and Lung Institute.

Narrated by Greg Morris, the animated and live action film was produced by the Comprehensive Sickle Cell Center in Chicago as a part of the permanent Sickle Cell Exhibit in the Museum of Science and Industry in Chicago.

The film will also be shown as a feature of the sickle cell Bicentennial exhibit in the South Portal Building, DHEW.



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## NHLI Cardiology Branch Evaluates Drugs to Limit Heart-Muscle Damage

In animal studies conducted by scientists of the National Heart and Lung Institute's Cardiology Branch, nitroglycerin or a combination of nitroglycerin plus methoxamine clearly outperformed several other drug regimens proposed for reducing heart-muscle damage after acute heart attacks.

Recent research has shown that for some hours after onset of such an attack, substantial portions of blood-deprived heart muscle hover between recovery and irreversible damage.

### Functions Salvaged

Measures aimed at salvaging functional heart muscle have included reducing the heart's workload and facilitating the transfer of oxygens and nutrients into blood-deprived (ischemic) areas.

Other measures include correcting local tissue disturbances in fluid, electrolyte, or acid-base balances and reducing inflammation and cellular disruption in ischemic areas.

These studies evaluated and compared several drugs that, in earlier studies at NHLI and elsewhere, had shown promise for protecting heart muscle against the destructive consequences of ischemia:

- Nitroglycerin reduces the workload of the heart and also improves the blood supply to ischemic areas of heart muscle by dilating collateral blood channels.

- Nitroprusside and phentolamine are both potent blood-vessel dilators. They reduce arterial blood pressure.

- Mannitol, in high concentrations, is a potent osmotic agent and diuretic.

In one study, the scientists compared the effects of nitroglycerin, nitroprusside, and phentolamine on collateral blood flow in dogs.

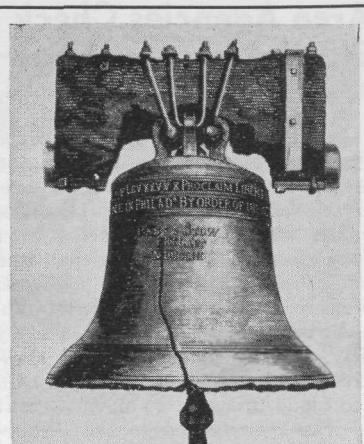
When infused directly into the main artery, both nitroglycerin and nitroprusside, in pharmacologically similar doses, produced similar increases in blood flow through these collateral channels.

### IV's Differ

When infused intravenously, however, nitroglycerin produced greater increases in collateral blood flow than did nitroprusside, despite the more pronounced action of nitroprusside on blood pressure and blood-vessel resistance elsewhere.

Phentolamine, despite its vasoconstrictor effects elsewhere, always decreased collateral blood flow.

In a second study, the scientists compared nitroglycerin and nitroprusside for reducing the severity of ischemic injury (as indicated



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by EKG recordings from multiple intracardiac electrodes).

Both drugs produced qualitatively similar increases in heart rate, decreases in systemic arterial pressure, and decreases in left atrial pressure as compared with untreated controls.

In only one aspect did they differ: nitroglycerin reduced EKG evidence of ischemic injury whereas, with nitroprusside, the EKG tracings indicated that the damage became more severe.

From these two studies, the scientists conclude that the effects of any blood-vessel dilator may not be the same in every vascular bed and that seemingly "beneficial" changes in systemic or even coronary hemodynamics may not necessarily confer similar benefits on ischemic heart muscle.

In a third study, the scientists found that infusions of mannitol, begun 3 hours after induced coronary occlusion in dogs, did not affect coronary blood flow nor did they have any detectable beneficial effect on heart muscle ischemia.

Given under the same conditions, nitroglycerin plus methoxamine improved coronary blood flow and reduced the extent of ischemia, benefits that were not augmented in these animals by subsequent infusions of mannitol.

The studies were done by Drs. Norina Capurro, K. M. Kent, R. L. Engler, A. S. Pearlman, R. A. Goldstein, H. J. Smith, and S. E. Epstein of the NHLI Cardiology Branch.

Their findings were reported at the recent national meeting of the American Federation for Clinical Research in Atlantic City.

## Carotid Body Abnormalities Investigated In Relation to SIDS Oxygen Deficiency

Faulty respiratory control mechanisms and chronic lack of oxygen have been identified in the etiology of the Sudden Infant Death Syndrome by investigators supported by the National Institute of Child Health and Human Development.

At autopsy, SIDS victims showed subnormal volumes of cells in their carotid bodies—small organs in the aorta which sense oxygen levels in the blood.

The report further substantiates previous findings by researchers of insufficient oxygen reaching the tissues over prolonged periods in SIDS victims.

Formerly known as crib death, SIDS is the leading cause of death in the U.S. among infants between the 1st and 12th months of life, claiming 7,500 to 10,000 infants each year.

Dr. Richard Naeye, professor and chairman of the department of pathology, Milton S. Hershey Medical Center, Pennsylvania State University, in cooperation with the staff at the Maryland Chief Medical Examiner's Office in Baltimore, examined the carotid bodies of 31 SIDS victims who had shown no signs of infection before death, and 25 SIDS victims who had infections too mild to have caused death.

SIDS victims were compared with 25 control infants who had died of other causes.

### DR. SEIGEL

(Continued from Page 1)



Dr. Seigel, who belongs to several professional societies, serves as a consultant to the Food and Drug Administration, and to the World Health Organization.

tive research. Present plans include a series of studies on infant mortality and morbidity, risk factors for prematurity, and the prognosis for low birthweight infants.

Dr. Seigel received his D.Sc. degree from Harvard University School of Public Health.

In the past, his interests have centered on the development and application of statistical methods in epidemiologic studies, primarily in the areas of radiation, heart disease, and population research.

Carotid bodies sense fluctuations of carbon dioxide and oxygen in the blood and relay information to the respiratory control center in the brainstem to cause compensatory adjustments in breathing if the oxygen level in the body is low.

Of the SIDS victims examined, 63 percent showed a substantially reduced number of cells in carotid bodies, and 23 percent had a larger-than-normal number of cells.

### Controls Studied

Control infants had 2.6 times as many carotid body cells as did SIDS victims. Evidence of chronic lack of oxygen were found in infants with both enlarged and diminished carotid body tissue, although it was more severe in victims with enlarged tissue.

In a related study, Dr. Naeye and Drs. Philip Whalen, Monique Ryser, and Russell Fisher reported that about half of 85 SIDS victims between 1 and 12 months of age had greater heart weights than controls.

Both infected and uninfected SIDS victims had signs of chronic hypoxia, but infected victims had smaller thymus glands, were older at death, and as a group had milder features of chronic hypoxia and hypoxemia than non-infected victims.

### Hypothesis Investigated

If the SIDS victims suffered from chronic lack of oxygen, then one would expect them to have abnormally heavy right ventricles because the heart must pump harder and hence will enlarge to push blood through constricted pulmonary arteries when the air spaces in the lung are deprived of oxygen.

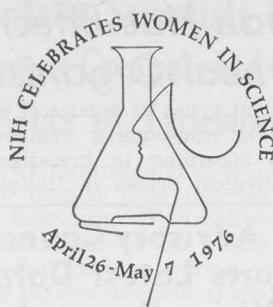
Many of the autopsied SIDS victims showed other signs of oxygen deficiency at the tissue level.

Failures in central control of respiration remain a possible contributing factor in the deaths of both infected and uninfected SIDS victims.

### CORRECTION

The exact title of the award presented to Dr. Everette L. May, NIAMDD, was not given in the May 18 issue of the NIH Record.

The American Pharmaceutical Association Foundation-Academy of Pharmaceutical Sciences at its annual meeting presented to Dr. May the 1976 Research Achievement Award in Pharmaceutical and Medicinal Chemistry.



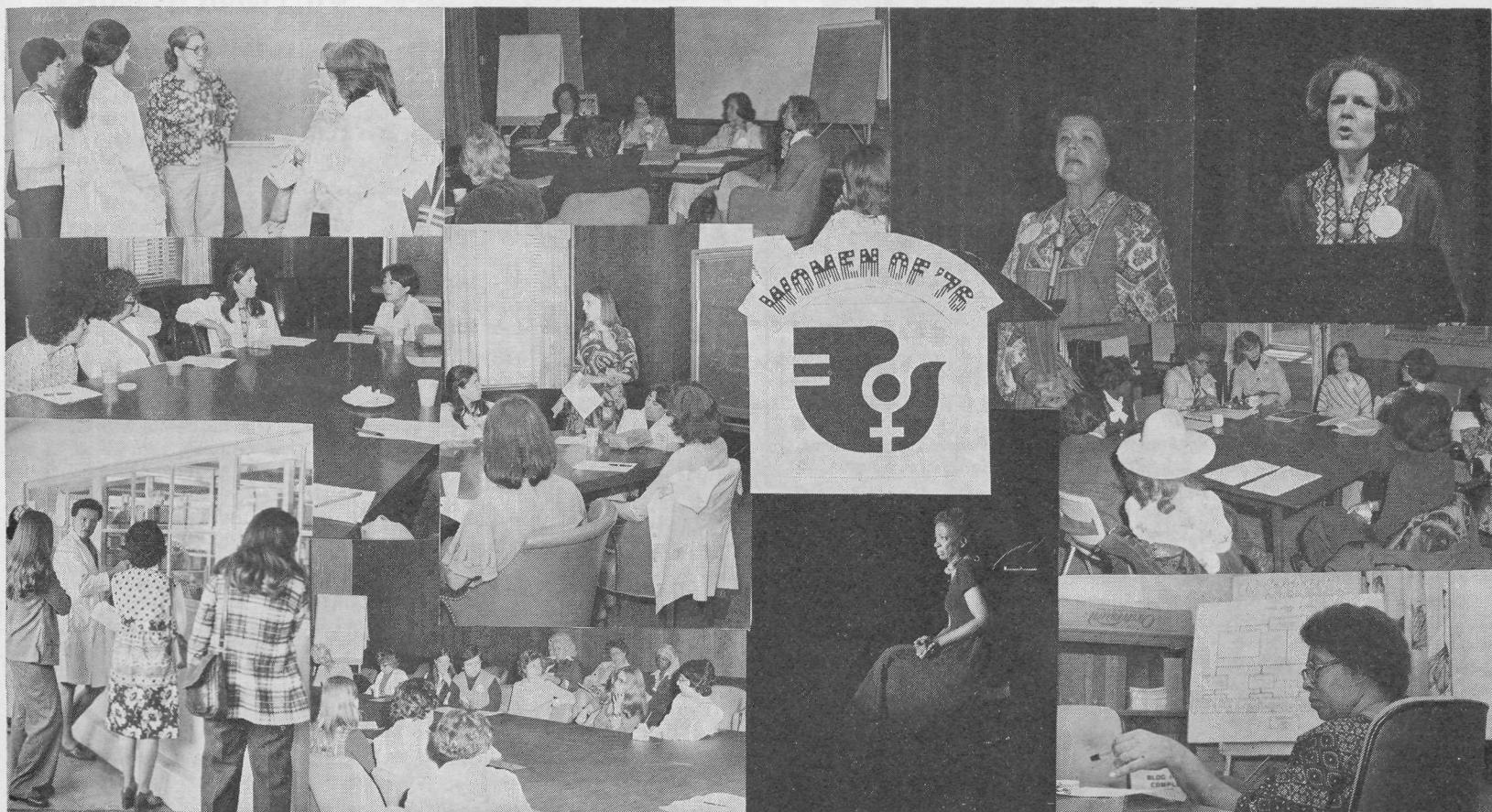
## NIH Celebrates International Women's Decade

"Historically, women have played an indispensable part in planning, developing, and carrying out the mission of the National Institutes of Health. They personify the excellence for which NIH is known worldwide—a fact whose public affirmation is appropriate and timely during International Women's Decade, 1975-1985, and at a time when we celebrate our nation's bicentennial."

"The title of the celebration, 'Women in Science,' is

particularly significant to me because I feel strongly that all women at NIH contribute to the service of our scientific mission. As a numerical majority, as individuals, and as collaborators, their teamwork has been essential to the development of this institution."

*Dorothy Fedorko*  
Director



### PANEL REPORT

(Continued from Page 1)

tion institutions; organization and management of NIH and the Alcohol, Drug Abuse, and Mental Health Administration; dissemination and application of research findings, and policy for Federal support of biomedical and behavioral research.

Four appendices and four supplementary volumes accompany the main report, DHEW Publication No. (OS) 76-500. All will be available from the Government Printing Office by the end of this month.

Verbatim transcripts for all Panel meetings except the March 1975 meeting are available from the U.S. Department of Commerce, National Technical Information Service, Springfield, Va. 22161.

The Panel's recommendations included the following:

□ NIH must explore applica-

tions of new knowledge effective in health care and must assist in disseminating this new knowledge to appropriate groups.

□ NIH has a responsibility to assist regulatory and policy-making agencies when called upon "but only when the request falls clearly within (its) mission . . ."

□ Movement of research findings into practical use depends upon advanced scientific knowledge along a broad front. The Panel expressed concern with premature acceptance of innovations not adequately validated clinically.

#### Scientific Post Proposed

□ The proposed Office of Science, Engineering, and Technology Policy should include an eminent scientist with broad experience and established professional credibility in the biomedical and behavioral sciences.

□ The Panel also concluded that creation of additional Institutes is not likely to make NIH more ef-

fective, but that new programs should be established or existing programs strengthened through present Institutes.

□ In addition, the Panel members noted that the system of peer review used by NIH has retained its credibility and remains one of the most valuable tools in the administration of scientific programs.

Other areas covered by the Panel were: salary and manpower ceilings, special system for research personnel and scientist administrators, formulation of the research budget, and the need to maintain and strengthen the quality of NIH intramural programs.

The Panel also commented on areas in which research efforts should be expanded: population research, genetic diseases, environmental and industrial health and toxicological research, neurobiology and man's understanding of himself, and diabetes.

Franklin D. Murphy, chairman,

Times Mirror Corporation, Los Angeles, Calif., chaired the Panel.

Other members are: Dr. Ewald W. Busse, Duke University Medical Center; Dr. Robert H. Ebert, Harvard Medical School, and Dr. Albert L. Lehninger, The Johns Hopkins University School of Medicine.

Also, Dr. Paul A. Marks, Columbia University; Benno C. Schmidt, J. H. Whitney and Company, New York, N.Y., and Dr. David B. Skinner, University of Chicago Hospitals and Clinics.

#### Employee Health Service Unit in Bldg. 37 Closes

Employees who previously used the Bldg. 37 Employee Health Service unit—which closed yesterday (June 1)—should now report to Bldg. 10, Room B2-A06, for health services.

Medical records of personnel in Bldg. 36 and 37 are being transferred to the EHS in the Clinical Center, Bldg. 10.



### YES, THE LAW REQUIRES IT . . . EQUALITY OF OPPORTUNITY IN FEDERAL EMPLOYMENT

If you, as an employee or as one who is seeking Federal employment, believe that you have been subject to discrimination because of your race, color, religion, sex, age, or nationality . . .

Consult your EEO counselor

If the EEO counselor cannot solve your problem, you will be informed of your right to submit a discrimination complaint under the regulations of the U.S. Civil Service Commission, the Act of Equal Employment Opportunity, and the Act of Age Discrimination.

## Hypothalamus Does Not Control Intake Of Food, According to NCI Researcher

The hypothalamus, contrary to some theories, does not control food intake, according to Dr. Seoras D. Morrison of the National Cancer Institute's Laboratory of Physiology.

Dr. Morrison discussed the body's regulation of food intake and feeding behavior at the recent Annual Meeting of the Federation of American Societies for Experimental Biology in Anaheim, Calif.

Obesity or emaciation can develop when the control of food intake breaks down. For several decades, scientists have attempted to understand these common human conditions by studying the role of the hypothalamus in rats.

#### Influences Body Functions

The hypothalamus is a small segment of the brain of all mammals, located near the base of the brain and the pituitary gland.

It influences many body functions not under conscious control, including glandular activities, temperature regulation, heart and blood vessel function, digestive secretions, thirst and hunger.

Early experiments with rats showed that destruction of one part of the hypothalamus led to obesity, whereas destruction of another part caused the animal to stop eating.

More recent studies have shown

that the relationship is more complex, Dr. Morrison said. The hypothalamus apparently is a junction for many nerve pathways, any of which can influence feeding.

The interaction within the hypothalamus of nerve signals from numerous parts of the body is intricate and difficult to decipher.

Various factors have been found to influence the amount and efficiency of food intake—environmental temperature, the "caloric density" (calories in each unit of food), the food's palatability, and levels of some hormones.

Only one stimulus, the level of insulin in the blood, triggers an eating response that has been definitely traced to the hypothalamus. The other stimuli for food intake are controlled outside the hypothalamus, Dr. Morrison said.

At best, the hypothalamus might influence feeding in response to external controls.

Cancer cachexia, in which the cancer patient becomes more and more emaciated, has been proposed

## Dallas Scientists Show Iron Has Effect On Infectivity of Gonorrhreal Organisms

Iron compounds added to relatively avirulent types of gonococci made them almost 100-fold more infectious, while iron-binding compounds significantly reduced infectious capability, according to investigators at the University of Texas Southwestern Medical School in Dallas.

This finding—that the ability to acquire iron is a significant factor in the establishment of gonococcal infections—may eventually have preventive or therapeutic applications.

Using his chick embryo animal model system, Dr. Richard Finkelstein, a NIAID grantee, and Dr. Shelley M. Payne have shown that fewer type 3 or type 4 gonococcal organisms were needed to cause a lethal infection when iron compounds were added to the inocula.

The conditions for virulent gonococcal types 1 and 2 were optimal for the acquisition of iron from the chick embryo host.

#### Iron-Binding Compound Added

However, when the iron of the host was limited by adding an iron-binding compound found naturally in chicken-egg white, survival of the types 1 and 2 inoculated embryos increased by at least 24 hours, indicating significant inhibition of infectiousness.

Types 1 and 2 gonococci have microscopic, hair-like appendages called pili on their surfaces, while types 3 and 4 do not. These pili are thought to be responsible for the ability of the organism to cause infection.

Drs. Payne and Finkelstein believe that pili may be involved in iron transport or iron-binding, among other things.

Or, they say, addition of iron may supply functions lacking in avirulent organisms which have been attributed to pili in the virulent ones.

Other investigators have shown that iron causes increased numbers of gonococci to adhere to human sperm—one way it may increase virulence.

Further investigation of the role of iron in the infectiousness of gonococci may explain whether there is a difference in the iron-binding ability of gonococci causing systemic disease and those causing more localized infections, or could reveal aberrations in the iron metabolism of persons susceptible to systemic gonorrhreal infections.

The availability of iron might also be found to influence the severity of symptoms in this disease, say the investigators, who reported their findings in the December 1975 issue of *Infection and Immunity*.

as a "model of negative obesity" by Dr. Morrison. The syndrome is not influenced by any damage to the hypothalamus, he reported.

## NEI Advisory Council Reports Latest Data On Vision Research

Americans spent \$3.6 billion for medical and hospital eye care, optical goods, and visual rehabilitative services in fiscal year 1975, and the economy lost an estimated \$1.5 billion in earnings due to visual disorders and disabilities.

Such data on incidence, prevalence, and costs of eye disorders in the United States is reported in a publication, *Support for Vision Research*, recently issued by the National Advisory Eye Council.

The report was prepared for the Council by its Program Planning Subcommittee, chaired by Dr. A. Edward Maumenee, Director of Johns Hopkins University's Wilmer Ophthalmological Institute.

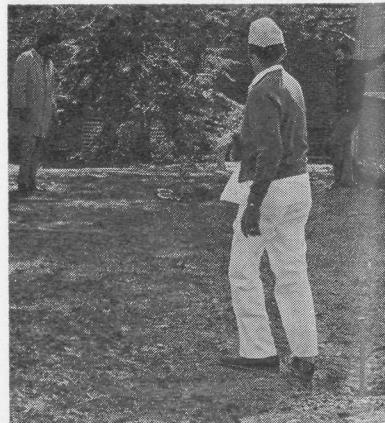
It updates program data in the Council's first major planning report, *Vision Research Program Planning*, published in April 1975.

*Support for Vision Research* also describes current Council program planning activities, available data on public and private funding of vision research, NEI budget information, and information on all NEI grants and contracts active during fiscal year 1975.

#### Inflation Impact Depicted

In addition, exhibits depict the impact of inflation on the NEI budget and the growth of overhead costs of research grants.

Single copies of *Support for Vision Research*, DHEW Pub. No. (NIH) 76-1098, may be obtained free from the Office of Program Planning and Scientific Reporting, National Eye Institute, Bldg. 31, Room 6A-25.



Intramural competition, extramural activity bring horseshoe players into the noontime sun near Bldg. 13-A. L to r: Joe Gilliam, DAS, Melvin Carroll, NINCDs, and John Sewell, NIAMDD.

## Montana Scientists Find Thymus Competence Rids Rodents of Tapeworms

NIAID grantees have found that while normal mice infected with the tapeworm *Hymenolepis diminuta* eliminate the worms after a 10-day growing period, congenitally thymus-deficient (nude) mice do not.

Their results support the concept that worm elimination by normal mice has an immunological basis dependent on competence of the thymus gland, and suggest that a similar relationship may exist between immunologic competence of human hosts and worm infestations.

### Nude Mice Infectious

*H. diminuta* infections usually occur in rats, where they are maintained for many months. In normal mice, following a period in which the tapeworms grow up to 16 cm in length, they are eliminated, so that by the 14th day the infection is greatly reduced, and by the 21st day is entirely gone.

In nude mice, however, investigators at Montana State University found that prevalence of infection was high throughout a 21-day observation period, and the worms were frequently 50 to 70 cm long.

Since thymus deficiency is only one abnormality of nude mice, the investigators instituted competence by thymus grafts or injection of thymus cells. Nude mice so treated eliminated the tapeworms, showing that thymus deficiency was the cause for worm retention, and thymus competence the necessary requirement for their elimination.

### Mechanisms Could Be Clarified

The authors note that recent work by other investigators indicates that nude mice do not produce immunoglobulin E and peripheral blood eosinophilia, which are often associated with parasitic infections.

They suggest that selective reconstitution of nude mice with antibody of known class and activity and/or selected immunologically relevant cell types could be useful in clarifying the immunological mechanisms involved.

Drs. Dale D. Isaak, Richard H. Jacobson, and Norman D. Reed of the department of microbiology and the Veterinary Research Laboratory of Montana State University reported their findings in the December 1975 issue of *Infection and Immunity*.

Genius seems to consist in the power of applying the originality of youth to the experience of maturity.—Michael Polanyi.

## Fumes From Heated Price Label Adhesive May Be Cause of Meatwrappers' Asthma

Irritating fumes from heat-activated price label adhesive may be the main cause of meatwrappers' asthma, according to Dr. Emil Bardana, at the University of Oregon Health Science Center, Portland.

Medical scientists previously suspected that vapor from polyvinyl chloride soft-wrap film cut on a hot wire was the principal cause of reactive airway disease, burning eyes, sore throat, and other irritating symptoms experienced by meatwrappers.

Dr. Bardana and his associates, Drs. Ruediger H. Andrasch, Frederick Koster, and W. Harold Lawson, are the first to suggest that a vapor emitted from thermally-activated price label adhesive causes this type of asthma.

The findings of their study, conducted at the University's General Clinical Research Center and supported by the Division of Research Resources, were announced at a recent meeting of the American Academy of Allergy.

The scientists tested the normal breathing capacity of 14 symptomatic meatwrappers, and then checked their respiratory function under simulated work conditions.

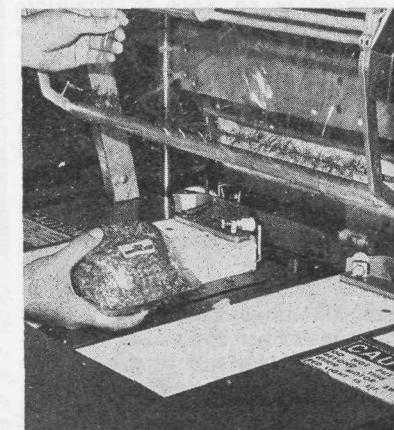
### Wrapping Area Simulated

"We set up a meatwrapping machine in a General Clinical Research Center room that simulated almost exactly a typical meatwrapping area," said Dr. Bardana.

"It had the same square footage, and like most wrapping areas was not well ventilated. However, Kleenex boxes were wrapped instead of meat."

The tests showed that meatwrappers exposed to polyvinyl chloride fumes for 3 hours had minimal increases in airway obstruction and mild reduction in oxygen saturation in arterial blood.

When meatwrappers were exposed to label fumes for as little as 5 to 15 minutes, however, moderate to marked increases were



Meatwrappers working with polyvinyl chloride soft-wrap film and thermally activated labels in poorly ventilated areas are exposed to a potential health hazard. Fumes from labeling machines (1) are more hazardous than fumes from the soft-wrap cutting machines (2). In many old labeling machines, a heating pad produces a co-polymer action, vapors from which may induce a reaction in allergy-prone individuals.

noted in airway obstruction. Oxygen saturation in the blood also fell dramatically.

The meatwrappers under scrutiny displayed wheezing, shortness of breath, tearing and burning eyes, palpitation, irritability, and upset stomach.

"The fumes from the polyvinyl chloride wrap have some effect, but the heated labels appeared to be the greater of the two culprits," Dr. Bardana said. "We have a feeling that vulnerable individuals may develop a hypersensitivity to a heat-activated substance, but we can't yet prove it."

### Hot Wire Emits Fumes

The researchers found that the hot wire, which does the cutting of the plastic wrap, eventually gets covered with polyvinyl chloride and subsequently emits fumes continuously.

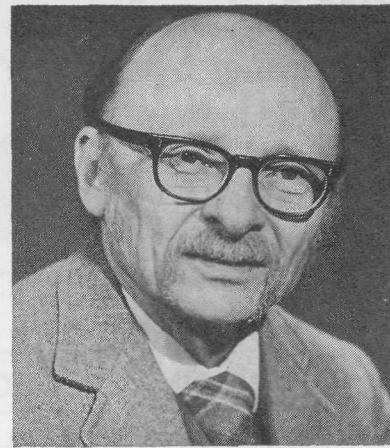
The scientists report that very little information has been obtained from the manufacturers as to the composition of the various heat-activated price label adhesives.

### Product Can Be Irritant

"We have fairly reliable information which suggests the presence of elastomers, thermoplastic copolymers, styrene butadiene copolymers, styrene acrylonitrile copolymers, polyphenyl oxides, polysulfones, and phthalic acid plasticizers," they said.

"At least one breakdown product of the latter component is a bronchial irritant and may contain a sensitizing allergen."

Bronchial provocation studies were performed after the medical



Dr. David Rosenthal, chief of the Laboratory of Psychology and Psychopathology, National Institute of Mental Health, has been awarded the Professional Achievement Award of the University of Chicago Alumni Association. The award, which honors outstanding graduates, will be presented at a Special Reunion Luncheon at the University on June 5.

## NIH Visiting Scientists Program Participants

5/10—Dr. Saeko Sakai, Japan, Section on Molecular Toxicology. Sponsor: Dr. S. S. Thorgeirsson, NICHD, Bg. 10, Rm. 5B10.

5/17—Dr. Antonino Maiorana, Italy, Laboratory of Pathophysiology. Sponsor: Dr. Pietro M. Gullino, NCI, Bg. 10, Rm. 5B36.

5/18—Dr. Cornelis van den Berg, The Netherlands, Laboratory of Tumor Cell Biology. Sponsor: Dr. Prem Sarin, NCI, Bg. 37, Rm. 6C19.

Scientists sent a questionnaire to 165 meatwrappers in the metropolitan Portland area. Many of the 96 workers who responded commented that the label fumes appeared more irritating than the polyvinyl chloride fumes.

More than half reported coughing after exposure to fumes, and many reported runny noses, sneezing, nasal congestion, and difficulty in breathing.

The meatwrapping machine set up for the experiments was an older hot wire model, still widely used. Dr. Bardana described alternatives to this model.

### Cooler Wires Designed

"There are cooler wires designed to cut plastic wrap without emitting fumes," he said. "One machine puts the meat in an enclosed unit, and the fumes are sucked out and vented. These machines are available, but are very expensive and require some retraining of meatwrappers."

There are approximately 75,000 meatwrapping employees in the United States, according to union and industry estimates.

## MBS Students Report Research at Symposium; 4th Held in New Orleans

Over 370 research reports on subjects ranging from sickle cell disease to rattlesnake antivenom purification were presented recently at the Fourth Annual Xavier-MBS Biomedical Symposium in New Orleans cosponsored by the Division of Research Resources and by the Xavier Institute of Louisiana.

### DRR Supports Program

Many young scientists at the annual meeting have participated in DRR's Minority Biomedical Support Program—designed to bolster the research activities of minority colleges and universities—which currently has an annual budget of nearly \$8 million and has been in operation for 5 years.

The largest minority biomedical meeting ever held in the U.S., the 3-day national forum was attended by over 1,300 scientists of ethnic minority origin from over 100 uni-



**Frances Bowie (r), an Xavier University chemistry major, chats with Dr. Ronald W. Lamont-Havers, Deputy Director of NIH, who addressed the Symposium on "Biomedical Research —The Needs of Society."**

versities and colleges in the Continental U.S., Puerto Rico, the Virgin Islands, and Hawaii.

"Four years ago, we started our annual symposium with only 250 potential scientists," said Dr. Joyce Corrington, Symposium coordinator.

"The growth of minority participation in the health sciences has been exciting to watch. Next year should see another spectacular rise. The program is constantly expanding."

Dr. Ciriaco Q. Gonzales, acting director of the Program, notes that "We're experiencing an extremely

## NHLI CHANGE

(Continued from Page 1)

such as hemophilia; clotting complications of heart and blood vessel disorders; sickle cell disease and related red blood cell disorders.

Other activities deal with improvement of technology relating to the acquisition, processing, storage, and distribution of blood products to eliminate waste and minimize losses.

Still others are concerned with increasing the safety of blood, plasma, or component therapy through development of better methods for detecting or eliminating hepatitis virus or other potentially dangerous contaminants.

### Appropriations Listed

The legislation authorizes appropriations of \$339 million during FY 1976 and \$373 million during FY 1977 for the Institute's research and training activities.

It further authorizes appropriations of \$10 million during FY 1976 and \$30 million for FY 1977 for prevention and control activities to be carried out in cooperation with other agencies and groups—Federal and private, national and local—with particular emphasis on the prevention, diagnosis, and treatment of cardio-pulmonary and blood disorders of children.

### Centers Authorized

It authorizes the establishment of up to 30 comprehensive centers to conduct basic and clinical research; provide training for researchers and clinicians; and carry out demonstrations of advanced techniques of prevention, diagnosis, and treatment (including emergency medical services).

Ten centers would focus on heart and blood vessel diseases; 10 on pulmonary diseases other than lung cancer and acute respiratory infections; and 10 on blood diseases, medical uses of blood and blood products, and blood resource management.

high rate of acceptance of MBS graduates by medical schools, dental schools, and other health-related institutions."

Although graduate schools are becoming very expensive and competitive, in 1975 approximately 80 percent of former MBS students were admitted to graduate schools.

### Topics Studied

Among studies reported at the Symposium were: heavy metal contamination of foods and food-stuffs retailed in local supermarkets (Benedict College, Columbia, S.C.), and the discovery of a new insulin-like protein extracted from insects (Catholic University of Puerto Rico, Ponce, P.R.).

## Alabama Researchers Develop Plastic Cup To Collect Saliva Samples, Measure IgA

A new, disposable, tubeless device for collecting parotid saliva has been developed by investigators at the University of Alabama with support from a National Institute of Dental Research contract.

The investigators believe that their new device will make it possible to screen the saliva of large numbers of individuals and so detect, more readily than is now done from blood samples, the 0.2 percent of the population at large who fail to make the A type of immune globulin.

### Only IgA Found in Mouth

Of the immunoglobulins in the blood which protect the body against many foreign substances, A is the only one found in quantity in the mouth where protection is needed against bacteria on teeth and other tissues.

Dr. Milton E. Schaefer has determined that saliva samples collected in this way have flow rates and protein levels comparable to those taken in the traditional tubed cups.

Advantages of the intraoral cup include freedom from a tube hanging out of the mouth.

Laboratory personnel can wear these cups and continuously collect several hundred milligrams of saliva while doing a morning's work.

Especially suited for pediatric sampling, small cups enable researchers to collect saliva from 3-year-old children as easily as from adults. While saliva is being collected simultaneously from both parotid glands, the remaining saliva from other glands can be sampled from the floor of the mouth at the same time.

### Convenience Cited

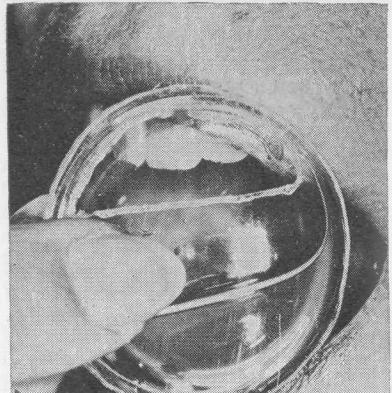
The device is comfortable, reliable, and easy for an assistant to insert. The plastic from which it is made can be sterilized with ethylene oxide gas. It is inexpensive enough to discard after each use.

There is no need to stimulate saliva flow in order to collect a measurable quantity, nor is a suction device required to keep the cup in position since gentle pressure on a plastic bubble produces enough negative pressure to hold it securely.

### Bubbles Sealed

The clear bubbles are formed by drawing Mylar plastic sheets over various sizes of circular, saucer-like aluminum templates with a vacuum-former apparatus. The resultant bubbles are then sealed to flat sheets of Mylar. Finally, semi-circular pieces are removed from one side of each flat, bottom sheet.

This research was reported at the March meeting of the International Association for Dental Research in Miami by Dr. Milton E. Schaefer, Marsha Rhodes, Shir-



An investigator inserts the device over the duct that empties from the gland inside the saliva donor's cheek. The lower part of the bubble acts as a sealed reservoir.

## Am. Med. Writers Assn. Sponsors 1975 Contest; NIH'ers Win 3 Awards

The American Medical Writers Association awarded certificates to 17 winning entries in the four-state Mid-Atlantic region in a competition for the best writing in 1975 on health-related topics.

NIH'ers received two awards in Writing for a Professional Audience:

Caroline R. Petit, a contract writer for the National Heart and Lung Institute, and Dr. Harvey G. Klein, Clinical Center Blood Bank, received an award of distinction for *Hemophilia, Hemophiliacs, and the Health Care Delivery System*, a 76-page conference report.

Lorraine M. Kershner and Dr. Stephen K. Carter, both of the National Cancer Institute, received an award of excellence for "What You Should Know About Drugs vs. Cancer," an 8-page continuing education article which appeared in *Pharmacy Times*, August 1975.

### Other Category Lauded

Also, in Writing for a Non-Professional Audience, Elaine Wilson—recently retired from the National Institute of Allergy and Infectious Diseases—received an award of excellence for the 20-page booklet, *Miscellaneous Microbes*.

Dr. Frank J. Rauscher, Jr., NCI Director, presented the awards at a dinner held May 20 in Bethesda.

ley Prince, Dr. Michael Cole, and Dr. Jerry R. McGhee, of the department of microbiology and the Institute of Dental Research, at the University of Alabama, Birmingham.