Maureen B. E. Miles has recently been appointed to one of the key positions in the Division of Contract Compliance Programs in the Department of Labor. Her responsibilities are to develop and sustain a viable and dynamic Civil Rights Program in technical assistance, staff education efforts, and data collection related to compliance activities so that affirmative measures are taken to ensure nondiscrimination against women and other minorities employed by NIH contractors and grantees.

Due to the diverse nature of NIH programs and compliance directives, there will be some interaction with other Federal agencies on contract compliance problems of mutual concern.

HEW Secretary Califano Appoints a Committee To Find New NCP Head

HEW Secretary Joseph A. Califano, Jr., has appointed a search committee to find the best qualified individual to head the National Cancer Program.

Dr. Ivan L. Bennett, Jr., Provost and Dean of the New York University Medical Center, will serve as chairman.

Dr. Frank Rauscher, the former director, resigned Oct. 31, 1976. The ad hoc search committee represents both public and private medical research:

- The NIH Advisory Committee and the Guidelines, Dr. DeWitt Stetten, NIH Deputy Director for Science;
- NIH Research Facility Plans, Dr. John Nutter, special assistant to the deputy director, National Institute of Allergy and Infectious Diseases;
- Two NIAID researchers described Risk Assessment in representative experiments, Dr. Malcolm Martin discussed present studies; Dr. Wallace Rowe, future studies. Dr. Philip Leder of the National Institute of Child Health and Human Development and Dr. Maxine Singer, NCI, presented a discussion of free-ranging research.

Attending were: representatives of Senator Charles Mathias, Senator Paul Sarbanes, Representative Newton Steers, Representative Goodloe Byron, Montgomery County Executive James Gleason, and the Mayor of Frederick City. Also present were: the Commanding Officer of Ft. Detrick, the acting chairman of the Frederick County Board of Commissioners, the Frederick County Health Officer, the Montgomery County Health Officer, and members of the Maryland State Health Department and the Frederick County Medical Association.

Town Meeting Tomorrow: NIA Director Is Panelist

Our Elderly Today and Tomorrow is the theme of the National Town Meeting to be held tomorrow, April 9 from 10:30 to 11:30 a.m. in the Kennedy Center Concert Hall. Senator Frank Church and Dr. Robert N. Butler, Director of the National Institute on Aging, will comprise the panel, moderated by Nancy Hicks.

The program will be carried live on radio station WAMU-FM (88.5) and will be rebroadcast on WETA-FM (90.9) on Sunday, April 9 at 9 p.m.

Dr. Thomas Malone Appointed to Post As Deputy Director

Dr. Thomas E. Malone has been appointed Deputy Director of NIH. Selection of Dr. Malone, currently NIH Associate Director for Extramural Research and Training, was announced March 24 by NIH Director Dr. Donald S. Fredrickson. The post had been vacant since September 1976.

Secretary Califano Comments

"The designation of Dr. Malone as Deputy Director will bring the top management of NIH to full strength by promoting one of its leading administrators," said Joseph A. Califano, Jr., Secretary of Health, Education, and Welfare.

"I believe this is a splendid choice," Secretary Califano said. "Dr. Malone will bring great strength to the number two position because of his extensive experience in the extramural programs which makeup almost 90 percent of NIH's activities."

Before becoming Associate Director for Extramural Research and Training in August 1972, Dr. Malone was associate director for Extramural Programs at the National Institute of Dental Research from October 1969.

He joined NIH in 1962 as a (See DR. MALONE, Page 5)
Third Symposium Hosted By CC Nursing Dept. On Issues and Answers

The Clinical Center Nursing Department's third annual research symposium was held March 16 in the Masur Auditorium.

Vernice Ferguson, chief of the department, hosted the 180 guests and employees attending the symposium—was held March 16.

Lindeman is Keynote

Dr. Carol Lindeman, Dean, School of Nursing, University of Oregon, Portland, gave the keynote address.

Susol Molloy Hubbard of the Cancer Nursing Service moderated the five panelists: Dr. Rita Chow, deputy chief officer and deputy director, Office of Long Term Care, P.H.S.; Dr. Laurel Archer Copp, Dean and professor, School of Nursing, University of North Carolina at Chapel Hill.

Also, Dr. Susan Gortner, chief, nursing research branch, Division of Nursing, Bureau of Health Manpower; Col. Rosemary McCarthy, D.N.Sc., nursing consultant to the Surgeon General of the Army; and Dr. Margaret McCrack, assistant professor, department of comparative nursing care systems, School of Nursing, University of Washington, Seattle.

Mark Season Opening Of Men's Golf League: April 20 at First Tee

The R&W Golf Association will begin the 1977 season April 20 at Breton Woods in Seneca—one of the finest conditioned golf courses in metropolitan Washington, according to new NIHGA president Larry Willhite.

The golf association has scheduled the following events over the 18-week season:

March 24—Golf Outing for NIHGA Board of Directors.

April 20—First Tee Tournament. Tournament begins at 9 a.m. with 54 holes of stroke play.

April 25—Open Tournament.

April 26—Open Tournament.

May 5—Open Tournament.

May 12—Open Tournament.

May 19—Open Tournament.

May 26—Open Tournament.

June 2—Open Tournament.

June 9—Open Tournament.

June 16—Open Tournament.

June 23—Open Tournament.

July 7—Open Tournament.

July 14—Open Tournament.

July 21—Open Tournament.

July 28—Open Tournament.

August 4—Open Tournament.

August 11—Open Tournament.

August 18—Open Tournament.

August 25—Open Tournament.

August 31—Open Tournament.

September 7—Open Tournament.

September 14—Open Tournament.

September 21—Open Tournament.

September 28—Open Tournament.

October 5—Open Tournament.

October 12—Open Tournament.

October 19—Open Tournament.

October 26—Open Tournament.

November 2—Open Tournament.

November 9—Open Tournament.

November 16—Open Tournament.

November 23—Open Tournament.

November 30—Open Tournament.

December 7—Open Tournament.

December 14—Open Tournament.

December 21—Open Tournament.

December 28—Final Open Tournament.

January 4—Final Open Tournament.

January 11—Final Open Tournament.

January 18—Final Open Tournament.

January 25—Final Open Tournament.

February 1—Final Open Tournament.

February 8—Final Open Tournament.

February 15—Final Open Tournament.

February 22—Final Open Tournament.

February 29—Final Open Tournament.

March 7—Final Open Tournament.

March 14—Final Open Tournament.

March 21—Final Open Tournament.

March 28—Final Open Tournament.

April 4—Final Open Tournament.

April 11—Final Open Tournament.

April 18—Final Open Tournament.

April 25—Final Open Tournament.

May 2—Final Open Tournament.

May 9—Final Open Tournament.

May 16—Final Open Tournament.

May 23—Final Open Tournament.

May 30—Final Open Tournament.

June 6—Final Open Tournament.

June 13—Final Open Tournament.

June 20—Final Open Tournament.

June 27—Final Open Tournament.

July 4—Final Open Tournament.

July 11—Final Open Tournament.

July 18—Final Open Tournament.

July 25—Final Open Tournament.

August 1—Final Open Tournament.

August 8—Final Open Tournament.

August 15—Final Open Tournament.

August 22—Final Open Tournament.

August 29—Final Open Tournament.

September 5—Final Open Tournament.

September 12—Final Open Tournament.

September 19—Final Open Tournament.

September 26—Final Open Tournament.

October 3—Final Open Tournament.

October 10—Final Open Tournament.

October 17—Final Open Tournament.

October 24—Final Open Tournament.

October 31—Final Open Tournament.

November 7—Final Open Tournament.

November 14—Final Open Tournament.

November 21—Final Open Tournament.

November 28—Final Open Tournament.

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January 9—Final Open Tournament.

January 16—Final Open Tournament.

January 23—Final Open Tournament.

January 30—Final Open Tournament.

February 6—Final Open Tournament.

February 13—Final Open Tournament.

February 20—Final Open Tournament.

February 27—Final Open Tournament.

March 6—Final Open Tournament.

March 13—Final Open Tournament.

March 20—Final Open Tournament.

March 27—Final Open Tournament.

April 3—Final Open Tournament.

April 10—Final Open Tournament.

April 17—Final Open Tournament.

April 24—Final Open Tournament.
New Construction at CC Will Cause Alterations In Parking and Traffic

Site preparation for the new Ambulatory Care Research Facility—to be located in front of the Clinical Center—is scheduled to begin about April 16. Actual construction will start about 1 month later.

Site preparation will cause three major traffic changes on the campus beginning April 16:
1) The front entrance of the CC will close and remain closed throughout the construction period. The new major entrance will be at the rear (south side) of the building, between the NIH library and Masur Auditorium. The new outpatient entrance is near the Blood Bank.
2) The parking lots located north of Bldg. 10—between Convent Drive and Memorial Drive—will close. All reserved parking (red permits, volunteers, and outpatient lots) will be replaced by marked areas to the rear of the building.

Other Spaces Available

Other spaces lost due to the construction will be replaced by the same number of spaces in other lots throughout the reservation.

3) Metro buses will be rerouted to South Drive, just behind the CC. Pull-offs and passenger shelters have been constructed, along with walks and additional lights.

Further details will be available within the next few weeks.

Rayna J. Blake, financial management specialist, has been appointed Women’s Program Coordinator for NICHD. The only coordinator at the Institute level, she is a link between the NICHD EEO Coordinator and the NICHD Women’s Organization, serves as an EEO counselor, and maintains contact with the Federal Women’s Program Coordinator and NICHD delegates to the NIH Women’s Advisory Committee.

Two Groups Study Employee Conflicts, Dissatisfaction, Look to New Approaches

Two groups of NIH employees are currently working together to design a study which will identify causes of employee dissatisfaction and conflict at NIH, and approaches for dealing more effectively with such problems.

These groups—designated as the Task Force for the Study of Employee Conflict, and the Review Panel for the Study of Employee Conflict—were established under charters approved by the NIH Deputy Director in August 1976.

Concerns Detailed

Their areas of concern range from circumstances which generate points of unfair treatment and discrimination to environmental factors and supervisory practices which produce good working relationships.

The Task Force is a small work group consisting of:
- James S. Alexander, Clinical Center EEO Coordinator;
- Raymond J. Jackson, Director, Division of Equal Opportunity;
- Rosalind B. Marimont, research mathematician, NINCDS;
- Edward E. Nicholas, Jr., Director, Division of Personnel Management; and three staff members.

The Review Panel serves as an advisory group to the Task Force and consists of 14 members appointed by the NIH Director to represent segments of the NIH community which have a special interest in the content of the study.

Met Feb. 8

The Review Panel and the Task Force met together on Feb. 8 to discuss a first draft of the study outline. They will meet again in late April or early May to reach final agreement on study objectives and to discuss study methodology and criteria for selection of a management consultant contractor.

In preparation for that meeting, Review Panel members are interested in hearing from other NIH employees who could contribute to the study design or have information that should be picked up during the data gathering phase.

Mark J. Lombardi Dies; Was Technician in NIDR

Mark J. Lombardi, biological laboratory technician of the Laboratory of Oral Medicine, National Institute of Dental Research, died of a heart attack at his home in Brunswick, Md., on Feb. 10.

Mr. Lombardi joined the NIDR staff in 1964 after completing 22 years of military service. In 1972, while working with the Institute’s Laboratory of Microbiology and Immunology, he received special recognition for his major contributions to the program of the Virology Section.

Mark Lombardi was the only son of Mr. and Mrs. John J. Lombardi of Brunswick, Md.

DNA Policy: Topic of STEP Lecture by Dr. Perpich

Dr. Joseph G. Perpich, NIH Associate Director for Program Planning and Evaluation, will discuss Recombinant DNA Research—Public Policy Aspects at a lecture Thursday, April 14 from 9:15 to 10:15 a.m. in Wilson Hall, Bldg. 1.

The lecture, open to all—except as a part of a series in the Continuing Education Program sponsored by the Staff Training Extramural Program.

There is no cure for birth and death save to enjoy the interval.

George Santayana.
NIGMS Extends MARC Program, Training Minorities Entering Biomedical Careers

A new program of awards to help minority schools train undergraduate honor students for careers in biomedical research and teaching has been announced by the National Institute of General Medical Sciences.

Grants Are Competitive
Grants will be made to qualifying institutions on a competitive basis to develop a strong science curriculum, enhance laboratory and faculty capabilities, and assist students with tuition and stipend support.

Eligible institutions include those 4-year colleges and universities and health professional schools within the U.S. and its territories whose student enrollments are drawn substantially from ethnic minority groups—American Indians, Blacks, Hawaiians, Mexican Americans, and Puerto Ricans. Each grant will have a commitment of continuing support, up to a maximum of 5 years.

Schools Select Students
The selection of students for training will be a prerogative of the grantee school. On average, each grant will encompass training for five to ten students, as a rule.

NIGMS, Bethesda, Md. 20014 or by calling (301) 496-7357.

Deadline is May 15
Completed applications should be received by the NIH Division of Research Grants no later than May 15.

NIH Visiting Scientists Program Participants
8/4—Dr. Nigel A. Brown, United Kingdom, Environmental Toxicology Branch. Sponsor: Dr. Robert L. Dixon, NIEHS, Research Triangle Park, N.C.
8/6—Dr. Cyril P. Legum, Israel, Oncology and Pediatric Medicine Branch. Sponsor: Dr. Norman Kretchmer, NICHD, Bg. 31, Rm. 2A03.
8/9—Dr. Krishnamoorthy Venkatasubramanian, India, Laboratory of Developmental Biology and Anomalies. Sponsor: Dr. Elliot Schiffmann, NIDR, Bg. 30, Rm. 410.
8/13—Dr. Giorgio Bronzetti, Italy, Laboratory of Environmental Mutagenesis. Sponsor: Dr. Errol Zeiger, NIEHS, Research Triangle Park, N.C.
8/14—Dr. Ashok Agrawal, India, Environmental Toxicology Branch. Sponsor: Dr. William E. Wilson, NIEHS, Research Triangle Park, N.C.
8/18—Dr. Akio Toh-e, Japan, Laboratory of Biochemical Pharmacology. Sponsor: Dr. Reed B. Wickner, NIAMDD, Bg. 4, Rm. 103.

3-Year NIH Employee
Charles King Dies; Was Chem. Stores Unit Head

Mr. King

On March 22 Charles T. King, an NIH employee for 30 years, succumbed to a heart attack while performing his duties as head of the Chemical Stores Unit in the Division of Administrative Services—a position he held since 1954. Mr. King came to NIH in 1946 and joined the Supply Operations Branch, DAS, in 1961.

"Rocky," as I've called him for 24 years, was a rare breed," said Otis Ducker, Director of DAS. "His dedication and dependability were unsurpassed."

Mr. King also operated his own business in Rockville, Md. He was a member of the VFW and the American Legion, and an active member of Clinton AME Zion Church, Rockville, serving on the Board of Stewards at the time of his death.

Mr. King planned to retire in July after 34 years of Federal service.

He is survived by his wife, Catherine, two daughters, and one grandchild.

NCI Report Is Available On Carcinogenesis Test

Availability of a report on animal tests of 1,1,1-trichloroethane for cancer-causing activity was announced by the National Cancer Institute in the March 15 Federal Register.

The compound was given orally to rats and mice on a daily basis for more than a year. According to a summary included in the announcement, "The neoplasms observed are not believed attributable to 1,1,1-trichloroethane exposure. Even if such a relationship were inferred, it would be inappropriate to make an assessment of carcinogenicity of 1,1,1-trichloroethane on the basis of this test, because of the abbreviated life spans of both the rats and the mice."

The tests were part of the NCI Carcinogenesis Bioassay Program. Copies of the report are available from the Office of Cancer Communications, NCI, Bethesda, Md. 20014.
NIHID Assists Cholera Research in Dacca With Recycled NIH Intravenous Bottles

Dr. Malone
(Continued from Page 1)

Grants Associate, Division of Research Grants. In 1963 he became assistant chief, Research Grants Section, Extramural Programs, NIDR, and from 1964 to 1966 served as deputy chief, Extramural Program Branch, NIDR.

From 1967 to 1969, Dr. Malone was chairman of the department of biology, American University of Beirut, Lebanon.

He was born in Henderson, N.C., and received the B.S. and M.S. degree from North Carolina College, Durham, and his Ph.D. from Harvard University.

Recognition Received

He is a member of numerous professional organizations in the fields of health and research administration.

Dr. Malone received the DH& SW Superior Service Award in 1970 and the DH& SW Distinguished Service Award in 1974.

Costs Saved

The standard one liter I.V. bottle costs the original user approximately $1.40 plus the cost of disposal. Since a total of 15,000 bottles were salvaged for reuse, the joint effort in recycling these bottles by NIH and NIHID is estimated to have saved the U.S. Government a total of $25,000.

X-Ray Mammography Breast Cancer Screening Reports Now Available

Three scientists, appointed in October 1975 by the Director of the National Cancer Institute to assess the benefits and risks of using X-ray mammography in routine screening of women for breast cancer, delivered their final reports and a set of joint recommendations to NCI March 9.

Information in two of the three reports is based on evaluation of data developed by the Health Insurance Plan (HIP) study conducted in the 1960s. The third report is based on many studies of exposure to ionizing radiation. Dr. Lester Breslow, dean of the School of Public Health, UCLA, reviewed the benefits of adding mammography to colposcopy and physical examination in the HIP study.

Dr. Louis B. Thomas, chief of the NCI Laboratory of Pathology, reviewed the tissue samples of breast cancer cases discovered in the HIP study.

Dr. Arthur C. Upton, dean of Basic Sciences, Health Sciences Center, State University of New York, Stony Brook, evaluated the relationship between benefit and risk in mammographic screening for breast cancer.

Each scientist was assisted by several colleagues.

Direct Inquiries to Dr. Fink

Inquiries about these reports should be directed to Dr. Diane J. Fink, Director of the Division of Cancer Control and Rehabilitation, NCI, (301) 427-7996.

The feasibility of mammography for the diagnosis of women who have symptoms of breast disease has not been questioned and was not considered in the studies.

The reports by Drs. Breslow, Upton, and Thomas, now under review at NCI, will be supplemented with a fourth report which will review and evaluate data from the current Breast Cancer Detection Demonstration Project.

The fourth report, to be developed by a Working Group led by Dr. Oliver Beahrs of the Mayo Clinic, is expected in June.

Together, the four reports will form the basis for a meeting to be held in July to develop a consensus on the use of X-ray mammography for routine breast cancer screening. Neither the structure nor the participants in this meeting have yet been determined.

Copies of the "Final Reports of the National Cancer Institute Ad Hoc Working Groups on Mammography Screening for Breast Cancer and a Summary Report of the Joint Findings and Recommendations" are available from the Office of Cancer Communications, NCI, Bethesda, Md. 20014.
More Effective Rabies Vaccine Requires Fewer Injections, U.S.-Iran Team Finds

A new rabies vaccine used successfully to treat 45 people bitten by rabid animals—called a major medical advance—is made from rabies virus grown in human cells, has no side effects, and protects with only six injections, making it the first completely effective weapon for protecting man against this generally fatal viral infection.

A team of U.S. and Iranian researchers, partially supported by the National Institute of allergy and Infectious Diseases, reported their research in the Dec. 13, 1976 issue of the Journal of the American Medical Association.

No Cure After Symptoms

Once symptoms appear, there is no reliable treatment for rabies. Prompt, post-exposure vaccination can often prevent development of the disease, but not without potentially serious risks.

Typically, administration of the current rabies vaccine—grown in duck embryo cells—requires anywhere from 14 to 21 injections, with no guarantee of adequate immunological protection.

In addition, some people experience allergic reactions to the foreign animal protein, ranging from painful swelling to paralysis and death.

Developed in Philadelphia

The new vaccine, developed by Dr. Hilary Koprowski and his coworkers at the Wistar Institute of Anatomy and Biology in Philadelphia, is made from rabies virus cultured in WI-38 cells—fetal human lung cells widely used in the production of other vaccines. Previous studies indicate that the new human diploid cell vaccine (HDCV) causes virtually no side effects and is highly immunogenic.

Convinced of the vaccine's safety and effectiveness, the investigators in the reported study set out to test HDCV in an area of the world where rabies is a serious problem.

Physicians at the Pasteur Institute in Iran collaborated with the U.S. group in using the new vaccine, coupled with antirabies serum, to treat a group of people severely bitten by rabid dogs and wolves between June 1975 and January 1976.

As soon as the rabies-exposed victims could be reached, 44 of the 45 were given the antirabies serum for immediate protection.

At that time—4 to 14 days after exposure—they were also given their first injection of vaccine, followed by five more shots over a 3-month period.

None Developed Rabies

Six to 12 months after treatment was initiated, the investigators reported that none of the victims developed rabies or experienced any adverse reactions to the vaccine. According to previous rabies statistics, about 35 percent would have died had they not been treated.

What is even more striking, say the researchers, is the fact that treatment in some cases was started as late as 14 days after exposure.

In the past, such delays have invariably resulted in failure to protect some of the exposed people from rabies death.

Must Use Immediately

The scientists strongly recommend the use of antirabies serum with the vaccine for immediate, passive immunity during the critical post-exposure period.

They suggest that the next step in improving rabies treatment is to produce immune-globulin from human cells to replace the antisera of animal origin.

This procedure is limited only by the availability of donors, such as the successfully treated persons in the present study.

Researcher Named

Drs. Mahmoud Bahmanyar, Ahmad Fayaz, Shokrollah Hour-Salehi, and Manouchehr Mohammadi collaborated with Dr. Koprowski. Both Institutes are World Health Organization Collaborating Centers for Reference and Research in Rabies.

A man's soul may be buried and perish under a dungheap or in a furrow of the field, just as well as under a pile of money.—Nathaniel Hawthorne.

Nutrition and Reproduction Are Examined, Conference Proceedings To Be Published

Considerable research has focused on the relationship between population growth and nutrition. However, interest has centered mainly on food availability, nutrition levels, and death rates. The major role nutrition plays as a birth rate determinant is only now being recognized.

Scientists and administrators from the U.S. and foreign countries, together with NIH investigators, assembled here recently to clarify issues and to identify research needs at a conference on Nutrition and Reproduction.

The 3-day conference—open to the public—was sponsored by the Center for Population Research, National Institute of Child Health and Human Development.

During the conference, it became clear that nutrition influences the span of reproductive life. For instance, poor nutrition is associated with delayed onset of menarche and premature menopause. Another participant presented data indicating the relationship between nutritional factors and the ability to produce children.

Breastfeeding Discussed

For example, starvation may affect libido in both sexes, or cause decreased potency in males, or amenorrhoea—absence of menses—in females. Other presentations addressed the effect of breastfeeding on infant survival in developing societies.

The proceedings also noted the influence of breastfeeding on fertility. Field study data was described to indicate that some women who breastfeed may be infertile for a year or more because of lactational amenorrhoea.

According to participants, findings on thyrotropin releasing hormone, TRH, the hypothalamic factor promoting prolactin release from the pituitary to stimulate milk production, indicate it may have potential as a 'pill' to maintain lactational amenorrhoea.

Additional Studies Needed

Such an approach might both promote infant health and prolong birth spacing. It was the consensus of the group that additional studies are needed on the effects on the mother and infant of prolonged lactational amenorrhoea.

Other areas requiring further research, according to participants, include the effects of nutrition improvement on reproductive performance in malnourished populations and their implications for birth rates, and on contraceptive technology and nutrition, and implications for fertility intervention programs.

Finally, the conference stressed the need for clarification of terminology in order to facilitate understanding across disciplines, cultures, and nations.

Other Topics Listed

Other topics included: hormonal control of ovulation and lactation; reproductive endocrinology and malnutrition; steroid contraceptives and nutrition consequences; food intake and fatness as they relate to fertility; economic determinants of breastfeeding; international field studies; quantitative

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NUTRITION

(Continued from Page 6)

and analytical models of nutrition-fertility correlates, and policy implications.

The proceedings will be published, edited by Dr. W. Henry Mosley, professor and chairman, department of Population Dynamics, Johns Hopkins School of Hygiene and Public Health, who chaired the organizing committee: Dr. Corfman, NICHD; Dr. Jean-Pierre Habicht, Health Resources Administration, PHS; Dr. Robert G. Porter, Brown University; Dr. Jeanne Clare Ridley, Georgetown University; Dr. John Standbury, Massachusetts Institute of Technology; and Dr. Joe Wray, Harvard University.

Angina Clinical Study Compares Medical Therapy and Coronary By-Pass Surgery

Preliminary results of the National Cooperative Study to Compare Medical and Surgical Therapy for Unstable Angina Pectoris were announced March 9 during the annual meeting of the American College of Cardiology which was held in Las Vegas, Nevada.

Angina pectoris is the chest pain caused when the heart muscle fails to get enough oxygen to meet its energy demands. "Unstable angina" describes a changing situation which may imply either chest pain of new onset or a changing pattern.

The randomized study shows survival patterns of 149 patients under medical management for unstable angina pectoris as opposed to 141 patients who underwent coronary artery by-pass surgery. Recently the principal investigators in this study convened in Bethesda to discuss this data. In summary:

- Mortality was low and equal in both groups;
- Myocardial infarctions occurred more often in the surgically treated group than in the medically treated group;
- The medical group had more persistent angina than the surgical group.

The clinical investigators concluded that patients presenting with unstable angina may be safely treated with careful intensive pharmacologic therapy. Those with persistent pain may be studied by coronary angiography, and those patients with left main coronary artery obstruction and continued intractable pain may require surgery. Otherwise, prophylactic surgery to prevent a myocardial infarction or death is not necessary.

About one-half of the patients who suffer an acute heart attack reveal—on careful questioning— that they had experienced chest pain of a variable nature occurring from 12 hours to 4 weeks before their actual heart attack.

Thus, some doctors use the term "impending heart attack" and "threatened heart attack" or "preinfarction angina" in place of unstable angina.

Presenting data and background on the study conducted by the National Heart, Lung, and Blood Institute were: NHLBI Director Dr. Robert I. Levy; Dr. Peter L. Fromme, NHLBI associate director for Cardiology; Dr. Michael B. Mock, project officer, Unstable Anginal Trial, NHLBI; Dr. C. Richard Conti, University of Florida; Dr. Adolphe M. Futter, Massachusetts General Hospital; and Dr. Richard O. Russell, University of Alabama.

The conservative approach to treatment of unstable angina includes hospitalization of the patient with bed rest and constant monitoring of the EKG.

Nitrates Dilate

Medication in the form of various types of nitrates are frequently used because of their ability to cause a dilating effect on blood vessels. This benefits the oxygen starved heart muscle in two ways. Generalized peripheral vascular dilatation decreases a decreased workload on the heart indirectly; and by direct dilatation of the coronary arteries, the amount of oxygenated blood delivered to the heart muscle is increased.

Another medication often used along with the nitrates but sometimes alone is propranolol. Propranolol works in a complex manner, not entirely understood, to reduce both the heart rate and the force of the contractions of the heart muscle, reducing the requirement for oxygen used by the heart muscle per unit of time and establishing a more normal balance between oxygen supply and demand.

In the late 1960's the technique of coronary artery by-pass surgery was introduced. This operation was developed to mechanically reestablish a more normal blood supply to areas of heart muscle beyond obstructed areas in the coronary artery system.

In the coronary by-pass graft procedure the surgeon removes an expendable unobstructed vessel from the patient's own body—most commonly the saphenous vein in the leg—and uses this to form a new conduit from the aorta to a site in the coronary vascular tree beyond the narrowing. By this method the surgeon detours or bypasses oxygen carrying blood around a narrowing in a coronary artery.

Careful follow-up studies on patients in both groups—in-hospital and during the post-hospital phase—included, apart from routine physical examinations, resting electrocardiograms, chest X-ray films, and graded exercise tolerance tests at 6 months and 12 months.

The results of the study revealed that mortality was comparable and low in both groups in the hospital (medical mortality 4.1 percent, surgical 5.0 percent) and in the post-hospital phase, with average follow-up of 24 months (medical mortality 5.0 percent, surgical mortality 5.2 percent).

Surgery Increases Incidence

During the in-hospital period the surgically treated patients had a higher incidence of myocardial infarction, 18 percent, compared to an incidence rate of 10 percent in the medically treated group.

Most of the myocardial infarctions in the surgically treated group were perioperative in that they occurred in relationship to the surgical procedure.

In the post-hospital phase of the study, with an average follow-up of 24 months, the incidence rate of myocardial infarction was equal in the medically treated and surgically treated groups (10 percent).

In evaluating post-hospital angina pain, 15 percent of the surgically treated patients were reported to have Class III or IV angina during at least one follow-up compared to 45 percent of the medical group.

However, the general assessment of angina is difficult to evaluate post-surgery for several reasons, including the placebo effect of surgery.

Eight medical centers participate in the Myocardial Infarction Research Units with NHLBI cooperation and support.
Dr. Robert N. Butler (c), Director of the National Institute on Aging, the detail of minority biomedical research programs, to pay the salaries of research personnel, and to participate in biomedical symposia, such as the New Orleans meeting.

There are now 80 colleges and universities participating in the program. Last year, approximately 1,800 researchers, including 970 undergraduates, 617 faculty and staff members, 176 graduate students, and 3 postdoctoral trainees received program support.

At this year's symposium, at the Fontainebleau Motor Hotel, about 100 universities and colleges will be represented.

Approximately 350 scientific research papers will be presented in biochemistry, microbiology, chemistry, physiology, pharmacology, parasitology, and other biomedical research areas, most by student-researchers.

Well-known scientists presenting papers include: Dr. Harold Amos of the Harvard Medical School; Dr. Luis Gabriel Navar of the University of Alabama Medical Center; Dr. Richard Lumaden of Tulane University; Dr. Edward Haw-thorne, dean of Howard University Graduate School, and Dr. Charles Proctor of Meharry Med. College.

**NASA Seeks Applicants For Astronaut Program**

The National Aeronautics and Space Administration (NASA) has announced the availability of a minimum of 16 astronaut (mission specialist) candidate positions at the Lyndon B. Johnson Space Center in Houston, Tex.

These positions are available to individuals with backgrounds in engineering and the sciences.

Successful applicants will be placed in responsible technical or scientific positions for a period of up to 2 years, receiving assignments allowing them to contribute substantially to the Shuttle Program and to continue work in their scientific or technical fields.

They will also be enrolled in the basic astronaut training program allowing development of background knowledge and skills that will be required for their formal mission training upon selection for their first flight.

Selection as astronaut candidates does not insure selection as astronauts. Final selection will depend on satisfactory completion of the 2-year evaluation period.

Applicants must have at least a bachelor's and preferably an advanced degree in engineering, biological or physical science, or mathematics.

**Women, Minorities May Apply**

Women and minority candidates are encouraged to apply.

For further information write to: Astronaut (Mission Specialist) Candidate Program, Code AHX, NASA Johnson Space Center, Houston, Tex. 77058.

The closing date for filing for these positions is June 30, 1977.

**Thousands Are Participating In FASEB Meeting in Chicago**

The largest scientific meeting in the world—the 61st Annual Meeting of the Federation of American Societies for Experimental Biology—is being held in Chicago, April 1-8.

**April 4 Is NIH Night**

On a special NIH night, Monday, April 4, NIH Director Dr. Donald S. Fredrickson addressed the convention.

About 20,000 persons, including 15,000 biomedical researchers will attend, and more than 5,600 papers will be presented.

Approximately 650 exhibits at McCormick Place will represent some 370 organizations.

**FASEB is a nonprofit scientific organization to develop and disseminate new knowledge in the life sciences through its annual meetings and publications, principally Federation Proceedings.**

**Dr. Mitchell's other honors have included the Borden Medical Research Award at Vanderbilt University. In April 1976 he served as the William N. Creasy-Burroughs Wellcome Visiting Professor of the Albert Einstein College of Medicine.**

active substances, some of them highly toxic to the liver, kidney, and other organs.

Many therapeutic agents owe their effectiveness to metabolites produced from the parent drug by enzyme systems of liver microsomes and possibly intracellular organelles.

Unfortunately, the same organelles and the same enzymes may be responsible for serious and occasionally fatal reactions to certain drugs.

A native of Detroit, Dr. Mitchell received his B.A., M.D., and Ph.D. in pharmacology from Vanderbilt U.

After residency training in internal medicine, at the New York Hospital-Cornell Medical Center, he joined the scientific staff, at the NHLBI Laboratory of Chemical Pharmacology in 1970. He served for 3 years as chief of its Section on Clinical Pharmacology before assuming his present position in the Institute's Office of the Director for Intramural Research in 1976.