CFC Kickoff

Fair To Be Held Oct. 29 To Launch NIH Campaign

The Combined Federal Campaign, which benefits millions of needy people in the Washington Capital Area and around the world, officially will open at NIH on Oct. 29 and will run through Nov. 12.

As part of the NIH campaign kickoff activities, a CFC Fair will be held in the Bldg. 31A lobby commencing at 11 a.m. on Friday, Oct. 29.

Representatives from several major charities will be present to answer questions in an effort to inform employees about what their organizations do and how contributions are used.

As a followup to the fair, a presentation with NIH Director Dr. James B. Wyngaarden as principal speaker will be held in Wilson Hall, Bldg. 1, starting at 12:30 p.m. A movie, Reaching Beyond, featuring the stories of two Federal employees in the National Capital Area whose lives have been touched by CFC supported agencies, will also be shown.

Afterwards, Dr. Wyngaarden will draw winning tickets for door prizes from a pool of ticket stubs deposited at the door of Wilson Hall by those in attendance.

First Teaching Nursing Home Awards Issued by National Institute on Aging

The National Institute on Aging has awarded its first two teaching nursing home grants to the Albert Einstein College of Medicine and the Philadelphia Geriatric Center (in collaboration with the Medical College of Pennsylvania and the University of Pennsylvania). These awards support research on geriatric health problems in a nursing home setting.

Between 1964 and 1977 the number of residents in U.S. nursing homes grew from 554,000 to 1.3 million. The Nation's expenditures for nursing homes are over $24 billion a year and will probably triple by 1990.

One goal of the teaching nursing home program is to increase our understanding of chronic diseases, which contribute heavily to the need for institutionalization of older people.

These diseases are often not specifically treated in hospital settings and have not been the subject of intense biomedical research interest.

The teaching nursing home program focuses on such health problems as senile dementia, urinary and fecal incontinence, osteoporosis and osteoarthritis, depression, and sleep disorders.

The Albert Einstein College of Medicine of Yeshiva University in New York City has received a 5-year teaching nursing home grant totaling $2.96 million. The chronic care facilities to be involved are Beth Abraham Hospital, Morningside House Nursing Home, and Hebrew Home for the Aged.

The participating institutions are Albert Einstein College Hospital, Bronx Municipal Hospital, Montefiore Medical Center, and College of Mt. St. Vincent.

The principal investigator, Dr. Robert Katzman, is professor and chairman of neurology at the Albert Einstein College of Medicine. One component of the project will evaluate the effectiveness of physostigmine, a drug which may improve memory in patients with senile dementia.

Another research project will examine correlations between cognitive changes in Alzheimer's disease and genetic factors.

The teaching nursing home award to the Philadelphia Geriatric Center is for $4.47 million over 5 years. The consortium of institutions involved in this project include the Medical College of Pennsylvania and the University of Pennsylvania.

The principal investigator, Dr. Donald Kaye, is professor and chairman of the department of medicine at the Medical College of Pennsylvania.

The research project includes a study to determine factors which affect an older person's risk of acquiring a urinary tract infection; testing of an intensive cognitive therapy for stroke rehabilitation; and application of the positron emission tomography scan in the study of dementia.

It also includes investigations on the prevalence and causes of sleep apnea.

Three Former NIH/NIMH Grantees Are 1982 Nobel Prize Winners

Three scientists who have been grantees of the National Institutes of Health or the National Institute of Mental Health have been awarded 1982 Nobel Prizes.

Two of the new Nobel Laureates who have been NIH/NIMH-supported in the past—Drs. Sune Bergstrom of the Karolinska Institute of Stockholm, and John R. Vane, now at the British Wellcome Foundation—shared the 1982 Prize in Physiology or Medicine. They were honored, along with Dr. Bengt Samuelsson of Sweden, for their work on prostaglandins and related biologically active substances.

Drs. Bergstrom and Vane have received grant support in previous years from one or more of the following components: the National Institute of General Medical Sciences, the National Heart, Lung, and Blood Institute, the National Library of Medicine, the National Institute of Child Health and Human Development, and the National Institute of Mental Health.

Dr. Aaron Klug, now at Cambridge University, a former grantee of the National Institute of Allergy and Infectious Diseases, was awarded the 1982 Nobel Prize for Chemistry for his research in "the discovery of methods to determine the shape of molecules important to life."
Annual Leave: Use It or Lose It!

The Recruitment and Employee Benefits Branch advises that annual leave in excess of the maximum carryover balance is normally forfeited if not used by the end of the current leave year. If you have not already planned to take those excess hours of annual leave, you should discuss your leave with your supervisor now while there is still time to schedule it.

Your bi-weekly earnings and leave statement tells you how much annual leave you must use so that you will not lose it when the leave year ends on Saturday, Jan. 8.

In spite of planning, circumstances sometimes arise which prevent you from taking leave that has been scheduled and approved earlier during the leave year.

In such cases, you and your supervisor are jointly responsible for ensuring that any "use or lose" leave is rescheduled in writing before the last three bi-weekly pay periods of the leave year. This year, your "use or lose" leave should be scheduled in writing not later than Saturday, Nov. 27, 1982.

Health Unit Moves
To 6th Floor in ACRF

Beginning Nov. 8, the Occupational Medical Service Health Unit, Bldg. 31, and the OMS Evening Clinic, 3rd floor ACRF, will be relocated to the Bldg. 10-ACRF, 6th floor clinic.

The only remaining services in Bldg. 31 will be the Employee Assistance Program, which will be moved to Rm. B2857. The CPR Training Office and classroom will be moved to Bldg. 31, Rm. B2857 in December.

The hours for the new health unit location will be 8 a.m. to 12:30 p.m., Monday through Friday. The telephone number remains 496-4411. In case of emergency, dial 116 for assistance and transportation by the NIH Fire Department Rescue Squad.

Employees are requested to limit visits for health care services to emergencies and work-related injuries and illnesses on Friday, Nov. 5, and during the week of Nov. 8.

Spring Forward, Fall Back!
The last Sunday of this month—Oct. 31—will mark the return of Eastern Standard Time.

Employees should set the time on their clocks back 1 hour to compensate for the change which goes into effect at 2 a.m. Sunday.

Expert Judges Camera Club's Photos

The next NIH camera club meeting on Nov. 9 will feature a presentation on various topics of photography by an expert in the field.

In addition, the speaker will judge the works of club members. The format of the work is usually black and white or color, prints and slides.

The club meets the second Tuesday of each month. All NIH employees are welcome to join.

For further information, contact Lois Kochanski, 496-7976, or Ken Rhodes, 426-1684.

NIH R&W Theatre Group Brings Back Vaudeville

The NIH R&W Theatre Group will open their 1982 gala fall production, A Vaudeville Variety Show, on Friday, Nov. 12, at the Masur Auditorium.

Featuring over 30 performers, the unique old fashioned vaudeville show will include musical productions, blackouts, singing, dancing, comedy routines, and several unusual variety acts. A magician will also be on hand to mystify one and all.

Produced by Sally Richardson, NICNDS, with Alice Smyth, CC, vocal director, the show will be presented six times as follows: Nov. 12, 13, 19, and 20, with curtain at 8 p.m.; and on Sundays, Nov. 14 and 21, commencing at 3 p.m.

Tickets are $4, and $3 for senior citizens. All proceeds will be donated to the Patient Emergency Fund. Tickets are available at the R&W Activities Desk.

This is the fourth production of the NIH Theatre Group over the past 2 years. The group has now grown to approximately 40 members. Anyone interested in learning more about the group or the upcoming production can call 949-6444 or 942-7117.

NIH Golf Season Ends;
New Officers Elected
The NIH Golf League concluded its 1982 season with an awards banquet Oct. 5. Trophy winners in two categories of play are: Low Gross, Thom Spencer, Haruhiko Yagi, and Nancy Watson. Low Net, Ted Mun­fer, Karen Wright, and Nancy Watson.

Karen Wright also received the third annual Kristopovich award as the most improved player. The award was established in memory of Louise Kristopovich, an NIH nurse and golf club member who died several years ago.

The new officers for 1983 are president, Marie Nylen; secretary, Eileen Trevisan; treasurer, Suzanne Stimler; and scorer, Linda Weir.

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CFC Fair Will Kickoff ‘Say Yes’ Campaign

(Continued from Page 1)

NIH Director Dr. James B. Wyngaarden is the “First Day Giver” to the NIH Combined Federal Campaign. DRG Director Dr. Carl D. Douglass (r) is the CFC chairman, and Debbie Jenkins (l) is the OD campaign coordinator. Dr. Wyngaarden will speak at the kickoff drive in Wilson Hall on Oct. 29 starting at 12:30 p.m.

fident that we will not only reach our goal but will provide the greatest-ever support this year simply because we know that the need is greater,” said Dr. Douglass.

CFC contributions will go to some 290 charitable agencies. The campaign allows contributors to determine how their gift will be used in that they may give to all of the organizations, or may designate specific organizations. CFC guarantees these gifts will go only to those designated.

Of the undesignated funds, 93 percent will go to 193 United Way/United Black Fund agencies, 1 percent to the 31 national health organizations of the national health agencies, and 6 percent is allotted to 26 international service agencies. Other agencies will receive only designated funds.

As an incentive to spur more contributions, a drawing of $80 worth of prizes is planned. To be eligible for a prize, contributors will receive a ticket stub from their CFC keyperson for every $26 they contribute.

Prizes, donated by the Recreation and Welfare Association, will consist of a first prize of $100, a second prize of $50, and a third prize of $10.

Keypersons are being asked to stress the advantages of the Payroll Deduction Plan to contributors. It is the easiest, least painful way of giving as the contribution is automatically deducted and does not start until next January.

The overall theme for CFC this year is “Say Yes.” Saying yes is more than a slogan, it is placing things in perspective and agreeing to help those who are not so fortunate.

Because CFC administrative costs run a very low 4 percent, a contribution goes a long way towards helping those in need.

For example, a donation of:

- $8.68 provides 1 day of transportation service for a handicapped adult to a therapy or activity program.
- $16.91 provides a patient visit to a medical clinic in a poverty stricken or medically underserved area.
- $94.43 provides a week of care for a recovering alcoholic in a halfway house.
- $169.95 provides a ticket stub to the opening night of a Broadway show.
- $357.15 provides a week’s salary for a handicapped adult to a therapy or activity program.
- $672.00 provides a month’s salary for a handicapped adult to a therapy or activity program.
- $1,512.00 provides a year’s salary for a handicapped adult to a therapy or activity program.
- $1,313.25 provides a month’s salary for a handicapped adult to a therapy or activity program.
- $2,626.50 provides a year’s salary for a handicapped adult to a therapy or activity program.
- $5,253.00 provides a year’s salary for a handicapped adult to a therapy or activity program.
- $10,506.00 provides a year’s salary for a handicapped adult to a therapy or activity program.
- $21,012.00 provides a year’s salary for a handicapped adult to a therapy or activity program.
- $42,024.00 provides a year’s salary for a handicapped adult to a therapy or activity program.
- $84,048.00 provides a year’s salary for a handicapped adult to a therapy or activity program.
- $168,096.00 provides a year’s salary for a handicapped adult to a therapy or activity program.

Care More! Prevent...

The theme of October’s safety poster located in all NIH buildings is preventing fire—a practice requiring the support of the entire NIH community.

The Fire Prevention and Control Branch, Division of Safety, recommends adhering to the following fire prevention tips that may protect NIH employees from personal injury or unnecessary loss of valuable property:

- Smoke in designated areas only.
- Use trash cans for the purpose they were intended.
- Keep combustibles away from possible ignition sources.
- Observe good housekeeping practices, including keeping your area clear of debris.
- Do not use extension cords.
- Do not staple or tape electrical cords on walls, through doors or under carpets and other combustibles.
- Keep corridors free of obstructions.

Some areas create unique hazards to either life or property. Special considerations should be given to a laboratory environment:

- Store only a minimal amount of flammable and other hazardous chemicals. Items should be stored in cabinets especially designed for that purpose.
- Do not smoke in laboratories.
- Do not dump chemicals or solvents down sink drains.
- Assure that all electrical equipment is operating properly.
- Do not leave burners unattended, and never use them in the presence of flammable liquids, vapors or gases.

A patient care structure has a greater life loss potential than ordinary structures and fire prevention techniques are essential in day-to-day operations:

- No ignition sources should be permitted where oxygen is in use.
- Soiled linen and laundry should not be allowed to accumulate.
- Ambulatory patients should not smoke in bed. Patients confined to beds should be directly supervised if allowed to smoke in bed.
- Many people do not realize that fire problems may be associated with patient atmospheres.
- Many fluids utilized in copy machines are extremely flammable. Enclose these flammables in a metal cabinet and keep quantity to a minimum.
- Office furniture and decor should be of a fire retardant nature.

For further information, contact the FPC branch on 496-2372. For emergencies involving fire, first aid/emergency transport or chemical spills, dial 116. Dial 911 if off the NIH reservation.

DAS To Sponsor Product Workshop

The Supply Operations Branch, DAS, has scheduled a product/exhibit workshop to be conducted by the Millipore Corp. in Bldg. 36, Rm. 1B13, from 9 a.m. to 2 p.m. on Nov. 4. Products of the company, the Continental Water System Corp., and Water Associates will be on display. Technologies and product applications will be demonstrated.

Dr. Barbara Vonderhaar, research chemist in the Laboratory of Pathophysiology, NCI, was recently honored with the Clarke College annual distinguished alumni award in Dubuque, Iowa.

October 26, 1982

The NIH Record
Advances in Coronary Artery Disease Discussed During Recent MFL Lecture

Obstruction of coronary arteries can cause angina pectoris (chest pain) and may lead to heart attack and sudden death. More than 5 million Americans suffer from coronary artery disease. It is responsible for more death in Americans over age 40 than any other illness.

Two major advances, coronary artery bypass surgery, and percutaneous transluminal coronary angioplasty or balloon dilatation, were the subject of a Medicine for the Layman lecture Sept. 28 by Dr. Stephen Epstein, chief, NHLBI Cardiology Branch.

Blood carried through the coronary arteries supplies oxygen and nutrients to the heart muscle. When a coronary artery is obstructed because of atherosclerotic plaque buildup, blood flow to the area of tissue fed by that vessel is impeded. In most cases, the opening remains wide enough to deliver sufficient blood when the individual is resting.

With exercise, the demand for oxygen increases, and if the narrowing prevents flow of greater amounts of blood, the tissue is deprived of needed oxygen and the patient experiences chest pain. If a vessel becomes completely plugged, the affected tissue loses all nourishment, dies and ceases to function. This is what happens in a heart attack.

In coronary artery bypass surgery, the area of blockage is circumvented through construction of the new flow route. A segment of one of the patient's veins (usually from the thigh) is surgically removed and attached at one end to the aorta (the largest artery leading from the heart), and at the other end to the diseased artery downstream from the point of occlusion, thus bypassing the obstruction.

Although originally controversial, it became clear that the operation improved symptoms dramatically and could enhance survival in certain patients. Surgery was strongly indicated for patients with severe symptoms whose angina could not be controlled with medication.

Dr. Epstein discussed survival studies in different subgroups of patients who had undergone bypass surgery and those who had not. The results of controlled trials showed that surgery prolongs survival in symptomatic patients with blockage of the left main coronary artery (above the bifurcation), and in symptomatic patients with triple vessel disease (obstruction of three arteries) who have poor exercise capacity.

It does not prolong the survival of patients with blockage in only one or two arteries (excluding the left main) who have mild or no symptoms. Current medical therapy has proved to be as effective as surgery in sustaining life and relieving symptoms in this group of patients.

Dr. Epstein concluded that, "Surgery is indicated mainly for patients with significant narrowing of the left main coronary artery; for patients with triple vessel disease who have poor exercise capacity; and for patients whose angina is unimproved with medical management."

Another new therapy for coronary artery disease is balloon dilatation. In this procedure, a balloon-tipped catheter is inserted into a coronary artery narrowed by an atherosclerotic plaque. When it reaches the point of obstruction, the balloon is inflated, widening the lumen, and then removed.

In selected patients, this procedure can relieve coronary arterial obstruction with relatively low risk to life and without the long recovery times necessitated by major surgery. The success rate of balloon dilatation improved with the profession's increasing experience. At this point, angioplasty is successful in almost 60 percent of patients who undergo the procedure.

"While coronary artery bypass surgery and balloon angioplasty are not cures for coronary artery disease, they do improve symptoms, often profoundly. And most importantly, coronary artery bypass surgery has been shown to improve the survival of several subgroups of patients with coronary artery disease," Dr. Epstein concluded.

Instrumentation Symposium To Be Held Nov. 16-18

The Annual International Medical and Laboratory Instrumentation Symposium and Exhibition will be held Nov. 16-18, at the Sheraton-Washington Hotel in Washington, D.C. This symposium was formerly sponsored by NIH, and held on the NIH campus.

Dr. C.R. Creveling, National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases, organized the symposium.

Invited speakers, from both the United States and overseas will address the state-of-the-art in modern instrumentation and recent advances underlying future developments in instrumentation.

The exhibition will include displays and demonstrations by more than 200 national and international manufacturers of clinical and laboratory analytical and research apparatus, and related hospital and laboratory support equipment. New products and services will be shown at the exhibitor's demonstration theater.

Bus transportation from NIH to the Sheraton-Washington and return will be provided. The symposium will provide CEU credit.

For further information and preregistration forms, call 946-6464 or Dr. Creveling at 496-5380.
Blood Bank Honors Donors at ‘Thank You’ Party

The 3,084 NIH employees who give blood provide 66 percent of the blood and blood products used at the Clinical Center for patient care and research.

Four hundred fifty of these blood donors walked away with new T-shirts and other prizes during the Sept. 16 CC Blood Bank’s third annual donor appreciation party.

Dr. Paul Holland, chief of the Blood Bank, presided at the reception, while Drs. Joseph Parrillo, chief of the CC’s Critical Care Department and Philip Pizzo, chief of the National Cancer Institute Pediatric Oncology Branch, thanked the blood donors and explained how the donations are used in their respective departments.

Dr. Parrillo explained that most major surgery done today would be impossible without blood and blood products. The critical and intensive care his department provides for CC patients depends on the availability of donated blood.

He emphasized that not only are patients being treated at NIH, but new methods are being developed here that can be used across the country. “On behalf of our patients and their families and our staff,” he concluded, “thank you for your generous offer over the year.”

Howard P. Drew, a National Library of Medicine employee, received a certificate for having donated more than 10 gallons (82 donations) of blood to the CC Blood Bank over the years.

Mr. Drew has also donated larger amounts of blood at other blood banks in the area.

Louise Leonard, in the NIH Finance Division, received a certificate for having donated 6 gallons of blood.

Also attending was Marie Moroney, R.N., a familiar face to many donors, whose steady manner has reassured many a new blood donor. “We at the Blood Bank appreciate all of our donors caring. This is our way of showing how much patients appreciate your donations,” she said.

Arthritis and Its Uncomfortable Warning Signs

Arthritis Advice is the subject of the October Age Page, distributed by the National Institute on Aging.

From infancy to old age, staying healthy is an ever-changing task. One way to remain on a healthy course is to heed the body’s warning signs of sickness or disease.

Arthritis is one of these diseases where the warning signs can become (painfully) apparent.

Inflammation of the joint membrane, or of blood in the area. Rene Leonard, in the NIH Finance Division, received a certificate for having donated 6 gallons of blood.

Also attending was Marie Moroney, R.N., a familiar face to many donors, whose steady manner has reassured many a new blood donor. “We at the Blood Bank appreciate all of our donors caring. This is our way of showing how much patients appreciate your donations,” she said.

Dr. Christy L. Ludlow of the Communicative Disorders Program, NINCDS, has been elected a life-long fellow of the American Speech-Language-Hearing Association. Dr. Ludlow’s research interests include speech production, laryngeal disorders, and development language disorders in children and head-injured adults.
Sophisticated Analytical Instrument Developed Through 4-Year Collaborative Effort by NIH Scientists

From many thousands of points in the specimen are stored directly in the computer rather than on a photographic media, like a conventional electron microscope.

These stored signals are then processed to produce images on a color display to permit correlation of elemental distributions and morphology. Under computer control, a number of signals can be recorded simultaneously to obtain images of the distributions of all elements in the periodic table except hydrogen and helium.

The signals used to produce the chemical images are of two kinds: the electrons which have lost a characteristic amount of energy in interacting with the atoms of a specimen; and the characteristic X-rays produced during the interactions.

Both of these are spectroscopic in nature. In other words, the measurements are made on the spread of electron energies similar to the spread of wavelengths produced when light passes through a glass prism to form different colors.

The signals are produced when electrons traveling nearly one-half the speed of light pass through samples placed inside the electron microscope, creating ionization in the thin section of specially prepared tissue.

The incident beam of electrons in the microscope interacts with the specimen atoms, and some of their tightly bound (core) electrons are ejected.

When this occurs, the beam electron loses an amount of energy (characteristic of the atomic species), producing electron energy-loss spectra. Then, when the now-ionized atom relaxes, an X-ray can be emitted which is also characteristic of the atom, producing X-ray spectra.

Both of these signals can be utilized individually or together to perform a chemical analysis of one isolated microvolume. Alternatively, the electron beam can be scanned across a region of the specimen and an (continued on page 7)
The four elemental images below are of a primitive blood cell from a horseshoe crab containing secretory granules (full width 3 microns):

EELS (Electron Energy Loss Spectroscopy) Carbon  EELS Nitrogen

X-ray Sulphur  X-ray Calcium

image of the chemical information can be obtained.

The digital computer is crucial to the analytical imaging system. Its speed and storage capacity make possible the high speed acquisition of the huge quantity of data generated as the electron beam is electronically scanned over the specimen, and the complex mathematical manipulation necessary to produce elemental images from the raw data.

Major effort also has been put into designing software that is both easy to use and flexible enough to deal with a broad range of experiments.

The analytical imaging system can be applied to a wide range of problems, for example, elemental distributions in bone samples, tumor cells, or brain tissue from patients suffering from Alzheimer's disease. Also available in this laboratory is an electron beam microprobe, a high-quality scanning electron microscope on which elemental X-ray microanalysis can be performed on bulk as well as thin specimens.

In the future, the group will extend computer control to the microprobe. This will permit elemental imaging of bulk specimens and stereology, or measurements of shapes and features.

Any of the analytical facilities are available to researchers at NIH wishing to collaborate on an appropriate project, either basic or applied.

Scientists currently using the system are investigating the localization of calcium and nitrogen in a number of cell types, as well as the distribution of fluorine-labeled neurotransmitters.

For more information on this new technology, call the Electron Beam Imaging and Microspectroscopy group, 496-2599.

The photographs shown below are representative of elemental distributions which can be obtained from thin samples with the new imaging system. These are examples of current collaborative research conducted with scientists from the National Institute of Neurological and Communicative Disorders and Stroke and the National Institute of Dental Research. Normally, these images are represented in color in the laboratory. Brightness in the image is a measure of the element present in each point.

—Joyce McCarthy

The three elemental images below are of ameloblasts, enamel-forming cells (full width 4 microns) from a rat's incisor:

EELS Carbon  EELS Nitrogen  EELS Calcium

The Analytical Electron Microscope can do everything a conventional electron microscope can do, but also chemically analyzes a specimen and shows the result on a background-corrected color display.

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—Joyce McCarthy

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Stoke Data Bank Yields Wealth Of Comprehensive Scientific Information

By Elizabeth Pennisi

"Information age" technology is helping the National Institute of Neurological and Communicative Disorders and Stroke fight stroke, a crippling and sometimes fatal disorder afflicting over 400,000 Americans a year.

Findings from the NINCDS-funded Stroke Data Bank, just ending its 3-year pilot phase, promise to advance stroke research and influence how physicians treat stroke patients.

The NINCDS Stroke Data Bank, the first national computerized storehouse of information about stroke patients, is providing a pool of stroke-related data that scientists can use to detect patterns in the factors causing this disease and in evaluating the effectiveness of therapy.

Very often, stroke patients must undergo extensive rehabilitation therapy to restore the use of impaired functions.

The pilot data were collected by Boston University, Duke University, University of South Alabama, and the University of Maryland.

NINCDS investigators are beginning to sift through the wealth of new information stored in the data bank. From early analyses of data from a group of patients in southern Alabama, scientists are confirming that some strokes are more common in blacks than whites. In an early finding in this group of patients, the incidence of strokes resulting from bleeding into the brain tissue itself is three times higher in blacks. These hemorrhages occur within the brain tissue when blood vessels, weakened by diabetes or high blood pressure, rupture.

More Females Seem to Suffer

More females, regardless of race, seem to suffer from strokes caused by subarachnoid hemorrhages. These strokes usually occur because a malformed blood vessel balloons out and pops, flooding the spaces between the brain and skull with blood.

According to data bank findings, strokes from either type of hemorrhage account for less than 15 percent of all strokes but, as has previously been suggested by other research, tend to be more deadly than other types of stroke.

More commonly, strokes result from infarcts—build-ups of dead cells, debris, and blood clots that clog blood vessels and cut off blood flow to parts of the brain. Sometimes the clot originates in the brain. In other cases a blood clot traveling through the body gets stuck in the brain's tiny vessels.

These traveling clots or emboi account for 17 percent of Stroke Data Bank cases, a higher percentage than investigators expected to find. Another 9 percent of strokes recorded in the Stroke Data Bank result from a subtype of infarcts which occur deep within the brain.

Data bank totals reveal that patients with these deep-seated infarcts have fewer complications and recover better than patients with other types of stroke.

Since January 1980, the four university hospitals have compiled information on 1,158 stroke patients.

"Our major thrust," says Dr. Cynthia Gross, NINCDS statistician, "was to define stroke types and subtypes in conjunction with the most up-to-date lab techniques, including CT and angiography."

During the early 1970's, the NINCDS, together with the World Health Organization, had established basic criteria for different types of stroke, but those criteria did not incorporate now available diagnostic techniques such as CT scan readings.

Stroke Types Split Up

The participating data bank scientists agreed to split the two established stroke types—those caused by ruptured blood vessels, or hemorrhages in the brain, versus those resulting from clogged blood vessels—into subtypes. The more refined classification has helped highlight significant differences between subtypes.

The scientists have found damage caused by some strokes seems to occur over a period of several hours, not instantaneously. Knowing this, investigators hope to develop treatment to curtail impairment from these evolving strokes.

"Relevant data from the pilot study have opened the door for research in intervention before the stroke occurs," says Selma C. Kunitz, project director for the NINCDS Stroke and Trauma Data Banks.

Stroke Data Bank investigators will concentrate on identifying the significance of prestroke symptoms. Data bank physicians have noticed that certain stroke patients feel intermittent spells of dizziness or headaches prior to their stroke. Eventually, it may be possible to recognize these symptoms as warning signs and prevent the stroke from occurring with either surgery or drugs.

At the University of Maryland, Dr. Thomas R. Price is studying the association between patients' psychologica and social recovery, the size and location of damaged area of the brain, and the type of stroke.

The Pilot Stroke Data Bank and another data bank for head trauma were initiated and organized by the NINCDS Office of Biometry and Field Studies and represent one of the first attempts to use "information age" technology to help fight neurological disorders. Over the next 5 years many more cases will be added to the stockpile of stroke data.

Hazen Nominations Now Open

The award committee for the 1983 Lila Annenberg Hazen Awards for Excellence in Clinical Research is now inviting nominations.

A physician-investigator or team will be awarded $50,000 (tax free). An additional $50,000 will be provided for the support, up to 3 years, of a research fellow or fellows whom the committee will select as associates.

Nominations will be accepted until Feb. 28, 1983. For additional information, write to Dr. Thomas C. Chalmers, Mt. Sinai School of Medicine, 1 Gustave Levy Pl., New York, N.Y. 10029.

Runners, Take Your Mark!

NII Health's Angels will hold their 1st annual 5 kilometers (3.1 mile) cross-country run on the campus Friday, Nov. 19, starting at noon.

The route begins and ends in front of Bldg. 1 and follows Center Dr., in front and behind the National Library of Medicine, continuing along the boundary fence behind Bldgs. 38A and 41 to Bldg. 46, and then following the same route back to Bldg. 1.

The event is open to all NIH employees on and off campus. Teams should consist of up to five members each, and can be either all male, all female, or mixed.

A reception will follow the race and awards will be presented to the winners in each category.

Entry forms are available at the R&W activities desk, Bldg. 31. A $1 entry fee is required. No alternate rain date is scheduled.

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The NIH Record

October 26, 1982
Scientists Find Viral Infection and Arthritis Link

Recent work performed by NIH intramural scientists, Dr. Alfred Steinberg of NIAADD, and Drs. Giovanni Tosato and Michael Blaese of NCI, has shown an association between a particular viral infection and rheumatoid arthritis.

Rheumatoid arthritis, a disease characterized by joint inflammation, is a cause of suffering for about 6.5 million people in the United States. Inflammation and thickening of the tissue lining the joints causes pain and swelling to the arthritis victim.

If uncontrolled, rheumatoid arthritis can lead to deformity and, eventually to disability. Arthritis varies widely from person to person, however, and while the disease can be mild in one person, it can cripple another.

The disease has generated a great deal of study over the years, but to date the cause and cure of rheumatoid arthritis have remained elusive.

The work of Dr. Steinberg and his associates eventually may have important implications in the treatment and prevention of rheumatoid arthritis.

This research finding proposes not only a possible trigger of rheumatoid arthritis, but also indicates a possible means for prevention. If rheumatoid arthritis is set off by a particular viral infection in some people, it may be possible to produce a vaccine and immunize populations at risk for developing the disease.

Epstein-Barr virus, or EBV, is the organism that causes infectious mononucleosis. By young adulthood, most people have antibodies to EBV in their blood, indicating prior infection.

Once a person is infected with EBV, the virus remains within a specific group of white blood cells, called B lymphocytes or B cells, for several years, perhaps for life.

By studying the interactions of EBV and white cell function in patients with rheumatoid arthritis, the NIH scientists hope to explain a possible cause of the disease.

Cell cultures of lymphocytes from normal people who have had an EBV infection produce antibodies or immunoglobulins when they are reexposed to the virus. After about 12 days the normal cells stop producing immunoglobulins.

This suppression of immunoglobulin production is mediated by a separate set of white blood cells, the T lymphocytes or T cells. The cells from patients with rheumatoid arthritis continue to produce immunoglobulins; their T cells fail to suppress the immunoglobulin production by their B cells.

This apparent T cell defect, a failure to suppress antibody production in rheumatoid arthritis patients, led the researchers to postulate that this virus was responsible for some of the immune abnormalities expressed in rheumatoid arthritis.

T cell function was also examined in patients with other immune disorders, such as systemic lupus erythematosus and scleroderma. The defect was not evident in these patients.

Rheumatoid arthritis patients also display other EBV-related phenomena. They have a high frequency of a nuclear antigen called RANA, which is relatively uncommon in normal persons; greater amounts of antibodies to a variety of EBV-associated antigens; and their lymphocytes will transform much more readily into "immortal" cells.

These observations indicate that EBV may play a role in the immunological features of rheumatoid arthritis. Moreover, EBV-infected B cells produce substantial amounts of rheumatoid factor, an autoantibody found in many patients with rheumatoid arthritis.

While a majority of patients show an enhanced immune response to EBV, not all rheumatoid arthritis patients do.

Rheumatoid arthritis appears to be a disease of multifactorial causes, some of them probably genetic. Based on these and other observations, it can be hypothesized that only those patients genetically predisposed to rheumatoid arthritis will develop the disease when it is triggered by EBV.

—Linda Stalvey

Digestive Diseases Board Issues First Annual Report

The First Annual Report of the National Digestive Diseases Advisory Board, which outlines the magnitude of the research and health care problems posed by digestive disorders and makes recommendations to the Congress and to the HHS Secretary, has recently been made available to the scientific community.

The Board and the report were authorized in December 1980 by P.L. 96-538, and its membership was appointed in October 1981.

In its report, the Board recommends full implementation of the 1979 report of the National Commission on Digestive Diseases and makes suggestions on promising areas of research.

The report also recommends the establishment of centers for research in digestive diseases and notes a lack of retrievable basic information on the true prevalence, distribution and human costs of digestive diseases—a lack they say is a substantial roadblock to progress.

Other recommendations relate to prevention of digestive diseases, cost containment, and education and information programs.

Copies of the report are available from the National Digestive Diseases Advisory Board, P.O. Box 30377, Bethesda, Md. 20814.
As LVR chief, he will coordinate research on the biochemistry, immunology, anatomy, and pathology of the eye. LVR scientists study animal models of gene defects of the visual system. Results of these studies, in which similarities to human disease are identified, can have applications to clinical investigations of eye disease in humans.

In one such study, scientists working under Dr. Chader's direction use a model of inherited retinal degeneration occurring in Irish setters to search for a treatment for the disease. They have been successful in pinpointing the actual biochemical defect in this inborn error of metabolism.

In recognition of the importance of this work, the American Retinitis Pigmentosa Foundation has designated his group a national RP research center.

**Began Visual Research at Harvard**

Dr. Chader began research on the visual system at the Howe Laboratory of Ophthalmology, Harvard Medical School, after receiving his Ph.D. in biochemistry from the University of Louisville.

When he joined the LVR in 1971, he was one of the first biochemists to study the role of cyclic nucleotides in photoreceptor cells.

While investigating the way light affects the biochemical process of vision, Dr. Chader discovered that light energy dramatically stimulates the activity of the enzyme cGMP phosphodiesterase leading to a decrease in the cyclic GMP level.

He hopes to modulate the level of phosphodiesterase in eyes of laboratory animals with hereditary retinal degeneration. This could lower the concentration of cGMP and slow or stop the degenerative process in these animals' photoreceptor cells. It is hoped that a similar approach will lead to a treatment for retinitis pigmentosa in humans.

As head of the retinal metabolism section, Dr. Chader also worked on problems of vitamin A metabolism. He and other NEI staff members organized an international effort to study keratomalacia, a blinding and often fatal disease related to vitamin A deficiency.

He helped establish a protocol for a collaborative research effort on keratomalacia with the governments of Guatemala and El Salvador, and then organized and moderated a workshop on the disease at Stone House in 1976.

He is coeditor of the book series, Progress in Retinal Research. Dr. Chader continues to act as section editor for Investigative Ophthalmology and Visual Science, and is the author or coauthor of over 80 publications.

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**Bone Marrow Transplantation Being Explored by NCI**

Ways to sidestep the toxic effects of anticancer drugs on bone marrow are being explored by National Cancer Institute scientists.

The scientists are removing and freezing a sample of a patient's bone marrow cells before irreversible or severe damage occurs. The bone marrow can later be returned to the patient if needed for therapy.

This procedure, called autologous or "self" bone marrow transplantation, may let patients receive larger and more effective doses of chemotherapy. Until now, doses have been limited because of their destructive effect on bone marrow cells, particularly on the precursors of white blood cells and platelets.

Bone marrow, a spongy meshwork of tissue that fills the cavities of many bones, produces the white and red cells and platelets of the blood. Red blood cells transport oxygen throughout the body, white blood cells fight infection and platelets prevent abnormal bleeding.

Past work with this technique indicates it may be useful for patients receiving extensive radiation therapy. In 1957, Dr. N.B. Kurnick, of Long Beach (California) Veterans Administration Hospital, transplanted the first human autologous bone marrow in radiotherapy patients.

Although the procedure was not widely adopted at that time, its therapeutic value was recognized. Researchers at a number of institutions began studying and refining the technique. At NCI, intense study of the procedure began in 1974.

Research indicates that bone marrow transplantation is most helpful in diseases in which the marrow cells are either defective or nonfunctional, such as immune deficiency diseases, aplastic anemia and leukemia.

During the 1960's, scientists studying marrow cell diseases looked at bone marrow transplants from donors whose marrow closely matched the marrow of the patient. In these types of transplantations, the donor is an immunologically matched twin or sibling.

Despite careful efforts to transplant only closely matched cells, many patients developed graft-versus-host disease, a potentially fatal disease in which the donated bone marrow "attacks" the patient's tissues. Improved matching techniques have lessened the incidence of GVH, but it is still a major problem.

In autologous transplants, the GVH problem is circumvented because the patient's own marrow cells are used.

The autologous bone marrow procedure begins with withdrawal of marrow from the patient's pelvic bone, usually while the patient is under general anesthesia. Once withdrawn, the marrow is prepared for freezing by the addition of dimethylsulfoxide (DMSO). The DMSO keeps the water in the marrow cells from forming crystals as it freezes. Such crystals could damage the cell membrane.

The marrow cells are then stored in liquid nitrogen at -196° C. Storage in liquid nitrogen keeps about 80 percent of the cells viable for up to 8 years. When the patient is ready, the cells are thawed quickly in warm saline and infused intravenously. The cells travel from the general circulation to the bones and grow into functioning marrow.

More than 70 patients with various forms of cancer have undergone autologous bone marrow transplantation at NCI. In almost all of these patients, the bone marrow transplants were successful, producing healthy bone marrow within about 3 weeks. Clinical studies of autologous bone marrow transplantation also are under way at other medical centers.

For more information about this research, contact the Office of Cancer Communications, 496-6441.

Persistent people begin their success where others end in failure—Edward Eggleston
Helen Schroeder, Grants Expert, Retires From 25-year NIH Career

Helen R. Schroeder, NIH grants management expert and assistant to the NIH Associate Director for Extramural Research and Training, is retiring after more than 25 years of government service.

Mrs. Schroeder came to NIH in 1957 from a job as a statistical clerk with the Centers for Disease Control research field station in her hometown of Prestonburg, Ky. She had worked there on a 3-year epidemiological study of diarrheal diseases and intestinal parasites, particularly affecting those in coal mining communities. When some of her fellow employees left for positions at NIH, she followed.

She began her career at NIH as a statistical clerk for the Division of Research Grants. She was impressed by NIH on her first day of work. “At orientation, they told me NIH had 3,500 employees, the same number of people as in my hometown,” she said.

“At that time, NIH extramural programs virtually exploded in terms of dollars. Money was plentiful, and there were so many good ideas—there was plenty of both,” Mrs. Schroeder said.

After working at the Bldg. 1 parking lot was a ballfield. “I deplore seeing our grounds go under asphalt, but I guess that’s the price you pay for progress and getting big.”

When the Division of General Medical Sciences was formed in 1958, Mrs. Schroeder was hired as a grants assistant, one of the first six employees to work for the division. In 1961, she was once again one of the first employees hired to work for the newly formed Division of Research Facilities and Resources, currently known as the Division of Research Resources.

At the DRFR, she served under Dr. Frederick Stone, Division Director, as his special assistant and chief grants management officer.

Mrs. Schroeder worked in NIGMS as chief grants management officer until July 1970. She then joined the Office of Extramural Research and Training in Bldg. 1, serving under ERT Associate Directors Drs. Ronald W. Lamont-Havers, Thomas E. Malone, Leon Jacobs, and presently William F. Raub.

“I have had some marvelous opportunities. I was in the right place at the right time.”

MFL Lectures Scheduled For Oct. 26 and Nov. 9

Dr. Richard J. Sherins will continue the Medicine for the Layman series on Tuesday, Oct. 26, with a lecture entitled Male Infertility. A senior investigator in NICHD’s Developmental Endocrinology Branch, Dr. Sherins will discuss the structure and function of the male reproductive system, classify the disorders of male infertility and explain how a physician evaluates the infertile couple. He will discuss the current status of therapy for male infertility and new horizons for NICHD.

On Nov. 9, Anorexia Nervosa will be discussed by Dr. Michael H. Ebert, clinical director of the NIMH. This baffling personality disorder is manifested by an extreme aversion to food, which can result in life-threatening weight loss.

Dr. Ebert will relate eating disorders to attitudes in society toward eating and body image. Each lecture is held in the CC’s Masur Auditorium at 8 p.m. For more information, call the Office of Clinical Reports and Inquiries at 496-2563.

Visiting Scientist Program Participants

Sponsored by Fogarty International Center

8/17 Dr. Sang Chul Park, Korea, Laboratory of Biochemistry. Sponsor: Dr. Sue Goo Rhee, NHLBI, Bg. 3, Rm. 203.

8/18 Dr. Takao Obara, Japan, Endocrinology and Reproduction Research Branch. Sponsor: Dr. Charles Strott, NICHD, Bg. 10, Rm. 8C410.

8/22 Dr. John Thompson, New Zealand, Laboratory of Microbiology and Immunology. Sponsor: Dr. C.L. Wittenberger, NIDR, Bg. 5, Rm. 307.

8/23 Dr. Hyense-Myone Eun, Korea, Laboratory of Biochemical Pharmacology. Sponsor: Dr. Edith Miles, NIADDK, Bg. 4, Rm. 109.

8/25 Dr. Kishir Vahakangas, Finland, Laboratory of Human Carcinogenesis. Sponsor: Dr. Herman Autrup, NIC, Bg. 37, Rm. 3C30.

8/29 Dr. Alvara Rondon-Fuentes, Mexico, Laboratory of Metabolism. Sponsor: Dr. Naotomi Okazaki, NIAAA, Bg. 3, Rm. 1A07.

9/1 Dr. Elisabet Agardh, Sweden, Laboratory of Vision Research. Sponsor: Dr. Jum Kinsela, NIE, Bg. 6, Rm. 222A.

9/1 Dr. Ghulam Chaudhry, Pakistan, Laboratory of Molecular Biology. Sponsor: Dr. Ernst Freese, NICD, Bg. 36, Rm. 5B05.

9/1 Dr. Kiyoshi Furuichi, Japan, Arthritis and Rheumatism Branch. Sponsor: Dr. C. Isersky-Carter, NIADDK, Bg. 10, Rm. 9N06.

9/1 Dr. Sukadev Lax, India, Laboratory of Cellular and Molecular Biology. Sponsor: Dr. P.E. Reddy, NCI, Bg. 37, Rm. 1D15.

9/1 Dr. Maria M. Menezes-Ferreira, Portugal, Clinical Endocrinology Branch. Sponsor: Dr. Bruce Weintraub, NIADDK, Bg. 10, Rm. 9D13.

9/1 Dr. Tsoyoshi Nakamura, Japan, Laboratory of Experimental Pathology. Sponsor: Dr. Harvey B. Pollard, NIADDK, Bg. 4, Rm. 312.

9/1 Dr. Josephma R.F. Muindi, Tanzania, Laboratory of Immunology Branch. Sponsor: Dr. Charles Myers, NCI, Bg. 16, Rm. 9N19.

9/1 Dr. A. Jennifer Rivett, United Kingdom, Laboratory of Biochemistry. Sponsor: Dr. R.E. Stedman, NHLBI, Bg. 5, Rm. 322.

9/1 Dr. Gay舣 Welser, Japan, Laboratory of Biochemistry. Sponsor: Dr. Yoshie Nakamura, NICD, Bg. 6, Rm. 1A07.

9/2 Dr. Josephina Agardh, Sweden, Laboratory of Immunology. Sponsor: Dr. Jum Kinsela, NIE, Bg. 6, Rm. 222A.

9/2 Dr. Barbara Wronowski, Poland, Laboratory of Neuropathology and Neuroanatomical Sciences. Sponsor: Dr. Maria Spatz, NICD, Bg. 36, Rm. 4B22.

9/2 Dr. Wu Yong-gi, China, Laboratory of Chemical Biology. Sponsor: Dr. Alan Schechter, NIADDK, Bg. 10, Rm. 9N20.

9/2 Dr. Jon-Durl Trautsch, Switzerland, Laboratory of Cell Biology and Genetics. Sponsor: Dr. Barrie Carter, NIADDK, Bg. 4, Rm. 309.

9/7 Dr. Bent Aasted, Denmark, Laboratory of Persistent Viral Diseases. Sponsor: Dr. Marshall Bloom, NIH, Bg. 10, Rm. 9D13.

9/7 Dr. Shin-ichi Akiyama, Japan, Laboratory of Molecular Biology. Sponsor: Dr. Ira Pastan, NIC, Bg. 37, Rm. 4B27.

9/7 Dr. Michele De Luca, Italy, Section on Biochemistry of Cell Regulation. Sponsor: Dr. Leonard Kahn, NIADDK, Bg. 4, Rm. B131.
Dottie King, DCRT Secretary, Retires After 20 NIH Years

After working at NIH for over 20 years, Dorothy J. King, secretary in the Division of Computer Research and Technology, recently retired.

Ms. King joined NIH in 1962 as secretary to the assistant director of the original DRS Computation and Data Processing Branch. When the Division of Computer Research and Technology was created in 1965, she became secretary to the assistant director of DCRT and chief of the NIH Office of Automatic Data Processing Policy Coordination.

Ms. King began her Federal career 33 years ago with the Internal Revenue Service where she worked as a secretary for 12 years before moving to NIH.

She is an extremely active grandmother, and looks forward to catching up on her gardening and canning in addition to some travel. She has also indicated that she wants to "get back in the groove" in her bowling.

"Dotty" King is an expert seamstress and designer of clothes for women and children. She makes her own dresses, skirts and blouses, and also produces clothing for her grandchildren.

The NIH Record

Updated Cell Lines
Catalog Now Available

An updated catalog listing cell lines currently stored in the National Institute of General Medical Sciences' human genetic mutant cell repository and the National Institute on Aging's aging cell repository is now available from NIGMS.

Both repositories, located at the Institute for Medical Research in Camden, N.J., make their well-characterized, thoroughly documented and contaminant-free cultures available to qualified investigators all over the world for a nominal fee.

The 2,257 cell lines in the NIGMS-supported repository include cultures from patients with a wide variety of hereditary diseases, from patients with chromosomal abnormalities, from patients with certain disorders (e.g., diabetes) in which genetic factors play an important role, and from normal individuals (for use in comparative studies).

The repository also includes a limited number of SV40-transformed cell lines, nonhuman mammalian cell lines and hybridomas.

The NIA-supported repository includes among its cell lines cultures from individuals with premature aging syndromes, diseases associated with known or suspected DNA repair dysfunctions, neurological diseases related to aging, and conditions which apparently predispose the cells to altered proliferative capacity in vitro. The NIA repository now contains 429 cell lines.

The new 1982 catalog has an expanded appendix containing breakpoint maps of cultures with chromosomal translocations. These materials will be especially valuable for investigators involved in gene mapping studies.

Copies of the cell catalog may be obtained from the NIGMS Office of Research Reports, Westwood Building, Room 9A10 (phone 496-7301), or from the Institute for Medical Research, Copewood and Davis Sts. Camden, N.J. 08103.

Scleroderma Seminar Will Be Held Nov. 10

Dr. Lawrence E. Shulman, NIADDK, will be the key speaker at a seminar on scleroderma designed for patients, their families, and others with an interest in the disorder. The seminar will be held at NIH on Wednesday, Nov. 10, from 7 to 9 p.m. in Wilson Hall, Bldg. 1.

Scleroderma is a chronic condition—known as a diffuse connective tissue disease—in which there are abnormalities of fine blood vessels and overgrowth of the body's connective tissues.

It affects the skin, joints, and muscles; in some persons, internal organs may become involved, such as the gastrointestinal tract, the lungs, heart, and kidneys.

The seminar will consist of a panel of speakers, led by Dr. Shulman, associate director for arthritis, musculoskeletal and skin diseases, NIADDK, and a rheumatologist with special expertise in connective tissue disorders such as scleroderma and lupus.

Also included will be an expert on the gastrointestinal complications of the disease, a psychiatrist to speak on coping with scleroderma, a patient, and Colonel Win Reither, leader of the Scleroderma Foundation of Greater Washington, a patient support group.

Connie Raab, NIADDK information specialist, will moderate the seminar.

This seminar on scleroderma is being cosponsored by the NIADDK, the Arthritis Foundation, Metropolitan Washington Chapter, and the Scleroderma Foundation of Greater Washington.

The presentation is free and open to the public. Preregistration is encouraged, although not required. For more information, call the Arthritis Foundation at 331-7395.

Laziness grows on people. It begins in cobwebs and ends in iron chains. The more business people have to do, the more they are able to accomplish, for they learn to economize their time.

—Sir M. Hale

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