

## Tenth International Cancer Congress

### UICC-Sponsored Meeting Convenes in Houston

The tenth in the series of international congresses on cancer sponsored by the International Union Against Cancer was held in Houston, Texas, on May 24 through 29, 1970. Hosts for the Congress were MDAH and the National Academy of Sciences of the USA.

Preparations for the event began in October 1966, when delegates to the Ninth International Cancer Congress, held in Tokyo, Japan, selected Houston as the site for the 1970 meeting. Secretariat headquarters for coordinating the Congress were set up at MDAH under the charge of Dr. Murray M. Copeland, Secretary-General for the meeting. Dr. Copeland is professor of surgery at MDAH and a vice president of MDAH's University Cancer Foundation.

The Main Congress was comprised of a total of 45 panel presentations followed by open discussion from interested members of the audience and 97 proffered paper sessions. Preceding the opening of the Congress proper, four Preliminary Special Sessions were held. (These are discussed in detail on page 5 of this *News Letter*.) Also part of the Congress was a Postgraduate Course on the clinical aspects of diagnosis and treatment of cancer patients.

The Tenth Congress is the third such meeting to be held in the United States. Previous ones were held in Atlantic City in 1939 and St. Louis in 1947. Other Congresses have been held in Madrid (1933), Brussels (1936), Paris (1950), Sao Paulo (1954), London (1958), Moscow (1962), and Tokyo (1966).

Houstonians and members of the National Organizing Committee extended themselves in arranging both the opening and closing ceremonies of the Congress. They attempted to provide a

proper introduction for the Congress, knowing that the working days would be overwhelmingly filled with scientific reports.

### Opening Ceremonies

To show the dignity of the united worldwide effort against cancer, the host nations of all past Congresses have selected a head of State or his designated representative as keynote speaker.

The Honorable Spiro T. Agnew, Vice President of the United States of America, was the distinguished speaker for the Tenth International Cancer Congress. He stressed the need for men to learn to communicate better on subjects concerning the quality of life for all men.

Officials of the Congress also addressed themselves to the problems of worldwide cooperation and the continuing need for an open community of scientists. Dr. R. Lee Clark, Chairman, National Organizing Committee, Dr. N. N. Blokhin, President, International Union Against Cancer, Sir Alexander Haddow, Past President, International Union Against Cancer, and Dr. Tomizo Yoshida, Chairman, Ninth International Cancer Congress, also delivered speeches at the opening ceremonies. Following his remarks, Sir Alexander, who made outstanding contributions and efforts toward reactivating the Congress functions after World War II, received a standing ovation from Congress participants.

A brief intermission preceded a special musical presentation prepared for Congress participants. Richard W. Fulton directed the Texas Woman's University Modern Choir, and the members of the

Houston Grand Opera Company gave a special performance of "Hin und Zurück," a sketch with music by Paul Hindemith. The Houston Symphony Orchestra, with A. Clyde Roller conducting, and featuring pianist James Dick, played selections by Reznicek and Tchaikovsky.

### Closing Ceremonies

Closing ceremonies of the Congress were held at noon on Friday, May 29. They were preceded by the Dorn Memorial Lecture, delivered this year by Professor Richard Doll of Oxford. Professor Doll has done extensive and valuable work in the field of epidemiology; his present work concerns the use of epidemiological methods as a test for hypotheses about the mechanisms of carcinogenesis.

The program of the closing ceremonies began with an address from Dr. N. N. Blokhin, the outgoing UICC president. The installation of the first American president of the UICC, Dr. William U. Gardner, followed. Dr. Gardner delivered a report on the business session held before the formal opening of the Congress. Dr. R. Lee Clark, chairman of the National Organizing Committee, made a special presentation.

Dr. R. M. Taylor announced Florence, Italy, as the site of the 11th International Cancer Congress, which will be held in 1974. An interim meeting, to be held in Sydney, Australia, March 13-17, 1972, will deal with aspects of cancer control and research.

Wendell M. Stanley, president of the Tenth International Cancer Congress, formally announced that the meeting was concluded.



# President's Salute

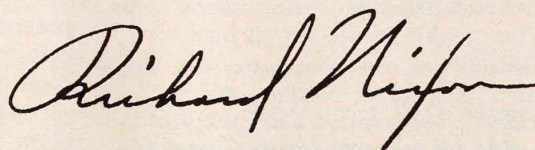
THE WHITE HOUSE

WASHINGTON

May 12, 1970

The cause of better health is one of the strongest ties among the peoples of the world. And on behalf of the citizens of the United States, I welcome the participants in the Tenth International Cancer Congress whose cooperation sets an inspiring example for all men and whose success proves the value of communication as a function of research.

Meetings such as yours give welcome opportunity to find new common avenues for continuing progress in the fight against cancer. May your efforts be highly productive for your members, for the countries you represent and for all humanity -- which you serve so well.



## Pharmacist Award

Paul J. Miller, asst. chief of pharmacy services, has received the 1969 Abbott Award of the American Society of Hos-

pital Pharmacists for the publication, "Aerosol Bronchography and Laryngography."

The award, given for an outstanding contribution to the scientific pharmaceutical literature in the field of hospital pharmacy, consisted of a plaque and \$1,000 and was presented at the Fourth Annual Midyear Clinical Meeting Awards Luncheon, December 18, in Washington, D. C.

Sharing the award were the paper's coauthors, Dr. Seymour M. Blaug, professor of pharmacy at the University of Iowa College of Pharmacy, Iowa City, and Dr. Harry Fischer, chief radiologist, Wayne County General Hospital, Eloise, Michigan.

## Cancer Experts Discuss Air Pollution

Increasing concern with carcinogenic elements in the environment was evidenced by the presentation of two Prof-fered Paper Sessions and one Main Con-gress Panel on subjects in that area. The Main Congress Panel was particularly timely since it concerned a topic of much concern to laymen and experts alike—"Air Pollution and Cancer." The Panel was chaired by Dr. Robert E. Waller from St. Bartholomew's Hospital Medical College in London.

Dr. Waller's conclusions were encour-aging in that he found that danger from the carcinogen benzo(a) pyrene, though probably greater in the past, is no longer of relevance in London. He found no evidence relating current mortality to current concentrations of benzo(a) py-rene.

In a paper with far-reaching implica-tions, Marvin Kuschner suggested that carcinogenic agents carried in the air may interact with carcinogens from other sources to make air pollution a carcinogenic force. Oscar Auerbach re-ported on human pathology as related to cigarette smoking, stating that the evidence is becoming overwhelming that cigarette smoking is the single most im-portant cause of lung cancer today.

Irving J. Selikoff's paper, entitled "Occupational Atmospheric Carcino-gens (Fibers)," evoked much interest. It is possible that *any* foreign material carried by the air into the lungs in suffi-cient quantities can act as a carcinogen. W. Dontenwill delivered a related paper on inhaled carcinogens other than fi-brous carcinogens.

In his presentation, William Haenszel discussed the difficulties that epidemi-ological investigators are encountering in their attempts to study the effects, or even the existence, of dangerous materi-als in the air. The fruitful application of the epidemiological method to the smok-ing and lung cancer problem has led some to expect too much from the method. A more reasonable objective would be the delineation of patterns to suggest leads that can be tested experi-mentally.

From the actively expressed interest and participation of Congress members in the sessions relating to environmental factors and cancer, it is certain that this is an area in which increasing research activity will occur in the near future.

*The NEWS LETTER of The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston, Houston, Texas 77025, is published quarterly to give information of the activities and policies of the institution to the physicians of Texas. IT IS MADE POSSIBLE BY A GIFT FROM MRS. HARRY C. WIESS.*

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# Governor's Proclamation



## Official Memorandum

By

PRESTON SMITH  
Governor of Texas

AUSTIN, TEXAS

### GREETINGS:

The State of Texas is honored by the convocation of several thousand eminent cancer physicians, scientists and researchers from around the world for the Tenth International Cancer Congress, hosted in Houston, Texas, by The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston and the National Academy of Sciences.

The Tenth International Cancer Congress, which is held every four years in a major city of the world, meets in these United States for the first time in nearly one quarter of a Century.

Specialists associated with leading cancer and research institutions from the 70 member nations of the International Union Against Cancer chose Texas as the site for this prestigious and vital meeting.

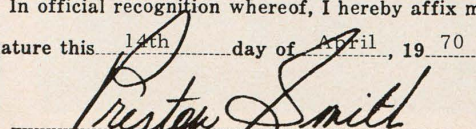
All Texans wish to extend the traditional warm hospitality that has long marked this state's illustrious history.

THEREFORE, I, as Governor of Texas, do hereby designate the period of May 22-29, 1970, as

### TENTH INTERNATIONAL CANCER CONGRESS WEEK

in Texas, and extend to those participating in this Congress the heartfelt appreciation of all Texans for their endeavors to eradicate the scourge of mankind that is cancer.

In official recognition whereof, I hereby affix my  
signature this 14th day of April, 19 70

  
Governor of Texas

## President Nixon Salutes Congress

Registrants of the Tenth International Cancer Congress received open letters from two leading Americans saluting the Congress. The Honorable Richard M. Nixon, President of the United States, wrote to support "the cause of better health" and complimented members of the organization for their ability to cooperate in such a cause.

## Greeting From Governor Smith

The Honorable Preston Smith, Governor of Texas, extended greetings to visitors to Texas from other states and from abroad, and designated the week of May 22-29 as Tenth International Cancer Congress Week in Texas. The appreciation of all Texans was extended to those who participated in the Congress.

## TV—A First for the International Cancer Congress

A stimulating technical communications program was planned and activated for the first time at an International Cancer Congress. During the Tenth Congress, special newscasts were broadcast daily over Channel 8, the University of Houston-affiliated educational station. Programs were broadcast each morning and evening of the Congress, Sunday through Thursday. The newscasts included general and local news, weather, schedules of Congress events, personality interviews, highlights of social activities, and previously taped segments of selected scientific programs.

Four days of surgical procedures were telecast live from the Anderson Hospital suites to both the Music Hall and the Convention Center. Via a special intercommunication line, members of the audience could ask questions of a moderator located in the operating room. This projection was a joint endeavor of the MDAH Television Section and the Television Section of The University of Texas Medical Branch at Galveston.

Several audio and audiovisual tape recordings were made of various sessions of the Congress. The tapes of selected papers and panels will become a part of the permanent archives of the Cancer Congress library. A catalog listing tapes which will be available for use by other institutions and individuals will be released soon and can be obtained by writing to the Department of Medical Communications at MDAH, Texas Medical Center, Houston, Texas, 77025.



## Congress Entertainment

The Local Organizing Committee outlined a schedule of entertainment activities which provided an unusual variety and range of choices for Congress participants. Under its direction, a luncheon, a barbeque and rodeo, and many tours and special cultural events were planned for visitors to Houston. Dr. Clifton D. Howe was chairman of the Committee and Mr. Theodore N. Law was Honorary Chairman. Mrs. Herman P. Pressler, Jr. was chairman of the Ladies Entertainment Committee and Mrs. H. Mark Crosswell, Jr. was co-chairman. The Entertainment and Cultural Affairs Committee was headed by Mr. John T. Jones, Jr.

The highlight of the week's entertainment schedule was the Texas-style barbeque and rodeo that was held at the Diamond R Ranch just outside Houston. It was attended by 4,850 participants of the Congress. The menu consisted of barbequed beef, ranch style baked beans

and potato salad, and home-made apple pie. The main attraction was the rodeo itself, reminding the visitors that Texans



Buses loading to transport ladies attending the Congress to their progressive luncheon in River Oaks.

## 72 Countries Fight Cancer in '70

The response to the tenth meeting of the Unio Internationalis Contra Cancrum was truly Texas style, the biggest and the best yet. Representatives of research organizations throughout the world convened in Houston to exchange current knowledge on many aspects of cancer research and cure of the cancer patient. A geographic and numerical breakdown of the papers submitted to the Tenth International Cancer Congress is given in the table. A total of 6,018 persons, representing 72 countries including the United States, registered

for the Congress. There were 1,342 papers published in the abstract book prepared for the Congress; of these 1,316 were read at the four afternoon sessions for proffered papers. Approximately 50 papers were produced by collaborating scientists working in two or more countries.

As host country, the United States presented the preponderance of papers, but more than half were from visitors to our country. In all, representatives of 48 different countries presented papers to the Congress.

A meeting of this sort enables communication to take place between scientists who otherwise would not have the opportunity.

USA	595	Denmark	13	Spain	3
Japan	126	South Africa	11	Ireland	3
USSR	110	Switzerland	11	Iran	2
Italy	62	Belgium	10	South Vietnam	2
West Germany	44	Brasil	10	Colombia	2
Rumania	44	Yugoslavia	10	Philippines	2
Canada	39	Netherlands	9	Portugal	2
Argentina	33	Norway	9	Chile	2
India	33	UAR	8	Finland	2
France	32	Austria	7	East Germany	2
England	29	Wales	7	Thailand	1
Sweden	27	Poland	7	Mozambique	1
Australia	18	Korea	5	Hong Kong	1
Mexico	17	Scotland	5	Turkey	1
Israel	16	Czechoslovakia	3	Bulgaria	1
Hungary	14	Uganda	3	Greece	1

have not forgotten their attachment to the land and the cattle industry.

On Wednesday, the Honorable John Connally was master of ceremonies for Houston's Salute to the Cancer Congress. Astronaut Colonel Frank Borman and singer Miss Marguerite Piazza were special guests. Colonel Borman presented an award to the American Heart Association for the best television message on the dangers of smoking. Miss Piazza gave a special performance and received a standing ovation. A special award was presented to the American Cancer Society for their television message to the public from the late actor William Talman.

On Thursday, the Houston Symphony Orchestra presented a special concert at Jesse H. Jones Hall for the Performing Arts for participants of the Congress. The program included works by Richard Wagner, Anton Dvorak, Sergei Prokofieff, Alexander Borodin, and Meredith Willson.

Tours were conducted daily of Houston and its attractions, and visitors had ample opportunity to see the city, the Astrodome, the Manned Spacecraft Center (NASA), Bayou Bend Museum, Heritage Houses, and many private homes and gardens. In addition, Anderson Hospital conducted tours.

"Sights and Sounds of Houston," a special tour which included many of the varied aspects of Houston, attracted 675 visitors. The wives of men in the medical and business community participated as guides.

For a unique approach to the traditional "ladies luncheon," the homes of residents of the elegant River Oaks section of Houston were opened for a progressive luncheon that attracted more than 1,000 visitors. The ladies who opened their homes greeted the guests personally, taking this opportunity to offer Houston hospitality to the visitors.

All agreed that the massive undertaking was handled with great aplomb, and visitors to Houston returned to their own states and countries well assured that the famous Texas hospitality is not just a myth.

## Rehabilitation

"Progress in the Rehabilitation of the Cancer Patient" is the topic for the 15th Annual Clinical Conference on Cancer, presented by MDAH. The meeting is to be chaired by Dr. John E. Healey, Jr., and will be held November 19-20, 1970.



# Rapporteur Reports

Rapporteurs were appointed by Congress officials for the four three-day symposia held Friday, Saturday, and Sunday before the official opening of the Congress. Each Preliminary Special Session of the Congress (PSSC) was summarized by a prominent physician or scientist in a special report to the Main Congress. Appointed to summarize the presentations and to make summary conclusions were: Dr. George Weber, of Indiana University Medical School, Dr. Joseph H. Burchenal, vice president of Sloan-Kettering Institute for Cancer Research, Dr. Robert J. C. Harris, head of the Department of Environmental Carcinogenesis of the Imperial Cancer Research Fund of London, and Dr. Pierre F. Denoix, Director of the Institute Gustave-Roussy.

The first session, "Regulation of Gene Expression in Normal and Cancer Cells," was summarized by Dr. Weber. According to his report, the session focused specifically on cell function and multiplication, leading to a discussion of gene action and metabolic patterns in normal and malignant cells. It was stressed that the mechanism of replication of the cell and control of proliferative processes should be the main target of future investigations.

The subject of PSSC #2, summarized by Dr. Burchenal, was "Cancer Therapy: Experimental Models and Clinical Trials." Dr. Burchenal reported that many drugs for the treatment of cancer have been developed since 1965, but few of them have been fully investigated as to their potential. They have been used largely for palliation rather than cure. He compared the current status of cancer chemotherapy with that of chemotherapy for bacterial infections in 1937. At that time, means to cure many such infections were available in the laboratory, but there was a widespread belief among physicians that cure was impossible. Not until World War II caused a great need for antibiotics was the development of a large number of them initiated.

"Cellular and Molecular Mechanisms of Carcinogenesis" was the topic of PSSC #3. Dr. Harris concluded that investigators of chemical and viral carcinogenesis are coming closer together. Recent developments in this field lie in the chemical approach represented by

the papers on chemical carcinogenesis *in vitro*. The next target for investigation seems to be the cell membrane and its role in carcinogenesis. The central questions now surrounding all forms of carcinogenesis are concerned with the cells and molecules involved in malignant transformation.

Dr. Denoix summarized the fourth PSSC, "Trends in the Diagnosis and Management of Cancer." He reported that essentially there has been nothing new in the field of cancer detection in the past several years. However, existing techniques have been modified and refined and are being applied on a wider and more efficient basis. Improvement in the management of cancer has been in the use of the multidisciplinary or "team" approach. Increasing use of chemotherapy and radiation therapy, both alone and in combination with surgery and each other, has resulted in better local control of disease. These techniques have made possible less radical and mutilating operations. Dr. Denoix anticipates further developments in the fields of chemotherapy, radiation therapy, and immunotherapy, re-examination of the more traditional methods of cancer management, and the development of better and more simplified terminology.

## MDAH Staff Members Active in Congress

Staff members of Anderson Hospital participated in 41 of 97 Proffered Paper Sessions of the Congress and presented more than 75 papers on both clinical and basic aspects of cancer diagnosis, treatment, and research. All departments of the institution participated in some aspect of the Congress. Six members of the staff participated in the Preliminary Special Sessions of the Congress, one as a co-chairman and five as members.

The 15 Main Congress Panels in which Anderson workers participated included a variety of topics ranging from cytogenetics to professional education. Three of these panels were co-chaired by Anderson staff members; Dr. Murray M. Copeland co-chaired the session on "Classical Classification of Cancer" and Dr. R. Lee Clark directed the discussions of "Ethical Considerations in Clinical Investigation" and "Rehabilitation of the Cancer Patient."

Of 24 Anderson staff members participating in the Postgraduate Course Panels, six acted as co-chairmen. Anderson Hospital was represented on 11 of the 14 Postgraduate Course Panels.

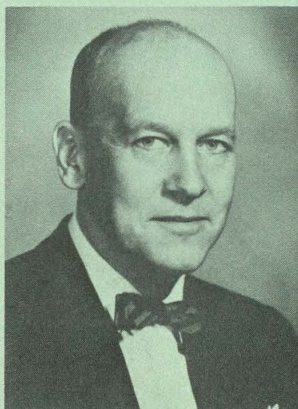
## Rapporteurs



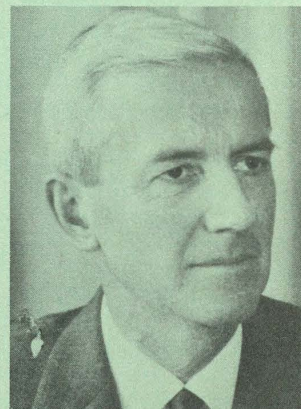
Dr. George Weber  
(left)



Dr. Robert J. C. Harris  
(right)



Dr. Joseph H. Burchenal  
(left)



Dr. Pierre Denoix (right)



## Ecologist Will Help Develop Science Park

Dr. Joseph P. Kennedy has been named ecologist (part-time) and professor of ecology at MDAH. He will be concerned primarily with developing The University of Texas Environmental Science Park (formerly Buescher Science Park) and with study of ecologic factors in the environmental etiology of cancer.

For developmental affairs, Dr. Kennedy will be affiliated with the Planning

Board and Office of the President; academically, he will be affiliated with the dept. of biology, and will continue to lecture in anatomy at The University of Texas Dental Branch at Houston.

He received the B.A. degree from the University of St. Thomas in Houston, and the M.A. and Ph.D. degrees from The University of Texas at Austin. From 1958 to 1960, he was chairman of the department of biology at the University of St. Thomas.

Since 1960, Dr. Kennedy has been associated with The University of Texas

Dental Branch, where, in 1968, he was appointed professor in the department of anatomy. In addition, Dr. Kennedy is professor and chairman of the department of animal ecology in the Institute of Biomedical Sciences, The University of Texas Graduate School of Biomedical Sciences at Houston.

He is editor of the *Journal of Herpetology*, an international publication on the biology of amphibians and reptiles, and is a member of the Editorial Board of *Texas Reports on Biology and Medicine*.

## Anderson Physicians Help Establish Cowdry Histology Prize

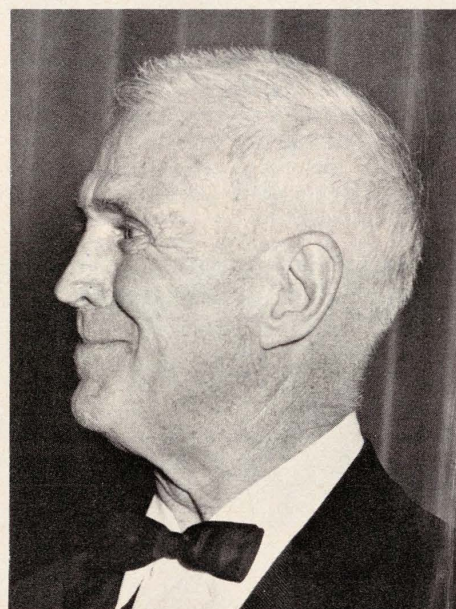
MDAH physicians have contributed \$500 toward establishing the Edmund V. Cowdry Histology Prize. The prize will be an award given annually at Washington University School of Medicine, St. Louis, to a freshman student for outstanding work in microscopic anatomy. Dr. Cowdry, who was the 1960 Bertner Award recipient, has been a friend of MDAH since its inception, and, according to Dr. R. Lee Clark, MDAH President, Cowdry's early endorsement of the efforts to establish MDAH "were an inspiration."

The prize was conceived by the Washington University School of Medicine to honor Dr. Cowdry on his 80th birthday, and to recognize his many contributions to medical research and to Washington University. Dr. Cowdry devoted much of his professional career to teaching histology and training young scientists, and it was intended to honor him with a prize which would further stimulate students' interest in histology, as well as promote high scholarship standards.

Author of the classic volume, *Cancer Cells*, Dr. Cowdry outlined and helped define the field of cancer cytology. The book is considered a milestone in cancer research.

Internationally respected, Dr. Cowdry has traveled and studied in the Tropics. In Africa, he determined the cause of heartwater disease (a disease fatal to cattle, sheep, and goats); in Kenya, he determined the life cycle of the parasite of East Coast fever; in Tunis, he studied malaria; in Puerto Rico, he studied leprosy.

In 1941, with C. Ruangsiri, Dr. Cowdry determined that promin would re-



Dr. Edmund V. Cowdry

tard leprosy in rats. Its effectiveness was tested and promin was found to be much more helpful than any previously known drugs used for leprosy. The use of promin began the era of modern chemical treatment for the disease.

Dr. Cowdry was born in MacLeod, Canada, located between the Blood and Blackfoot Indian reservations, in 1888. He attended Upper Canada College and the University of Toronto, and received the Ph. D. degree in anatomy from the University of Chicago in 1912. In 1957, he received an honorary D.Sc. from the Institutum Divi Thomae in Cincinnati.

He has served on the staffs of Johns Hopkins University, Peking Union

Medical College, The Rockefeller Institute, and Washington University. In 1948, he was named director of the Wernse Cancer Research Laboratory at Washington University.

Dr. Cowdry received the Bobst Award in 1954. He served as president of the International Cancer Research Congress, the American Biological Society, the Association for Cancer Research, the Gerontological Society, and the International Association of Gerontology. He was the tenth person to receive the Bertner Foundation Award, given annually at MDAH to honor an individual for making outstanding contributions to basic cancer research.

Dr. W. Maxwell Cowan, professor and chairman, dept. of anatomy, Washington University, in a letter to Dr. R. Lee Clark, stated:

"I should like, on behalf of the Washington University School of Medicine in general and the Department of Anatomy in particular, to thank you most warmly for the very generous contribution your institution has made to the Edmund V. Cowdry Histology Prize. The response to our letter was most gratifying and you will be glad to know that a prize in Dr. Cowdry's name has, in fact, been set up and will be awarded for the first time this year. The general response and your own contribution speak very movingly about the high regard with which Dr. Cowdry is held by his former students and associates.

"I would be grateful if you would convey to your institution our sincere appreciation for this generous gesture."



## Clinical Abstracts

The editors of the *News Letter* hope to better acquaint practicing physicians with research developments at MDAH by previewing articles of direct relevance to the readers. As they are submitted to various journals for publication, selected articles will be abstracted by members of the MDAH publications department for presentation in the *News Letter*.

**Rehabilitation—A New Goal in Cancer Care:** John E. Healey, Jr.

Some of the physical problems encountered in the rehabilitation of the cancer patient include shoulder dysfunction, lymphedema, cosmetic and functional defects resulting from treatment for head and neck cancer, artificial stomas, and amputations. The author discusses these in some detail. However, he stresses that the physician must never disregard the psychosocial, vocational, and economic aspects of the effects of cancer.

Oncologists have tended to stress the quantitative results of cancer management and to ignore the quality. It now is time to emphasize qualitative success—or rehabilitation potential.

To do this, education and communication are imperative. The prevalent fatalistic attitude toward cancer must be overcome. The attitudes of physicians, paramedical groups, and the laity must be reoriented. It must be proved to the public that the diagnosis of cancer is no

more a stigma or notice of death than are several other diseases that affect man.

For example, the layman accepts kidney transplantation as an operative procedure than increases longevity. Few realize, however, that the five-year survival rate of such an operation is far less than the rates for most operations for cancer.

The danger signals of cancer still must be emphasized to increase early diagnosis. However, the public also should be informed of the increased qualitative success achieved for cancer victims as a result of better rehabilitation methods. We must emphasize the fact that the cancer patient is no different from any patient afflicted with a chronic disease. Cancer can be controlled and the patients allowed to enjoy normal, active lives, often for many years.

**Regional Patterns in Morbidity From Melanoma in Texas: 1944–1966:** Eleanor J. Macdonald, Patricia F. Wolf, Mary S. Johnson, and Anne Murphy

With the whole-hearted cooperation of the physicians of Texas, the authors studied records of hospitals, clinics, laboratories, dermatologists' offices, group practices, tuberculosis sanatoria, and death certificates to obtain information on incidence and mortality rates of cancer in Texas. Although the incidence report is based on an in-depth total survey of cancer in 74 Texas counties, from

the 254 county-by-county mortality reports, some interesting facts concerning melanoma in the state as a whole were found.

For the state, the 18-year average age-adjusted death rate for melanoma of the skin is 1.5 per 100,000. However, for the last five years, the rate is 1.7 per 100,000, indicating a slight increase. Mortality from melanoma is gradually increasing throughout the state, except in the Galveston, Lubbock, and Texarkana regions, where it is beginning to decline gradually. Also, melanoma in Texas essentially is a disease of Caucasians, excluding Latins. The incidence is rare among Negroes and Latins.

The incidence rates increased with descending degrees latitude. The incidence rate in El Paso was three times the death rate, in San Antonio it was four times higher, and in Harlingen seven times higher. Thus, a stepwise consistent increase in incidence by latitude degrees occurs as the equator is approached.

The location of most of the lesions on the lower legs, arms, and face for females and face, arms, shoulders, and back for males lends weight to the hypothesis that sun exposure plays some part in melanocarcinogenesis. Although there are more hours of sunshine in the El Paso area, possibly the effect of reflection from water and sand, such as the coastal regions have, added to the intensity of sunlight at the lower latitudes, resulted in a higher incidence of melanoma in these areas. In the two most frequently diagnosed types of skin cancer besides melanoma, basal cell and squamous cell carcinoma, exposure to the sun is known to be a causal factor in skin cancer-susceptible people.

In Texas, patients with cancer of the skin report a familial history of cancer, particularly skin cancer, more than do patients with cancer of other sites. Patients with melanoma report a familial history of cancer more than do individuals with basal and squamous cell cancers of the skin.

**Antibiotic Prophylaxis and Protected Environment as Adjuncts in the Treatment of Acute Leukemia:** James D. McKinley, Jr.

Protected environments combined with massive antibiotic prophylaxis (both oral and topical) are being used as an adjunct to treatment for acute leukemia. Substantial participation of the pharmacy department is mandatory because of the dosage formulation required.

Two antibacterial regimens are used; both are more effective than rotating regimens in terms of patient acceptance

(Clinical Abstracts, Continued on page 8)



Dr. N. N. Blokhin, Director of the Soviet Academy of Medical Sciences, President of the Tenth International Cancer Congress, and honorary Texan, with Dr. R. Lee Clark, MDAH President and Chairman of the National Organizing Committee for the Congress.



and decrease in bacterial counts in stool samples. Apparently, patients may be changed from one to the other preparation when drug tolerance becomes a problem without affecting antibacterial effectiveness. Since these patients seem to be particularly susceptible to *Pseudomonas* infections, polymyxin-B sulfate is an integral part of the antibiotic regimen.

Changes in antibiotic content are made periodically, and new ones are added occasionally, depending on the results of bacterial flora studies. Qualitative and quantitative cultures are made weekly, and antibiotic doses are tailored to the patients' needs. If infections occur, systemic antibiotics are used for any infections as indicated by the causative agent and sensitivity. Patients in protected environments seem to respond to systemic antibiotics better than do patients in normal ward conditions.

Less success was experienced in suppressing fungal species (particularly *Candida*, *Saccharomyces*, and *Torulopsis*) than bacterial flora. Study persists for an improved antifungal agent that is effective in controlling yeast and fungal growth in the gastrointestinal tract. Too, the antibiotics showed limited effectiveness in reducing flora of the skin, nose, throat, and ears. (This paper has been published. The reference is: *Drug Intelligence and Clinical Pharmacy*, 3:212-217, August, 1969.)

*The Elusive Diagnosis of Leprosy:* Joseph G. Sinkovics and Michael L. Ibanez

These authors describe in detail leprosy seen in two MDAH patients with histologically confirmed cancer. Both patients were Latin American women, one 40 and the other 50 years old. The younger patient had a nasopharyngeal lesion. The first histological diagnosis was compatible with rhinoscleroma. However, acid-fast stains revealed a lepromatous infectious granuloma.

The older patient was treated for a fibrosarcoma of the leg. Leprosy was not diagnosed until injury of the amputation stump and probable septicemia with *E. coli*. Livid hemorrhagic skin eruptions appeared and later sloughed off during treatment with antibiotics, metaminol, and hydrocortisone. Acid-fast stain of nasal scrapings and tissue biopsies established the diagnosis of lepromatous leprosy.

With the increased control of tuberculosis in the past 10 years, the incidence of leprosy has increased. Approximately 2,000 cases are now known to exist in the U.S. Texas has reported the highest oc-

## MDAH Physicists Probe Californium Therapy

The possibility of using an intensely radioactive element, californium-252, as an implantable source for radiation treatment of cancer patients is being explored by members of MDAH's dept. of physics.

Californium, or  $^{252}\text{Cf}$ , has several theoretical advantages over radium and other implantable gamma-ray sources because of its relatively small size and the high intensity of neutrons it emits. Having the highest relative yield of fast neutrons per mass of source, this man-made element emits  $2.33 \times 10^6$  neutrons per second per microgram by spontaneous fission. Because of the poor penetration of fission neutrons in hydrogenous material, it is anticipated that larger doses can be given to a tumor without increasing the damage to surrounding healthy tissue. In addition, californium radiation does not require the presence of oxygen for maximum effectiveness in damaging tumor cells because neutrons, with their high energy transfer, travel straight to the nucleus. (Many tumors are relatively radioresistant to lightly ionizing sources, such as radium and cobalt, because of the lack of oxygen in tumor cells.)

Another advantage of the neutron source, according to Dr. George D. Oliver of the dept. of physics, is that it can be made in a variety of geometries according to the medical application desired—point sources, needles, and after-loading cells.

currence of new cases, most of which were of the highly infectious lepromatous type.

*Other Malignant Neoplasms Associated with Carcinoma of the Thyroid:* E. P. Wyse, C. S. Hill, M. L. Ibanez, and R. L. Clark

This paper deals with the possibility that persons with a thyroid cancer might be more likely than others to develop a second malignant tumor. Of 50,125 patients at MDAH diagnosed as having cancer from March 1944 through June 1968, 687 had thyroid tumors. Of the 687 with thyroid cancer, 117 had at least one other malignant neoplasm.

The crude percentage of thyroid cancer associated with other primary malignant neoplasms is 17 per cent. Because of this high percentage, the authors coined the term "thyroid carcinoma multiplex" to describe the entity.

The distribution of histological types

A series of planned radiobiologic and physical experiments is being conducted by scientists at this institution to compare the biological effectiveness of the neutron emitter with more conventional sources. Two key factors in its evaluation were determining the oxygen enhancement ratio (OER) and the linear energy transfer (LET) distribution.

The low OER found for californium in a number of different mammalian systems, both in vitro and in vivo, suggests that it may have a greater therapeutic effect than other lightly ionizing sources of radiation.

Other physical experiments to measure the isodose distribution of californium were done by members of the dept. of physics. Determining the dosage around sources in tissue-equivalent solutions is a necessary prerequisite before effective use of the source can be made.

Because of the promising results from these preliminary experiments at this and other institutions, the clinical staff at MDAH have initiated the use of californium in the treatment of patients. Clinical-type studies are planned in which normal skin response, tumor cell response and tumor size reduction will be evaluated to determine an optimal treatment prescription.

Although other approaches, such as radiation under conditions of hyperbaric oxygen, are being used to combat the radioresistance of tumor cells, californium-252 should prove to be a good substitute for radium as a source for interstitial and intracavitary therapy.

The californium being used at Anderson Hospital is on scientific loan from the United States Atomic Energy Commission, Savannah River Operations Office. MDAH was chosen by the Commission for initial biomedical research and is the only hospital that has the californium source in a usable medical form. However, efforts are being made by the A.E.C. to expand the program to other institutions.

of thyroid cancer in patients with other primary malignant tumors was not significantly different from the distribution in the over-all series of 687 patients. The second primary was diagnosed prior to the diagnosis of thyroid cancer in 52 patients, and simultaneously with or after the diagnosis of thyroid cancer in 65 patients. No etiological factors could be established.