

Modern Educational Methods Used At UT At Houston Dental Branch

This article is the second in a series on The University of Texas at Houston.

The most current concepts in educational theory are put into practice at The University of Texas Dental Branch, located in the Texas Medical Center adjacent to MDAH.

The Dental Branch utilizes a variety of teaching and instructional aids which are under the direction of the Office of Instructional Development Services; these are designed to benefit both professors and students. The prime purpose of many of the innovations is to help the student take more responsibility for his own learning.

The Dental Branch, which was originally the Texas Dental College (founded 1905), consists of four schools: the School of Dentistry (entering class—100), the School of Dental Hygiene (entering class—38), the Postgraduate School of Dentistry, and the Dental Science Institute. The first two undertake production of capable, licensed dentists and dental hygienists. The Postgraduate School offers programs leading to a Master's degree and training in specialties such as orthodontics, oral surgery, and periodontics. The Dental Science Institute has a staff of scientists who research the causes and prevention of oral disease. This group also participates in the Graduate School of Biomedical Sciences teaching program.

Topic Teaching

To achieve its educational philosophy of "educating the dental student in an optimal environment for the development of judgment-making and appropriate skills, and their application to the prevention, diagnosis, and treatment of oral disease," the Dental Branch has chosen topic teaching as its basic instructional instrument. Topic teaching is designed to help the dental student develop

the ability to synthesize information, a skill which will substantially aid him in making diagnoses. The use of teaching topics to integrate departmental courses allows an interdisciplinary presentation of subject matter. For example, a unit concerned with salivation is presented to first-year dental students in the human biology topic, with contributions from the departments of gross anatomy, pharmacology, physiology, and biochemistry.

The nine topics currently used are cell and tissue, human biology, developmental biology, applied biology and diagnosis, prevention, medical and surgical therapy, restorative therapy, clinic practice (didactic), and clinic practice (clinical). The actual presentation of these topics is continually being reviewed by the topic committees, the coordinating committee, the curriculum committee, and the dean.

Another instructional innovation is the introduction of clinic work into the first two years of the curriculum. Before 1966, didactic and laboratory work occupied 100% of the first- and second-year students' time. Now, the first-year student spends 11% of his time in the clinic, the second-year student, 22%. For third- and fourth-year students, the figures are 62 and 78%, respectively. Basic science and other supporting courses are continued throughout all four years of study.

Public School Program

Fourth-year students in the prevention teaching topic externship present material on proper oral hygiene to 45,000-60,000 grade school children in every school of the Houston Independent School District. Films and slides are used to explain how caries occur and how their occurrence can be controlled or prevented. This program not only supplements the city school dental health

program but also gives the dental students an opportunity for public contact.

Instructional Aids

Among the instructional aids for Dental Branch students are over 100 videotapes and films, self-study manuals, student guides to the library, and other individual instructional packages. The student's performance in the clinic is videotaped for his review.

On the third floor of the Dental Branch building are 25 unit laboratories for first-year students. Each unit serves the complete laboratory needs of 4 persons. Final construction of specially designed, three-dimensional television sets is underway, and one for every student will soon be installed in the labs. The sets feature two-way microphones, a screen which will project a three-dimensional image, plug-ins for computers, and other instrumentation. These sets will be used for instruction and two-way communication between professor and student.

Assistance to Faculty

The faculty are supported by Instructional Development Services in systematically planning their methods of instruction. Special faculty study areas are designed to facilitate lecture and slide preparation. Technical writers, TV-film technicians, medical illustrationists, and printers help to produce desired manuals, films, exhibits, brochures, patient hand-outs, and instructional aids.

Of special interest to the faculty are the three uniquely designed classrooms. Among conveniences included are front and rear film projectors, television, dual and single screens, and a collection of movable chalk, tack, and hook-and-loop boards. All equipment and boards, plus lights, tape recorders, lectern height, and the public address system are controllable from the lectern itself.

CLINICAL ABSTRACTS

The editors of the *News Letter* hope better to 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*.

Current Concepts in Cancer: R. L. Clark, guest editor.

Dr. R. Lee Clark, President of MDAH, was recently guest editor of a special issue of *Postgraduate Medicine* called "Current Concepts in Cancer." The issue hoped to bring to the attention of the practicing physician some important recent developments in the care of cancer patients.

In the Introduction, Dr. Clark stressed the need for special training of the physician and therapist who treat cancer patients. He also emphasized the steady progress that has been made in improving care of the cancer patient.

Approximately half of the articles in the journal were written by MDAH staff members, covering subjects from genetics to rehabilitation.

In his article "Genetics and Cancer," Dr. Alfred G. Knudson discusses the role of inheritance and chromosomal abnormalities (including those caused by environmental agents) in genetic disorders. "Present Status of the Combination of Surgery and Irradiation" is the subject of Dr. Gilbert H. Fletcher's article. Dr. W. W. Sutow examines present attitudes toward chemotherapy of childhood cancer and evaluates actual and potential contributions of chemotherapy to curability of some forms of cancer in children.

The problems of cervical lymph node biopsy before location of the primary cancer and the method of head and neck examination for possible cancer are outlined by Dr. Richard H. Jesse. Dr. Clifton Mountain discusses surgical indications, factors affecting prognosis, diagnosis and evaluation, and results in "Surgical Management of Pulmonary Metastases."

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The technique of "Control of Pain in the Cancer Patient by Subarachnoid Alcohol Block," by Dr. William S. Derrick, and problems in the "Supportive Care of the Cancer Patient," by Dr. Gerald P. Bodey, are the subjects of two additional articles. The final paper in the issue, by Dr. John Healey, discusses cancer patient rehabilitation. The title is "Beyond Definitive Treatment; A New Emphasis in Cancer Care."

Vocal Cord Cancer With Anterior Commissure Extension: Choice of Treatment: Richard H. Jesse, Robert D. Lindberg, and Jean-Claude Horiot.

The authors compared the results of radiation therapy of vocal cord cancer patients with (106) and without (297) anterior commissure involvement in an effort to determine which patients should be offered radiotherapy and which primary surgical therapy.

Of the 106 patients with anterior commissure involvement, 91 were selected for radiation therapy and 15 for primary surgical therapy. There were 22 treatment failures (recurrence at any time during the unlimited follow-up period) among those receiving radiation therapy. Subsequent surgical therapy produced treatment success in all but five (8.8%) of the patients.

The recurrence rate was 8.4% in 36 patients who received radiation therapy for cancer limited to one or both cords and without subglottic extension at the anterior commissure. This compares to 12.5% for a similar group of patients without anterior commissure involvement. Neither the patient's chance of radiation cure nor his chance of having a good voice is lessened by this type of anterior commissure involvement.

The recurrence rate in 44 patients with lesions extending off the cord at the commissure with and without normal cord mobility was 25% compared to 20% for a similar group without commissure involvement. The authors recommend radiation instead of primary surgical therapy for patients with this clinical situation, since 75% will have a normal voice and subsequent surgical treatment can salvage the other 25%.

Eight of 11 patients with visible cancerous extensions off the vocal cord and evidence of subglottic extension at the anterior commissure had radiation failure. For this type of patient, careful consideration should be given to primary surgical rather than radiation therapy. All the 15 surgically treated patients had total laryngectomies; in 13 (87%), treatment was ultimately successful.

From these data, it appears that patients whose cancer is clinically limited to the vocal cord and the anterior commissure, with or without change in the mobility of the cord, should receive primary radiation therapy. Patients showing clinical extension of the cancer off the vocal cord and anterior commissure involvement usually require surgical procedures either with or without radiation.

Malignant Melanoma: The Problem of the Patient with an Unknown Site of Primary Origin: Gary H. Baab and Charles M. McBride.

An analysis was made of 98 patients (4% of total study) with malignant melanoma of an unknown primary site of origin. The sex ratio, age incidence, family history, and survival rates are consistent with the theory that the primary cutaneous lesion regressed spontaneously before later discovery of metastatic malignant melanoma.

The patients with nodal disease only or with isolated visceral metastasis seem to have a better than expected survival rate when treated with aggressive surgical procedures. These procedures are recommended for all such patients whether the primary site of disease is known or not.

Plans Set for 1972 Symposium

"Molecular Studies in Viral Neoplasia" will be the general topic of the 25th Annual Symposium on Fundamental Cancer Research set for March 7-10, 1972. Chairman for the Symposium is Dr. James M. Bowen, chief of the sec. of molecular virology. According to the tentative program, the six half-day sessions will concentrate on viral oncogenesis in animals and man, tumor virus genetics, the interaction of tumor viruses with their host cells, biochemical events in tumor virus replication, enzymes of RNA tumor viruses, and the search for human tumor viruses.

Symposium Committee members include: Dr. Allan Ansevin, sec. of biophysics; Dr. Ralph Arlinghaus, sec. of environmental biology; Dr. Leon Dmochowski, dept. of virology; Dr. Evan Hersh, dept. of developmental therapeutics; Dr. Colleen Moore, dept. of biochemistry; Dr. Max Schlamowitz, sec. of immunochemistry and immunology; Dr. Joseph Sinkovics, sec. of clinical tumor virology and immunology; and Dr. Joan Suit, sec. of medical genetics.

Blood Bank a Vital Resource for MDAH Patients

The Blood Bank at MDAH serves the hospital patients by securing blood from donors, performing the necessary laboratory tests and cross-matching procedures, and supplying blood and blood components to needy patients. Blood donations are collected at the Blood Bank donor area on the first floor of the Anderson Hospital and transferred to the Blood Bank laboratories for processing and storage. In March 1971, more than 2,000 units of blood or blood components were given to Anderson patients. Less than half of these units were whole blood which was administered in the operating room (300 units), to patients on the floors (430 units), and to outpatients (118 units).

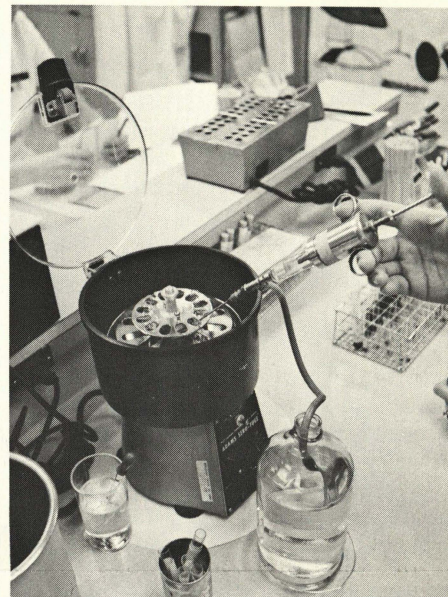
The major source of supply for the blood bank is the friends and relatives of patients, and every effort is made to obtain blood before it is needed. If blood is not donated for a particular patient, it must be borrowed from blood which has been deposited in the Bank for other patients. The receiving patient is then asked to have the blood replaced if at all possible. The blood replaced does not have to be of the same type as that used. The patient will receive full credit for each unit of blood which is donated at the MDAH Blood Bank for him.

Often, donations of blood from outside the city and state are credited to MDAH patients. In this case, blood is usually drawn on a 2 for 1 basis by the hospital or clinic involved.

Persons between 21 and 65 years of age who conform to MDAH standards may give whole blood every eight weeks. The Blood Bank is fully accredited by the American Association of Blood Banks and follows the organization's regulations on donor screening, laboratory procedures, issuing and storage of blood, etc.

Blood platelets may be donated as often as twice a week. In this process, which takes about 90 minutes, a unit of blood is drawn, platelets are removed by plasmapheresis, and the red cells are returned to the donor. Platelets can be stored for only 48 hours and are in great demand for treatment of patients who are receiving chemotherapy for leukemia and other diseases. A constant recruitment program, therefore, is necessary to meet the demand for both platelets and whole blood.

Volunteers who have given platelets one hundred times or more have organized and support the Century Club which meets once a month at MDAH to encourage blood donations.



Blood Bank technician washes cells during the blood cross-matching procedure.

Cancer Congress Final Analysis

A grand total of 6,018 persons are reported by Secretary General Murray M. Copeland to have registered for the 10th International Cancer Congress. This total includes panel speakers, Preliminary Special Sessions of the Congress (PSSC) registrants, Postgraduate Courses registrants, member and associate member registrants, press, commercial exhibitors, volunteers, and other persons.

Main Congress panel speakers numbered 272 and Postgraduate Courses speakers, 80. There were 105 speakers at the four PSSC's, an innovation at this Congress that proved quite successful. Each session presented a logical and integrated coverage of the subject matter assigned, and the general response to the scientific content presented was overwhelmingly favorable, according to Dr. Charles Heidelberger, Chairman of the Scientific Program. The large number (1,342) of proffered papers accepted necessitated as many as 33 simultaneous sessions on three afternoons of the Main Congress.

Most interest by Congress participants was shown in the clinically oriented programs: 1,000 persons (517 from the U.S.A. and 483 from foreign countries) attended PSSC No. 4 (*Trends in the Diagnosis and Management of Cancer*), and 1,191 (676 Americans and 515 foreigners) registered for the Postgraduate Courses in clinical oncology.



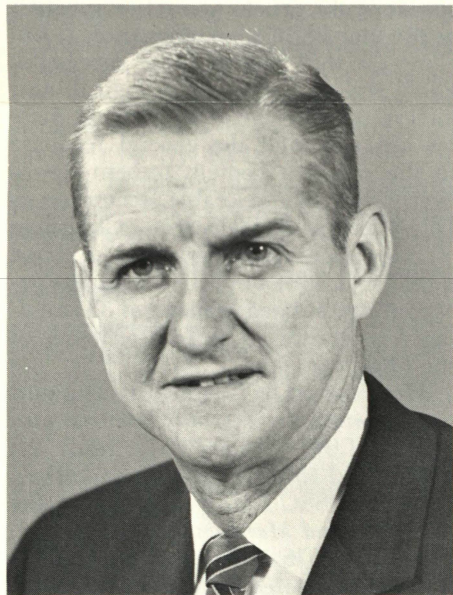
Major W. S. Gustavson arrives bringing blood for MDAH. This institution and other state hospitals are sharing the results of a very successful campus volunteer blood drive sponsored by the Texas Hemophilia Association. He is greeted by Shirley Qualia (left), Assistant Chief Medical Technician, and Carlota Nichols, Supervisor of the Blood Bank.

Healy Urges Rehabilitation of Mastectomy Patients

Many physical complications resulting from treatment for breast cancer, such as shoulder dysfunction, brachial plexus injury, radiation fibrosis, and lymphedema, can be alleviated by proper physical therapy, according to Dr. John E. Healey, head of the dept. of rehabilitation medicine at MDAH. This opinion was given by Dr. Healey as part of his paper, "The Role of Rehabilitation Medicine in the Care of the Breast Cancer Patient," presented in Los Angeles.

Stressing concern for the "quality" of treatment success, Dr. Healey stated that too few practicing physicians have received training in the care of patients with chronic diseases. Instead, patient care has largely been relegated to paramedical personnel. Another outcome of physicians' lack of training is the growth of patient-to-patient care through laryngectomy clubs, ostomy clubs, and the "reach to recovery" programs for breast cancer patients.

The Reach to Recovery program was begun by [REDACTED], a mastectomy patient who saw the need for a more compassionate, more complete evaluation of the woman who has been deprived of an important part of her body. As [REDACTED] designed it, the program involves hospital visits, at the request of the attending physician, of trained volunteers to assist patients in their psychological and cosmetic needs and to give instructions in physical exercises. The volunteers, all of whom have



Dr. John E. Healey, Jr.

had mastectomies, explain the various breast forms, give suggestions for clothing comfort and adjustment, recommend cosmetic devices for disguising discoloration and scars, and demonstrate exercises. The patient may discuss personal problems if she desires.

While he believes that most patients would benefit from such visits, Dr. Healey cautions physicians carefully to evaluate the possible dangers associated with postoperative exercise. The lay volunteer has no knowledge of important factors such as tension on the suture line, adherence of the skin flap, presence of a drainage tube, stage of healing, etc.

At MDAH, the dept. of rehabilitation medicine makes a complete examination of the patient after operation. In addition to the physical factors already mentioned, a close evaluation is made of the patient's family situation, individual motivation, psychological response to operation, vocation, and community position. An individualized exercise program is then prescribed.

A second major aspect of recovery involves continued therapy after the patient returns home. Dr. Healey estimates that about 22,000 women per year develop some degree of shoulder dysfunction following treatment for their cancer. About 26,000 will have lymphedema, and in over half of these, it will be moderate to severe. In Dr. Healey's experience, older women with heavy family responsibilities and limited social activity accept arm enlargement as long as shoulder function is adequate. Younger, more socially active women are greatly concerned about lymphedema even if enlargement is minimal.

In an effort to combat this accepted complication of cancer therapy, Dr. Healey tested the effectiveness of early postoperative shoulder exercises. Of the group that received no formal exercise instruction, 54.9% developed lymphedema. The second group performed motion exercises under the supervision of a trained physiotherapist; lymphedema developed in 33.3% of this group. A third group received intensive postoperative pneumomassage in addition to the supervised therapy, and 33.3% had this complication. Dr. Healey believes that these results show the value of early physical therapy in the return to normal shoulder movement and the preventive management of lymphedema.

Copeland Receives Distinguished Service Award

Dr. Murray M. Copeland, an internationally known cancer surgeon, has been awarded the Distinguished Service Award of the Southeastern Surgical Congress. The Surgical Congress cited Dr. Copeland for outstanding service to the organization through programs he initiated as president in 1959. Only four such awards have been presented at the organization's 39 annual meetings. The topic of his distinguished service address was "The Art of Medicine: Its Heritage and Future Frontiers."

Currently, Dr. Copeland is a professor of surgery (oncology) at MDAH and vice president of the University Cancer Foundation. A native of McDonough, Georgia, he received his M.D. degree from Johns Hopkins University School of Medicine in 1927. After completing extensive surgical training at the Mayo Clinic, Memorial Hospital for Cancer and Allied Diseases, and the Union Memorial Hospital in Baltimore, he joined the faculties of Johns Hopkins and the University of Maryland medical schools.

After serving in World War II, Dr. Copeland was appointed professor and chairman of the department of oncology at Georgetown University Medical School and later was named professor emeritus of oncology. He remained in this post until 1960 when he joined MDAH as assoc. director (education). In 1967, Dr. Copeland was elected secretary general of the Tenth International Cancer Congress of the International Union Against Cancer, held in Houston in May 1970. Under his direction, this important meeting drew more than 6,000 physicians and scientists from 72 countries. He currently serves the Union as vice president of the North American division.

In the more than 35 professional organizations in which Dr. Copeland actively participates, he has held many offices: national president of the American Cancer Society (now a post officer-director), vice president of the James Ewing Society, and chairman of the Commission on Cancer of the American College of Surgeons. He has held various committee posts with the American College of Radiology, the National Academy of Sciences, the National Cancer Institute, and the U. S. Public Health Service.