A REPORT TO THE PHYSICIANS OF TEXAS

newsletter

THE UNIVERSITY OF TEXAS SYSTEM CANCER CENTER

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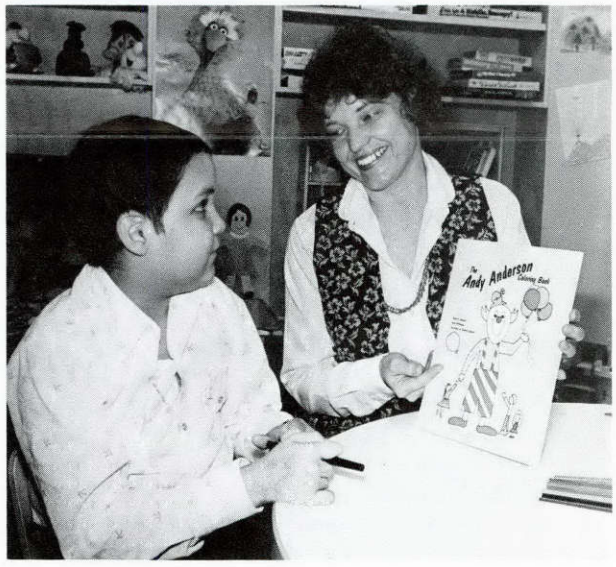
New Books Help Pediatric Patients and Their Parents Cope with Cancer

Children suffering from cancer are confronted daily with a battery of concerns: changes in their bodies; changing relationships with family and friends; an unfamiliar medical environment. Their parents also must deal with those changes—as well as with their own anxieties and fears—and, of course, find a way to help their children cope.

To help, UT MDAH has developed for the Department of Pediatrics *A Handbook for Parents of Pediatric Patients.* Another book, *The Andy Anderson Coloring Book,* is designed for the children.

Helping Parents Cope

The parents' handbook was the brainchild of two hospital volunteers from the Junior League of Houston, Inc., who worked with the staff of the Patient Education Program and the Pediatrics staff in reviewing and selecting literature for the Pediatric Learning Resource Center (PLRC), a reading room in the Pediatric Clinic where parents can obtain reference materials on their child's disease. In their search for appropriate educational materials, the volunteers discovered that there was no step-by-step description of the hospital experience: entering the hospital, diagnostic testing, research protocol, and treatment. *A Handbook for Parents of Pediatric Patients* now fills that need. It introduces parents to the Pediatric Department and serves as a resource book to answer many of the questions parents have about their child's cancer.



Donna Copeland, PhD, director of mental health, prepares to begin a coloring session with a pediatric patient using the new *Andy Anderson Coloring Book.*

A multidisciplinary committee that included nurses, a dietitian, social worker, child-life worker (professional play therapist), physician, health educator, and hospital volunteer

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Eight Patients Receiving Synthetic Interferon

UT MDAH has initiated a limited clinical research study using synthetic interferon to treat patients with advanced cancer. The four-month study is a Phase I investigation designed to determine the side-effects and proper dosage of the synthetic substance, not its therapeutic effect.

The eight patients participating in the study are the first persons ever treated with interferon produced by recombinant DNA technology. Their experiences with the synthetic substance will be evaluated carefully before Phase II testing for therapeutic efficacy is considered.

Jordan U. Gutterman, MD, professor of medicine in the Department of Developmental Therapeutics and the physician who has directed UT MDAH's clinical research with naturally occurring interferon, is circumspect in his assessment of the progress being made with interferon.

"This is only the first phase of the synthetic interferon testing, and we are trying at this stage to understand the pharmacology and immunological effects of the substance. With synthetic interferon, as with interferon produced by the body, we must remain cautious about its use in treating cancer."

Despite the caution being expressed about interferon's therapeutic potential, the UT MDAH Phase I investigation is significant in that the results obtained concerning dosage and side-effects of the genetically engineered interferon will influence future testing.

Naturally occurring interferon is produced by the body in such minute amounts and the cost of each dose is so high that obtaining adequate quantities for clinical research has been difficult. If the results with synthetic interferon are good, researchers will have made an important step toward solving the problem of cost and supply. However, evaluation of Phase I results is still several months away, and Dr Gutterman cautions that a great deal of research and time will be required before synthetic interferon's potential in cancer treatment is fully understood.

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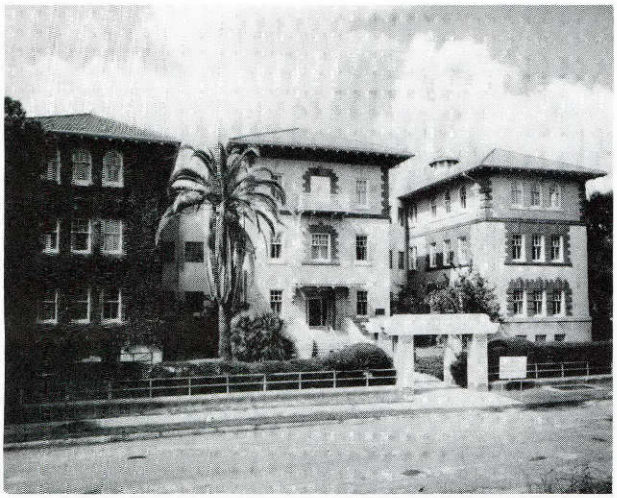

At UT MDAH's Rehabilitation Center (left), patients receive physical and restorative services and psychological counseling in a homelike atmosphere in preparation for their return to the mainstream of society. Two buses equipped with wheelchair lifts began transporting patients to and from the Center in September 1980 (right).

Center Helps Recovering Cancer Patients

"Make the patient feel at home."

That's the motto for the staff at UT MDAH's Rehabilitation Center. And everyone—from nurses to physicians to social workers—strives to do just that.

Opened in October 1972, the Rehabilitation Center was the first facility in the world specifically designed for the rehabilitation of the cancer patient—that is, to meet the physical, nutritional, psychological, social, and vocational counseling needs of those recovering from cancer. The opening of the Center announced to the world that UT MDAH believed that, in addition to improvements in therapy, advances in research, and education of the lay and professional publics, the rehabilitation of a cancer patient is a vital dimension in cancer management.

Since those early days, the staff of the Rehabilitation Center has doubled to 87 in 1981. The Center's services have improved and facilities have been expanded as more is learned about rehabilitating cancer patients.

The Rehabilitation Center, located six miles from the Texas Medical Center, has the facilities to care for patients with all types of cancers. Patients are referred to the Center by their UT MDAH physician and are mostly outpatients or limited-term resident patients who are ambulatory or wheelchair mobile. Those outpatients who cannot afford to stay in a motel or to pay for housing while undergoing treatment at the clinics in the hospital are encouraged to stay at the Rehabilitation Center with no charge.

The services of the Rehabilitation Center are divided into two categories: physical and restorative services and life adjustment services. The physical and restorative services include physical, speech, and occupational therapy, nursing supervision, nutritional guidance, and dental and maxillofacial services for prosthetic therapy for all UT MDAH patients who have undergone head and neck surgery. The life adjustment services include psychological and vocational counseling, chaplaincy services, recreational therapy, and nursing services that offer health counseling and teach patients to care for their own physical needs.

Formerly the Sunset Hospital, the Rehabilitation Center was given to UT MDAH in 1968 by the Southern Pacific Railway Company. The interior was renovated to include 110 beds, therapy facilities, and a dining hall. Renovation began in June 1971; 17 months later the first patient was admitted.

The interior of the Rehabilitation Center is designed to reflect a homelike appearance, to help the patients adapt to an environment that is most like what they will encounter when they leave the Center and return to their families and communities. To offset the institutional feeling of the Center, each patient room has a private bath, and no room is shaped the same.

The major departments for rehabilitation such as occupational, recreational, and physical therapy (including a gymnasium and hydrotherapy area) are located on the ground floor of the four-story building. The dining room where both patients and staff eat is located on the second floor. A 14-bed nursing unit on the second floor that was designed for patients in the early

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Routine Machine Solves the Problem of Transfusions for Jehovah's Witnesses

By employing a machine that has been in everyday use for quite some time at the UT MDAH blood bank, Benjamin Lichtiger, MD, PhD, chief of the blood bank section, has solved the problem of blood transfusion during surgery for Jehovah's Witnesses patients. Jehovah's Witnesses patients, because of their interpretation of certain passages of the Old Testament (Leviticus 17: 10, 11, and 14; Deuteronomy 12: 23), have consistently refused blood transfusions. Quite often they have died during or after surgery from loss of blood or have succumbed to their disease because of the impracticality of performing particular surgical procedures without the use of blood transfusion. When surgeons took it upon themselves to administer blood against the patient's will or while the patient was unconscious, it was deeply resented and occasionally resulted in a lawsuit.

When Dr Lichtiger was told that a female patient of that faith was in serious condition but that surgery would be dangerous without a transfusion, he conceived the idea of using the Haemonetics Model 30 Blood Cell Separator. Four of these machines were in daily use in the blood bank for the collection of platelets and white blood cells from donors.

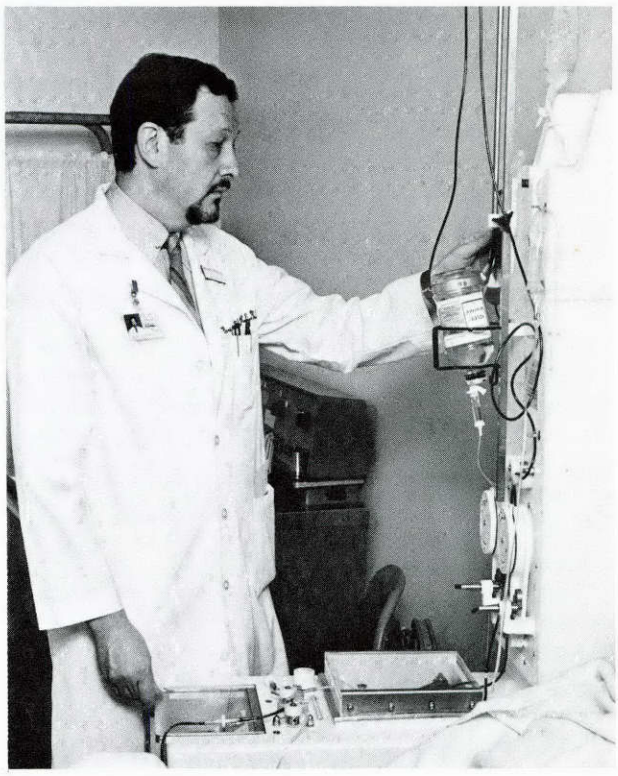
The important aspect of this machine is that blood can be removed from the body at one rate and simultaneously returned to the body at a different rate. Thus, a reservoir of blood outside the body can be created over time, and this blood can be drawn upon when needed. Consistent with the beliefs of the Jehovah's Witnesses, the machine keeps the blood in constant contact with the body; the reservoir in the machine is part of a closed loop.

Since the special use for this machine was first envisioned, four patients have undergone major surgery for tumor removal at UT MDAH with positive results. Two of the four patients were those of the surgeon, Jan Seski, MD. According to Dr Lichtiger, Jacques F. Dupuis, MD, the anesthesiologist during these operations, was instrumental in the technique's success.

"We never could have been able to develop this technique without the expert advice and assistance of Dr Jacques Dupuis," Dr Lichtiger said.

Asked to outline his strategy for using the Haemonetics 30, Dr Dupuis said: "Depending on the condition of the patient, a reservoir of blood can be built up from a draw line from the jugular or other convenient vessel immediately prior to surgery; the blood is replaced in the patient's body with Ringer's lactate solution. Thus, fewer red cells are cirulating in the body. The patient is kept cold to decrease oxygen use and is oxygenated maximally. Blood pressure is controlled to a mean pressure of about 55 when indicated. PCO_2 is kept constant within normal limits. After adequate surgical hemostasis or as blood is needed, the rate of blood return to the body can be increased. After surgery, the patient remains intubated and ventilated until it is determined there are no difficulties."

Both Dr Dupuis and Dr Lichtiger stress that this use of the machine can also benefit patients with rare blood types, for whom blood might not be readily available. The technique can also be used in situations in which posttransfusion hepatitis is a danger.



In the UT MDAH blood bank, Benjamin Lichtiger, MD, PhD, adjusts the Haemonetics Model 30 Blood Cell Separator, the routine laboratory machine he has adapted to make surgery safer for Jehovah's Witnesses patients.

Even though this technique has immediate and beneficial results for Jehovah's Witnesses and other patients, Dr Lichtiger believes that it has not been used to its fullest potential. With time and further research, other far-reaching applications will likely be found.

Noteworthy

T. C. Hsu, PhD, professor of biology and chief of the section of cell biology, has been selected as the 1981 recipient of the Samuel Roberts Noble Foundation Research Recognition Award. The award was established in 1976 by the Samuel Roberts Noble Foundation, a basic research institution dedicated to a wide range of scientific endeavors, including cell biology, immunology, and cancer research. Dr Hsu was chosen to receive the award because of his many contributions to cytogenetics. The award will be presented at a meeting of the Southwest Section of the American Association of Cancer Research to be held in Houston in November.

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Treatment for Multiple Myeloma Reviewed

Raymond Alexanian, MD*

Multiple myeloma is a clonal malignancy of plasma cells that is usually manifested as a widespread tumor resulting in bone destruction, anemia, recurrent infection, hypercalcemia, and renal failure. Simple electrophoretic techniques can detect the characteristic immunoglobulin produced by the disease in about 96% of patients. In less than 10% of patients, a localized plasmacytoma occurs or myeloma in an indolent phase in an asymptomatic person is discovered.

All patients experiencing secondary clinical complications or an unequivocally rising protein level require chemotherapy from the time of diagnosis. Before chemotherapy is initiated, however, optimal control of overt infection and other reversible medical complications is desirable. Treatment should not be delayed because of hypercalcemia, since the therapeutic regimen will always include corticosteroids. For patients with bone pain, at least one course of chemotherapy is useful in reducing the generalized disease before local radiotherapy is undertaken, unless radiotherapy is required for spinal cord compression or a long bone fracture.

Based on a report by the Southwest Oncology Group in 1969, the standard treatment for multiple myeloma has been with intermittent courses of melphalan and prednisone. This melphalan-prednisone regimen, given at six-week intervals, was found to reduce tumor mass by 75% in approximately 45% of patients. Median survival time for all patients was about two years.

The search for more effective drug combinations and regimens has continued. In the last 10 years the effects of different alkylating agents, routes of administration, schedules of drug dose, and treatment intervals have been evaluated, and the efficacy of vincristine and Adriamycin has been examined. Of the numerous drug combinations evaluated, regimens containing an alkylating agent with vincristine, Adriamycin, and prednisone have improved the response rate to approximately 65% and the median survival time to 30 months. Response rates appear to be 10 to 20% higher in regimens that include vincristine and Adriamycin than in those without these drugs. An intermittent course of vincristine (1 mg), Adriamycin (25 mg/m^2), cyclophosphamide (100 mg/m^2 per day for four days), and prednisone (60 mg/m^2 per day for four days) is considered to be the best regimen available for previously untreated patients. Repeated courses should be continued in escalating doses at three-week intervals to produce transient granulocytopenia between each course.

Combinations of various alkylating agents have been evaluated but were found to give no better results than did regimens containing only one alkylating agent. In fact, Leukemia Group B reported that although combinations of alkylating agents appear to prolong survival in poor risk patients, they may be harmful to patients with fewer complications.

Recent improvements in survival for myeloma patients are not solely attributable to improved chemotherapy programs. Other factors contributing to improved survival times are earlier diagnosis, lower frequency of renal failure, better control of infections, and the ability to obtain second remissions with drugs such as Adriamycin. Different definitions of risk status, response to treatment, and drug regimens also affect reported response rates and must be considered. The size of the tumor mass before treatment and the presence of renal failure, hypoalbuminuria, or an IgA myeloma protein are important prognostic factors to be considered in the interpretation of any treatment, since these factors influence survival. Prognosis is dependent, too, on the maximum degree of tumor reduction. Patients with a large tumor mass and no reduction in myeloma protein have a median survival time of about one year, whereas for those with a low tumor mass and whose abnormal protein disappears, it is about four years.

Until recently, no information was available on the best way to maintain remission. Southwest Oncology Group studies have shown that the median survival time for responders given no treatment after 12 months of initial chemotherapy was similar to that obtained in patients who were maintained indefinitely on melphalan-prednisone or BCNU (1,3 bis 2-chlorethyl-nitrosourea)-prednisone. This finding may be explained by the high frequency (about 70%) of second remissions that occur in patients who relapse while on no treatment. In these cases, even though the degree of tumor reduction was usually less and the duration of remission shorter, survival time was the same. Therefore, the author recommends that patients in whom the myeloma proteins disappear with therapy should not be given maintenance therapy, whereas patients with persistent abnormal serum protein should be given regular maintenance therapy with a vincristine-alkylating agent-steroid combination.

Despite these maintenance regimens, all multiple myeloma patients relapse eventually. The best indicator of relapse is a steadily rising level of abnormal protein. Occasionally, patients relapse with an increased Bence Jones protein excretion in relation to their tumor mass or with an increase in bone lesions without a rise in serum protein, suggesting that some tumors may become more primitive during relapse, with a decrease in globulin production per cell. Therefore, Bence Jones protein levels and the size and number of lytic bone lesions should be evaluated regularly during remission. Median survival time from the first return of the myeloma protein is about nine months. Although changes in plasma cell morphology have been less useful as indicators of disease progression, recent studies suggest that cytophotometry studies of bone marrow may improve relapse detection by revealing increased abnormal plasma cells with a high DNA and RNA content.

Little is known about the most effective treatment for relapsing patients. Southwest Oncology Group studies have detected no consistent responses to BCNU, cyclophosphamide, hexamethylmelamine, or several other new agents given to patients resistant to melphalan-prednisone. Adriamycin, alone or in combination with vincristine, prednisone, and BCNU, achieved greater than a 50% reduction in tumor mass in 25% of relapsing patients and prolonged survival by about nine months. In Sweden, human leukocyte interferon

was first shown to have some therapeutic activity against multiple myeloma. In studies at UT MDAH, interferon reduced tumor mass by 50% or more in 25% of previously treated or relapsing patients. Hemibody irradiation or total body irradiation with marrow transplantation may prove to be valuable in maintaining remission, but, as yet, little is known about the effectiveness of these treatments.

In unresponsive patients, some form of standard chemotherapy should be continued indefinitely to inhibit tumor growth. However, about one fifth of patients whose calculated residual tumor mass is small enough that disease morbidity is unlikely can be followed without treatment until there is evidence of disease progression. As with many patients who achieve remission, there is no obvious advantage to indefinite chemotherapy in all patients.

The therapeutic approach to treating patients with multiple myeloma has become more complex, more quantitative, and yet more rational. The clinician must determine whether any chemotherapy is indicated at all, the specific drug combination to be used, the duration of treatment, and the indications for Adriamycin and other combinations. Serial electrophoretic studies must be used to quantitate changes in tumor mass. Only then can the different available strategies be applied most effectively for the individual patient.

*Department of Medicine, UT MDAH. (Physicians requiring further information should contact Dr Alexanian. This article is a summary of a paper that first appeared in *Acta Haematologica* 63:237–240, 1980.—ED)

Rehabilitation Center . . . .

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phase of their rehabilitation who may not be totally self-sufficient was opened in September 1978. The third floor is designed for patients who are ambulatory and can care for themselves. The 43 beds on this floor were the first to be occupied when the Center opened. The fourth floor has 34 beds for ambulatory patients and contains the Maxillofacial Restorative Center.

Albert E. Gunn, MB, BCh, LLB, was appointed Medical Director of the Rehabilitation Center in 1975, when some of the Center's facilities were not in use. Under the direction of Dr Gunn, the Center has become fully operational with the opening of the 14-bed unit on the second floor and the achievement of three other long-term goals.

The first of these goals was the opening in January 1978 of the pediatric domiciliary cottage for pediatric outpatients and their families who must remain in Houston for an extended time. Each of the seven rooms in the cottage has two beds and a private bathroom. Only one parent is allowed to stay with the child undergoing treatment, and he or she is responsible for the child's hygiene, nutrition, transportation, medication, treatments prescribed by the doctor, and recreation. A playground near the cottage provides for the outdoor activity a pediatric cancer patient may need.

In October 1979, two family living units for maxillofacial patients and their families were opened. The families of maxillofacial patients are vital in helping the prosthodontists prepare a prosthesis that restores the patient to his or her former appearance. By living in the unit, a family member is available to help with the fitting of the prosthesis, as well as to learn how to adjust to the special needs, abilities, and disabilities of the patient.

The third long-term goal was the upgrading of the transportation system between the Rehabilitation Center and the hospital. Two large air-conditioned buses equipped with wheelchair lifts began transporting patients to UT MDAH and back to the Rehabilitation Center in September 1980. The buses travel the round-trip route nine times a day.

Looking ahead, Dr Gunn said that he would like more outpatients who need physical therapy to take advantage of the facilities and services offered at the Center, and he would like to see the development of third-party payment mechanisms for the patients there.

In addition to providing services that will help the recovering cancer patient return to the mainstream of society, the Center is involved in educating students and the public and in research programs. Dr Gunn's additional responsibility as assistant dean of admissions at The University of Texas Medical School at Houston has strengthened the educational programs provided by UT MDAH and the Medical School and the educational services that are offered by the Rehabilitation Center.

Both undergraduate- and graduate-level students involved in the various health disciplines come to the Rehabilitation Center as part of their educational program. The Center has been used by nutrition trainees, social workers, psychology and physical therapy students, maxillofacial technicians, and dentists training to be prosthodontists. The Maxillofacial service at UT MDAH assigns residents full time to the Rehabilitation Center as part of their training, and beginning in December 1978, second-year UT medical students for the first time interviewed and examined patients at the Rehabilitation Center for a required course.

The extended life expectancy of many cancer patients has generated the need for more research in the areas of nutrition, physical and occupational therapy, and psychological and psychosocial readjustment. The Center has been involved in studies related to pain control and nutrition assessment and, in maxillofacial research, has tested new materials and methods of fitting prostheses.

"There isn't another center for the cancer patient that matches the scope of the Rehabilitation Center in terms of size, facilities, and diversity of activities," Dr Gunn said. "Our multidisciplinary staff does a terrific job in resolving the fears of our patients and in providing them with the proper medical care and emotional support needed. They really do make the patient feel at home."

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Smith Delivers 18th Mike Hogg Lecture

Walter J. Pagel*

New techniques in molecular biology can solve old problems. That was the message of Nobel Prize winner Hamilton O. Smith, MD, who delivered the 18th Mike Hogg Lecture, sponsored by UT MDAH.

Dr Smith's lecture traced his exploration, over many years, of the recognition mechanisms at work within bacteria during transformation. (Transformation is one process by which bacteria are able to gain resistance to other bacteria, as well as change other aspects of their genetic code.) Years ago, Dr Smith determined that *Hemophilus influenzae* was able to take up only homologous genomic material from other *Hemophilus* bacteria during transformation. Genomic material from other genera was not taken up at all. In addition, it had been determined that the cell membrane is the site where recognition of the source of the genomic material takes place. However, given the tools then available, Dr Smith and his colleagues were unable to determine which of several possible recognition mechanisms were at work or what the recognition site might look like.

In more recent years, however, recombinant DNA techniques had become sufficiently advanced that Dr Smith and his colleagues were again able to study the multifaceted problem. By DNA cloning, he and his co-workers determined that recognition involved a particular sequence of nucleic acids in the DNA. Digestion experiments led them to identify the probable sequence, an 11-base pair group. To prove this sequence was indeed the recognition sequence, they constructed the sequence artificially and, with restriction enzymes, inserted it into a plasmid. *Hemophilus* rapidly took up all the DNA. As further evidence, the scientists found thousands of copies of the sequence in *Hemophilus* genomes. In contrast, the *Escherichia coli* genome, for example, contained fewer than 10.

Dr Smith is now attempting to isolate the protein on the cell membrane that recognizes the 11-base-pair sequence. So far he has been able to isolate a series of proteins involved in recognition, but he has not determined which particular one is directly responsible for attachment of the 11-base pairs to the membrane.

Dr Smith and two other scientists were most responsible for the revolution in molecular biology that made his subsequent discoveries possible. With Daniel Nathans, MD, and Werner Arber, MD, Dr Smith shared the 1978 Nobel Prize in Medicine for the discovery of the first restriction endonuclease, EndoR. *Hin*dIII. This enzyme, as well as the several dozen restriction endonucleases subsequently discovered, cleaves DNA at a specific, determinable site. With the discovery of these enzymes, DNA cloning, DNA nucleotide sequencing, and DNA restructuring became possible. In citing the work of Smith and his colleagues, the Nobel committee stated that this work might some day allow scientists to "help in the prevention and treatment of malformations, hereditary diseases, and cancer."

The Mike Hogg lectureship was established in 1958 by Drs R. Lee Clark, William O. Russell, and Robert A. Johnston of UT MDAH. Joseph T. Painter, MD, vice president for resource planning and evaluation, now serves on the Board of Directors in place of the late Dr Johnston. The funds for the lectureship were given to The University of Texas System Cancer Center M. D. Anderson Hospital and Tumor Institute by Alice Nicholson Hanszen in memory of her first husband, Mike Hogg.

*Department of Scientific Publications, UT MDAH.

1979 Clinical Conference Book Reviewed

Diane Culhane*

Status of the Curability of Childhood Cancers (Raven Press,** 1980, $36.00, 329 pp.), edited by Jan van Eys, MD, PhD, and Margaret Sullivan, MD, examines the progress that has been made toward curing the various forms of childhood cancer. The monograph consists of papers that were presented at UT MDAH's 24th Annual Clinical Conference on Cancer, held November 8 and 9, 1979, at the Shamrock Hilton Hotel in Houston.

Giulio J. D'Angio's Heath Memorial Award Lecture sets the tone by challenging the readers to reexamine their assumptions about the treatment of pediatric cancer. Dr D'Angio specifically warns against overtreating pediatric patients, and advocates instead carefully adjusting the therapy to the individual case.

The first section of the book consists of five chapters that seek to establish various biological and functional criteria for a definition of cure, as well as to determine the scope of cure. The point first made by Dr van Eys in his introduction is restated here: Cure does not mean that children have survived five or ten years, but that those children can expect to live a normal life-span free of their cancer.

The next two sections, on the treatment of solid and hemopoietic malignant diseases, examine the progress that has been made against these once almost invariably fatal diseases. Treatment breakthroughs have been numerous, thanks in large part to the willingness of all concerned with these children to cooperate in multimodal approaches. Today, the prospects for children with cancer are considerably brighter than are those for adults.

The future, beyond cure, is examined in the final section, in which the medical and psychological costs of cure are weighed. Treatment takes its toll, as does the disease itself. One of the tasks today is to minimize that toll. The ultimate solution, of course, is prevention, and the prospects for prevention are examined by Robert W. Miller in one of the concluding chapters.

Status of the Curability of Childhood Cancers is, thus, a wide-ranging volume that should be of interest to all who deal with childhood cancer patients, including pediatricians, clinical and research oncologists, psychologists, and epidemiologists.

*Department of Scientific Publications, UT MDAH.

**Raven Press, 1140 Avenue of the Americas, New York, New York 10036.

Pediatric Books. . .

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developed the 146-page handbook. Work began in spring 1980; the handbook was in the hospital and the hands of the parents by November 1980.

According to Pamela Jeffries, patient education specialist, the information in the handbook is so comprehensive that it would be overwhelming if a parent tried to read it in one session. Therefore, the book is designed to be read in sections as the parents have specific questions. A volunteer works with the parents of newly admitted patients and, following comprehensive guidelines written by the staff of the Patient Education Program, recommends appropriate chapters for the parents to read.

Initially, the volunteer recommends chapters on parenting, the pediatric care staff, and diagnostic testing. Because Pediatric Clinic patients must undergo numerous diagnostic tests during their first weeks in the hospital, the chapter on diagnostic testing is especially important. This chapter describes the tests, their purposes, the pain or discomfort involved, and, most important, how parents can better prepare their child for the procedures.

If a child's disease is diagnosed as cancer, there are two chapters to answer some of the questions a parent may have. One explains each type of childhood cancer and how it is diagnosed, staged, and treated. The other describes the services and specialty areas at UT MDAH and how and why children are assigned to specific services.

Three chapters are designed to be used during the treatment stage. They explain the different treatment methods, emphasize the importance of nutrition, and clarify research protocol. A glossary defines many of the terms unfamiliar to a parent.

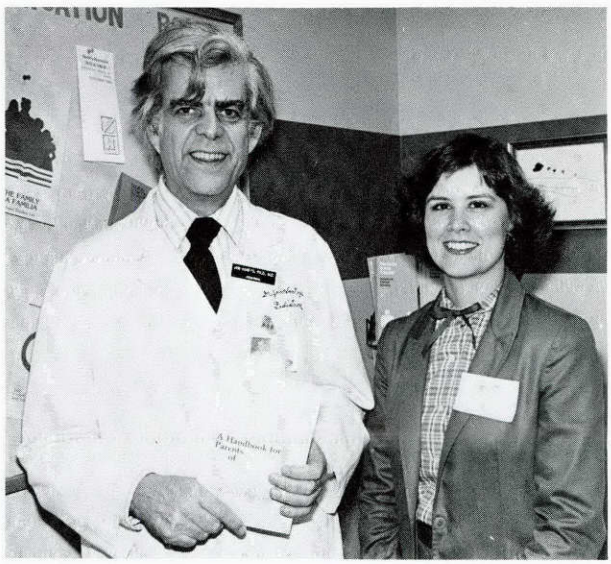
"The handbook is just the beginning," Ms Jeffries said. "We want them (the parents) to come back and use the Pediatric Learning Resource Center, to learn about parenting their child during his or her illness, to learn about nutrition—or the treatments their child is undergoing—and hopefully find the answers to questions they may have."

So far, 125 handbooks have been distributed to parents of both new pediatric patients and those who have been in treatment at UT MDAH for several months. Ms Jeffries said the initial response to the handbook has been favorable, although it is too early to assess its effectiveness. A formal evaluation is planned.

Helping Children Cope

The Andy Anderson Coloring Book for pediatric cancer patients was developed by members of the mental health team of the Department of Pediatrics as a diagnostic device to help the staff understand how a child perceives his or her disease and to identify potential problem areas. The book—developed by Donna Copeland, PhD, clinical psychologist and director of mental health, and Betty Pfefferbaum, MD, child psychiatrist—can be used as a therapeutic tool as well.

A committee including staff from the Department of Pediatrics and the Patient Education Program and hospital volunteers initiated the idea for *The Andy Anderson Coloring Book*. In addition to using the book to entertain the children, Drs Copeland and Pfefferbaum, who were members of the committee, decided to go a step further—to use the book as a diagnostic tool—by designing one in which the children would depict their experiences at UT MDAH, such as coming to the hospital and some of the things that they miss most by being in the hospital.



Jan van Eys, MD, PhD, head of the Pediatrics Department, holds a copy of *A Handbook for Parents of Pediatric Patients*. Pamela Jeffries, patient education specialist (right), was a member of the multidisciplinary committee that developed the handbook and was instrumental in establishing the Pediatric Learning Resource Center.

Printed in English and Spanish versions, the coloring book contains childlike drawings that depict common hospital experiences. Each drawing is followed by a blank page with instructions to the child to draw himself or herself having a similar experience. One drawing shows a boy with his hair standing on end. The caption reads: "Draw yourself when you are afraid." Elsewhere, the coloring book asks the child to draw his or her cancer, a hospital room, and a nurse, and to draw himself or herself receiving chemotherapy and trying to be brave.

Through the drawings or perhaps through the child's reaction to a certain request, the mental health professionals can discover what emotional changes are taking place within the child. For example, Dr Copeland explained that one young patient who was asked to draw something sad rebelled, saying that she didn't want to draw something sad or think about sad things. However, as the child drew something else, she began to tell Dr Copeland about the things that made her sad during her stay in the hospital: "There are too many sad things—other kids dying." Dr Copeland doubts that the patient would have talked about these things without the help of the coloring book.

"I didn't know myself that the coloring book would encourage the children to talk so much," Dr. Copeland said. "In the short time we have used the coloring book, it has been a valuable therapeutic tool."

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National Large Bowel Cancer Project Holds Workshop

The National Large Bowel Cancer Project, under the directorship of Murray M. Copeland, MD, held a workshop entitled: "The Large Bowel Cancer Program: Its Achievements and Future Directions of Investigation," January 8–9, 1981, in Dallas, Texas.

Clinicians and basic scientists participated in the meeting, which consisted of four sessions: Carcinogenesis and Epidemiology, Clinical Research, Biochemistry and Pharmacology, and Immunobiology. Speakers gave an overview of current research, from prevention to cellular biology and chemotherapy. In the Carcinogenesis and Epidemiology session, Lee W. Wattenberg, MD, University of Minnesota, spoke on "Prevention of Cancer of the Large Bowel," and John H. Weisburger, PhD, from the American Health Foundation in Valhalla, New York, discussed "An Assessment of the Role of Mutagens and Endogenous Factors in Large Bowel Cancer." Arnold Mittelman, MD, Roswell Park Memorial Institute, addressed the progress of clinical research in his paper, "Identifying Clinical Research Needs in Large Bowel Cancer."

In the Biochemistry and Pharmacology session, Vincent G. Allfrey, PhD, Rockefeller University, discussed, "The Interface between Cell Biology and Chemotherapy." In the final session on immunobiology, Benjamin Papermaster, PhD, the Cancer Research Center in Columbia, Missouri, spoke on "Immunobiology and Immunotherapy in Colorectal Cancer," and Norman Zamcheck, MD, Boston City Hospital, spoke on "Biological Markers of Colorectal Cancer."

Dr Copeland, national project director, and Anthony J. Mastromarino, PhD, assistant science director, together with a planning committee of scientific consultants, developed the workshop program. In this year's program format, authors presented their research reports and papers in a poster session, rather than orally, and then were available at scheduled times to discuss their work.

Proceedings of the National Large Bowel Cancer Project workshop will be published in the July-August 1981 issue of *The Cancer Bulletin*.

Pediatric Books . . . .

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The coloring book is designed to be given routinely to pediatric patients between the ages of seven and 12 years. A trained person works with the child in an informal setting for a coloring and drawing session. When the session is over, two or three drawings are removed from the coloring book for analysis by Drs Copeland and Pfefferbaum. If there is an indication of a problem, follow-up attention is provided by the mental health team.

"Once the problem is in the open I can help the child and family develop a better understanding of what is happening. Often, that is all it takes," Dr Copeland said.

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