

Fall 1980

Focal Spot, Fall/Winter 1980

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Focal Spot

A NEWSLETTER OF THE MALLINCKRODT INSTITUTE OF RADIOLOGY

VOLUME X

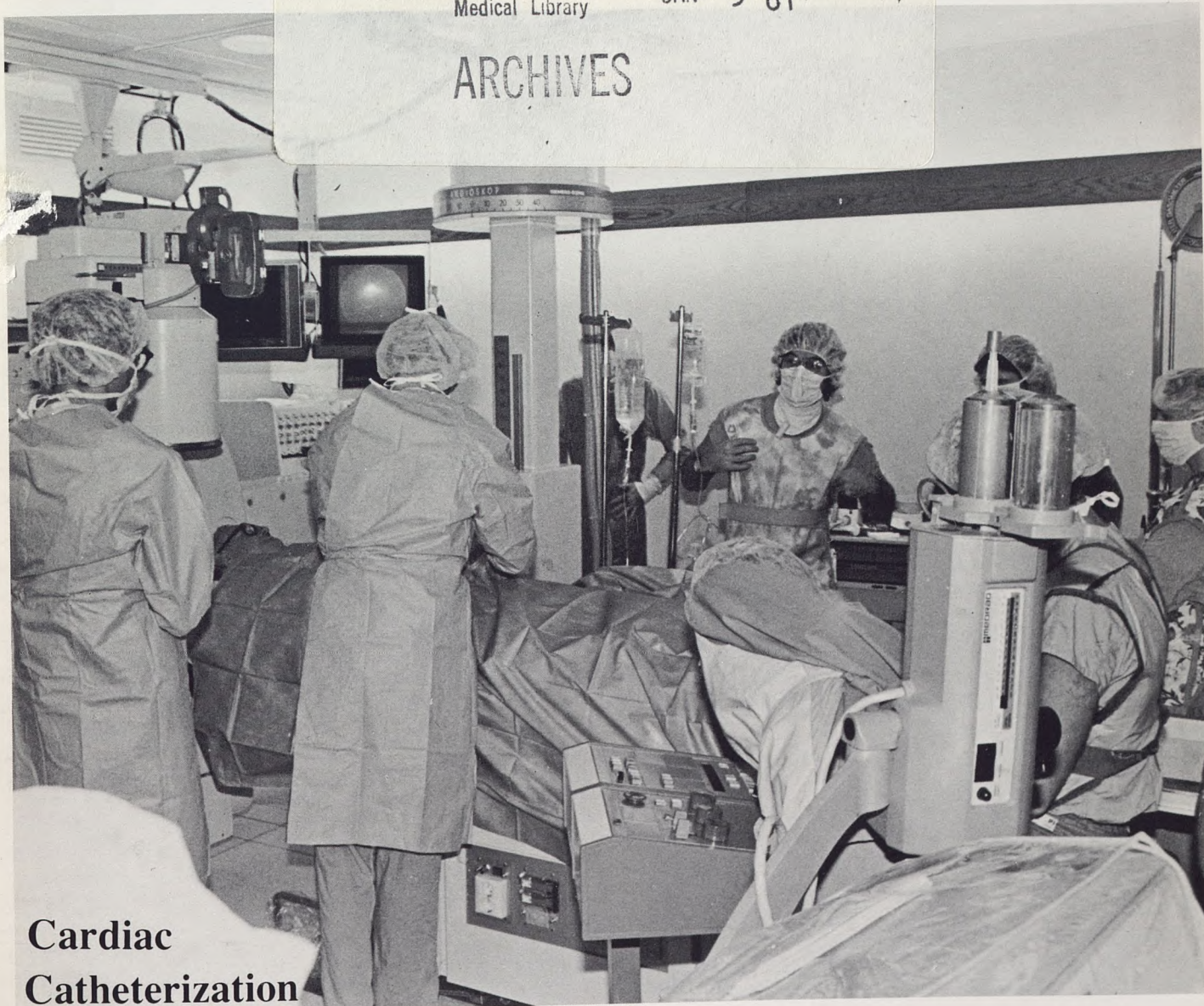
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**Cardiac
Catheterization**

Mallinckrodt Facilities in West Pavilion



From early departmental planning through construction of the 34,000 square feet of the ultra-modern ninth and tenth floor facilities of the Barnes Hospital West Pavilion, the objective of Dr. Ronald Evens and the Mallinckrodt Institute of Radiology has been to provide the community with new X-ray facilities offering the most advanced scientific and medical technology available today.

Where outpatient services formerly were spread throughout the hospital, the tenth floor, which opened October 1, 1980, offers a complete outpatient facility directed toward enhanced quality of care and optimal savings of time and money to the patient.

A major convenience of the ninth and tenth floor facilities is their proximity to the Barnes doctors' offices

On the cover

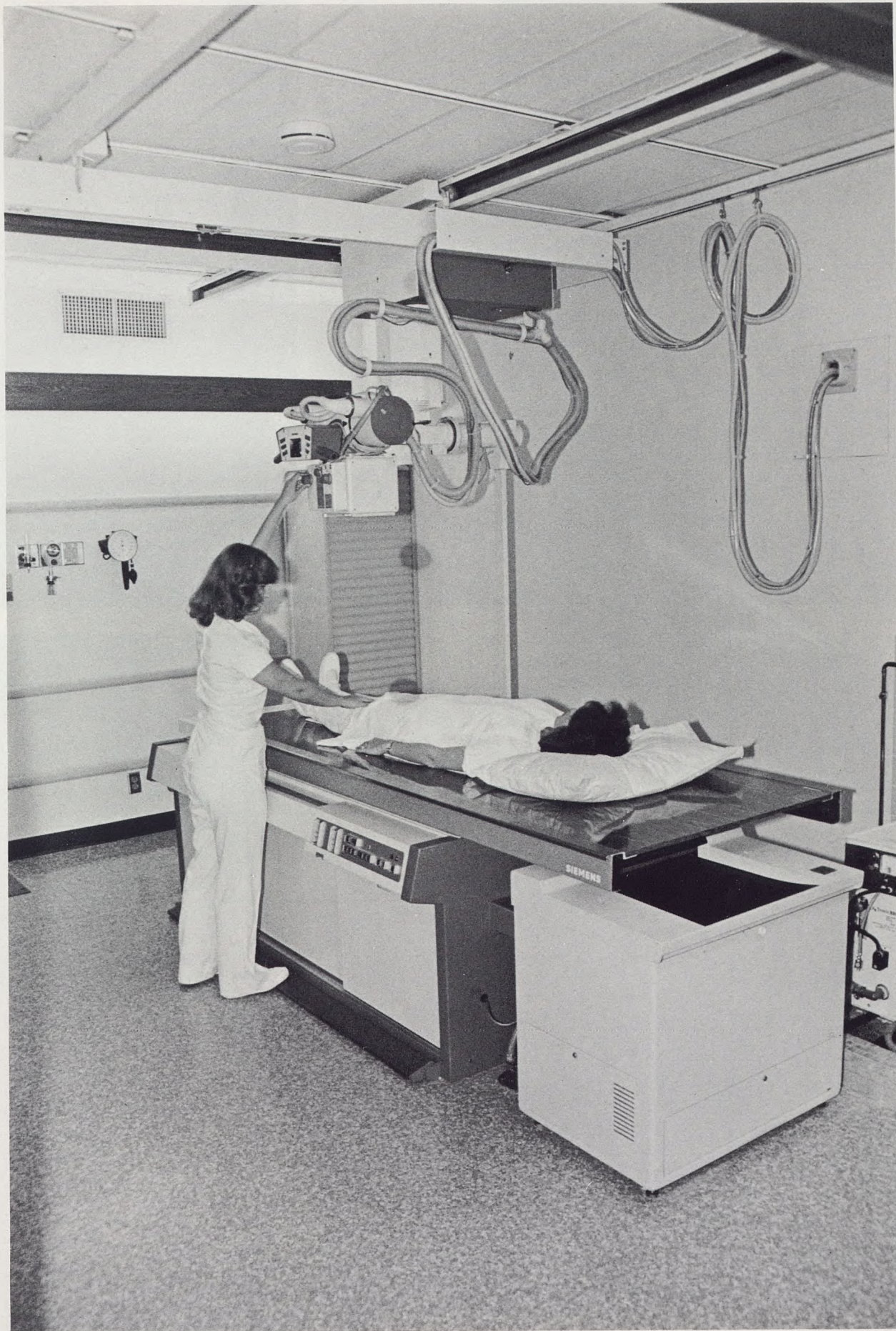
A cardiac catheterization in progress in one of the cardiovascular suites on the ninth floor of the West Pavilion.

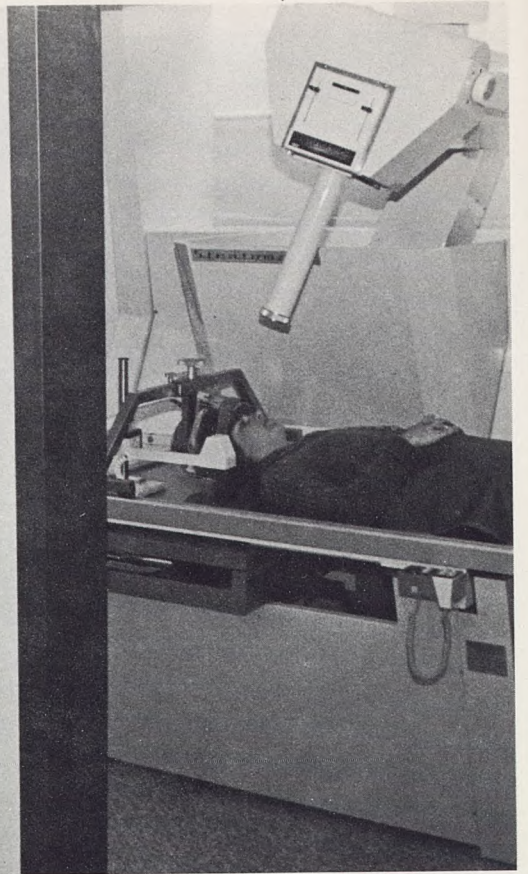
on the 16th and 17th floors of the East/West Pavilion. Parking is conveniently available in the subsurface garage joined with the hospital by two underground tunnels with elevators at the end of either tunnel to provide direct access to the radiology floors.

The design concept divides the outpatient floor into a number of functional areas. Extending outward from the centrally located reception desk is a softly lighted patient waiting area which features contemporary functional furniture. The warm earth-tone colors of the walls are repeated in the fabric of the chairs and in the mosaic floor tile in the waiting area. Large plants are used in corners to soften lines. The opposite (south) side of the floor is flanked by an expansive range of windows offering bright, cheerful lighting and scenic views of Forest Park. Located there is a second waiting area with dressing room facilities for patients having procedures which require hospital garments.

Three parallel corridors span the length of the floor connecting the far removed physicians' office area with the main flow of imaging and diagnostic activity. The two outside hall arms provide patient access to a total of 12 radiographic rooms equipped to perform a consistently high quality of X-ray examinations from routine chest and bone and joint X-rays to mammography, laminography, and gastrointestinal procedures.

Among the new units which greatly speed up the work process is a Buckymat table, installed for radiography of the skeleton and extremities. It is equipped with two different intensification screens, six different film formats, automatic film exposure and floating table top. By simply pushing a button, the technologist selects the size of film needed, takes the X-ray and remains in the room while the unit's built-in processing machine develops the film. Before the patient leaves the examination room his or her X-rays will be available for evaluation.



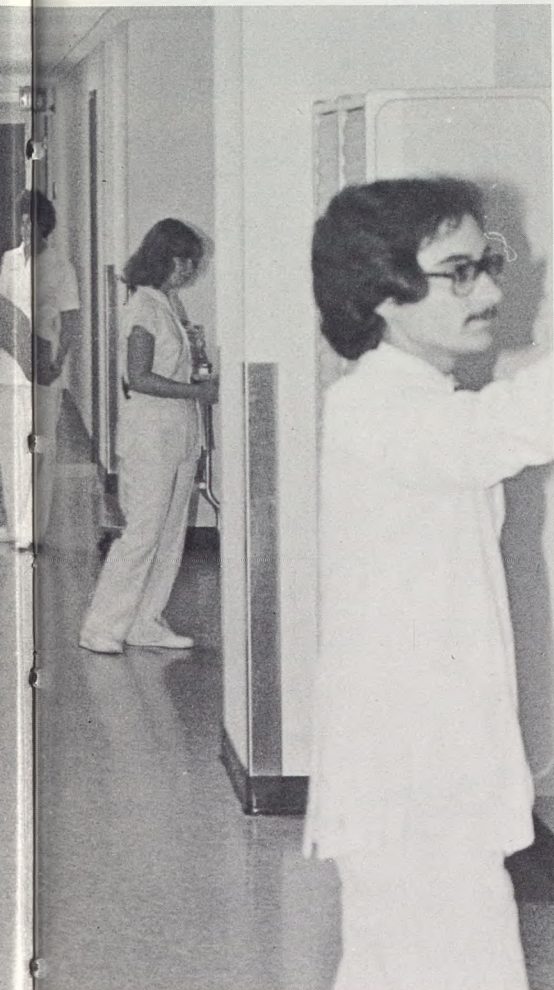


West Pavilion

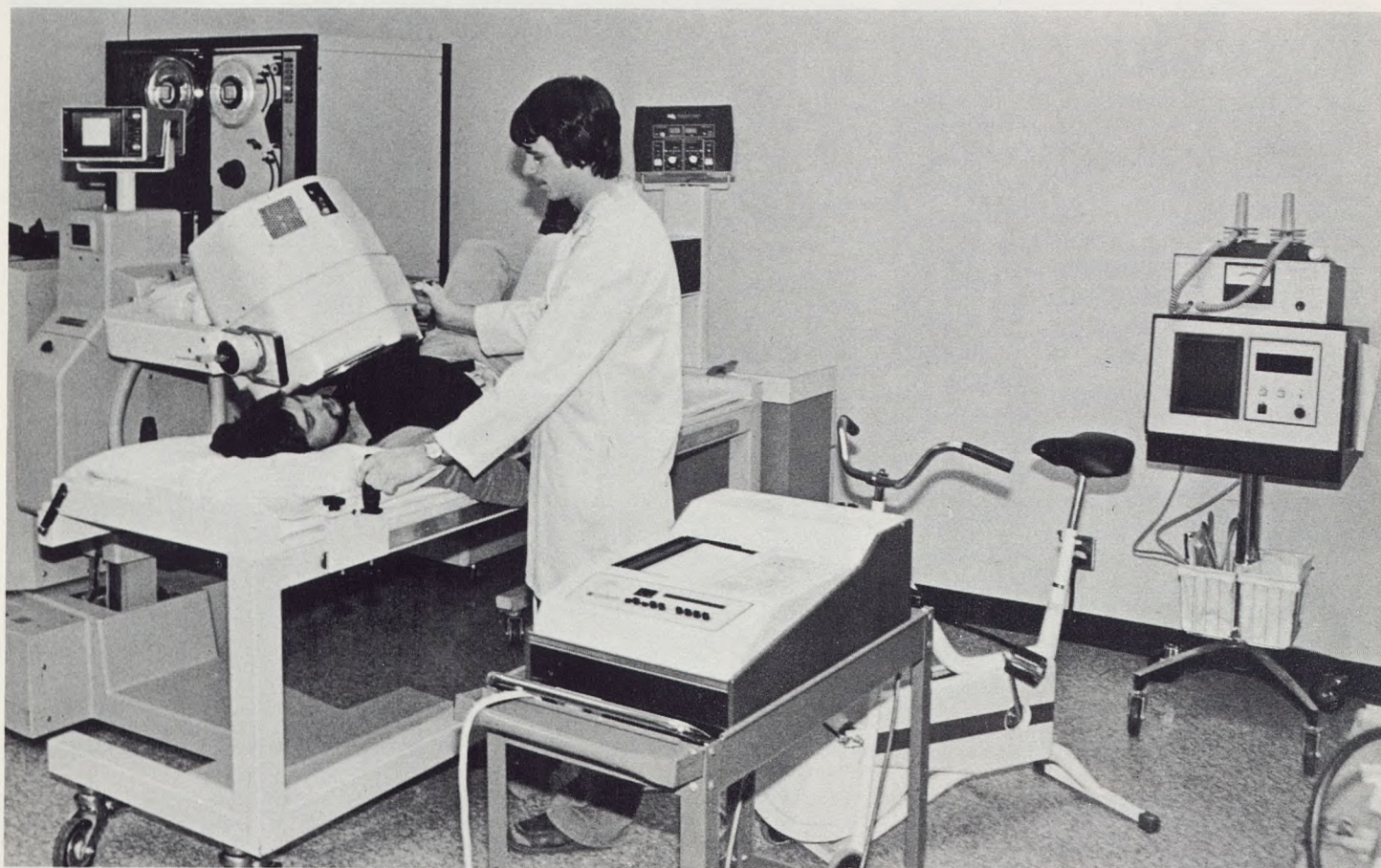
Changing technology is also reflected in the advanced design of a pleuridirectional tomography unit capable of moving in different modes to obtain skeletal and neuro tomograms.

Strategically placed in the center of the outpatient floor is the technical corridor providing a smooth and efficient work flow with access to eight of the radiographic rooms as well as viewing/reporting/sorting/film processing/barium kitchen and staff lounge areas.

The outpatient physicians' staff is the shared responsibility of radiologists from the abdominal and musculoskeletal sections who work with a fifteen-member technical staff.



West Pavilion

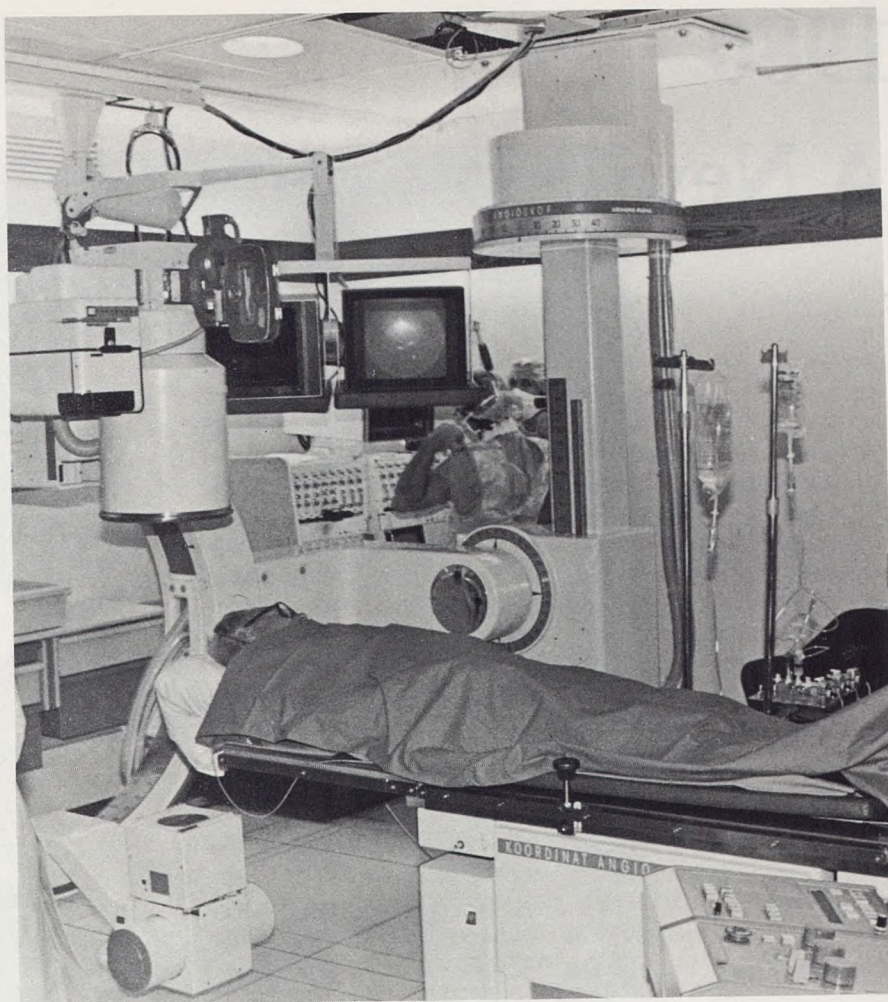


More than half of the 17,000 square feet of the ninth floor is devoted to the Division of Nuclear Medicine which opened June 15, 1980. The staff consists of four nuclear radiologists and four nuclear medicine residents as well as two to three radiology residents rotating through the Division and includes a ten-member technical staff. The design concept provides a central hallway "nerve center" of the department with access to six nuclear imaging rooms, a separate room to house the Division's computing facilities as well as viewing/reporting/teaching/conference/file rooms and physicians' and technical supervisors' offices.

On each side of the receptionist desk are inpatient and outpatient waiting rooms. A modern radiopharmacy with ability to compound radiopharmaceuticals on site, has been placed at the end of the corridor behind the receptionist desk. Dropped ceilings within the division provide space for a variety of utilities such as cables for the computers connected to nuclear imaging instruments.



The cardiovascular center, also housed on the ninth floor, is staffed by two cardiovascular radiologists, two radiology residents, three faculty cardiologists, two cardiology fellows, two pediatric cardiologists, five nurses, and a four-member technical staff. The center opened October 15, 1980, with two comprehensively equipped cardiac catheterization suites in operation. A third catheterization suite, equipped with both a biplane radiographic system, and a rotating C-arm X-ray unit, a fluoroscopy unit, and a two-dimension echocardiographic suite will be opened in the near future. Carefully arranged to provide exceptional control and operating ease for every radiographic and fluoroscopic procedure, the cardiovascular system features static and dynamic images, controlled intravenously administered contrast agent, and comprehensive angulation of the radiographic system which eliminates the discomforts to the patient of rotating cradles and moving X-ray tables. These features permit catheterization and other radiographic procedures to be con-



ducted with greater comfort and safety, and greatly enhance the diagnostic capabilities of cardiac angiography — particularly coronary arteriography. More precise localization of coronary obstructions afforded by this equipment also facilitates new therapeutic advances, such as coronary angioplasty, which will be undertaken in the new suites.

The single corridor arrangement provides an orderly work flow of cardiac-catheterization/viewing/reporting/support and office areas enabling the efficient technical and nursing teams to function independently of the other in a quiet and organized manner.

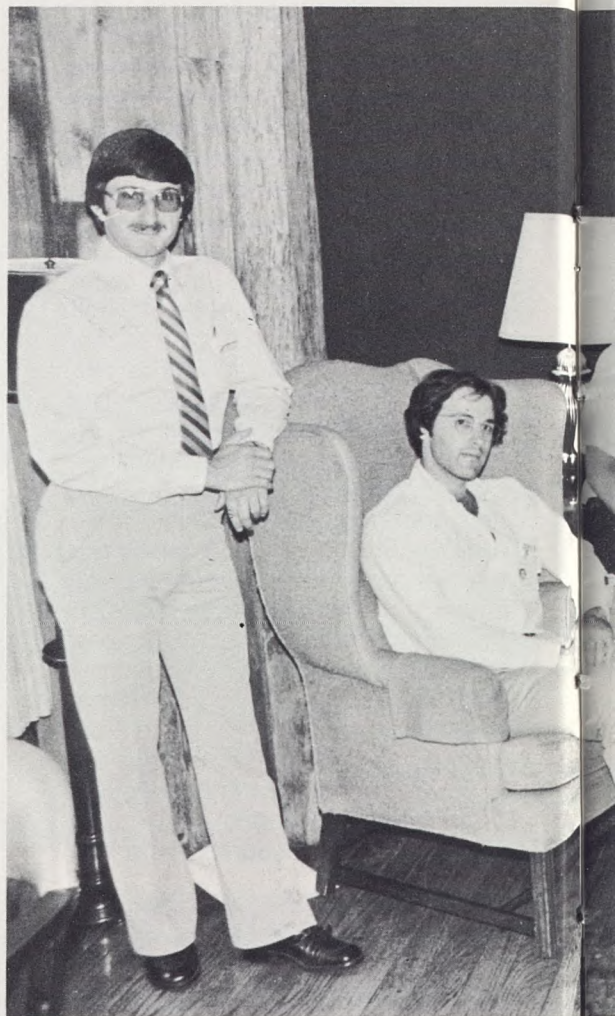
Throughout MIR's unique condominium facilities in the West Pavilion, space utilized to meet today's functions and needs can be readily adapted to future technological developments.

1980

— A New Beginning

Four new postgraduates and eight new residents began their training in diagnostic radiology at MIR, and five new residents entered the Radiation Oncology Resident Training Program. Also on the staff, are five new fellows specializing in pediatric radiology, neuroradiology, and nuclear medicine. The group shows much diversity, high achievement, and a broad range of backgrounds. One is changing the direction of his medical career after many years of private pediatric practice.

An ongoing goal of the radiology residency program at Mallinckrodt is to instill in the trainees the importance of communicating with their clinical colleagues as well as attending to their responsibilities to the patient. In the beginning of the residency program, a series of 9 introductory lectures in diagnostic and nuclear radiology offered the trainee an opportunity to preview the needs of both the academic (training in newer imaging modalities and special procedures) as well as the practicing (traditional radiologic examinations) radiologist.



Left, Drs. David DiSantis, William Reinus, James Owen

Residents

Dr. David J. DiSantis, a native of Erie, Pennsylvania, received his M.D. from the University of Pennsylvania and completed a rotating internship at Hamot Medical Center in Erie. Dr. DiSantis and his wife, Denise, were married June 14, 1980. She is a laboratory technician in the Department of Pharmacology. Besides participating in tennis and basketball, Dr. DiSantis has been a Little League Coach for the past six years.

Dr. William R. Reinus was born in New York City and graduated Magna Cum Laude from Amherst College. He received his M.D. degree from New York University where he became a member of Sigma Xi and AOA. His wife, Elizabeth, is a KMOX-TV news writer and they both enjoy restoring antique houses and gardening.

Dr. James W. Owen, III, was born in St. Louis, graduated Phi Beta Kappa from S.M.U. in Dallas, and received his M.D. from Washington University. A member of AOA, Dr. Owen's interests range from piano, organ, and bridge to golf, tennis, and flying!

Focus on Telehealth



James Owen, Shameen Menon, James Weinstein, James Junker, Kendall Barker, and Jerrold Van Dyke.

Dr. Shameen Menon, a native of India, completed her M.B.B.S. degrees at the University of Madras. Dr. Menon and her husband, Mani, an Assistant Professor of Urology at Barnes, have two children, Nisha, age 4, and Roshen 1.

Dr. James B. Weinstein was born in Pittsburgh, Pennsylvania, and obtained both his undergraduate degree and M.D. from Washington University. Dr. Weinstein is a Phi Beta Kappa, enjoys tennis and canoeing, and his wife, Sue, is an artist who enjoys the interesting hobby of calligraphy.

Dr. James A. Junker was born in St. Louis, graduated Phi Beta Kappa, and received his M.D. from St. Louis University. He served his internship in pediatrics at Cardinal Glennon Memorial Hospital for Children. Dr. Junker's outside activities include photography, fishing, and hunting.

Dr. Kendall H. Barker, from Detroit, Michigan, received his B.A. from Oberlin College in mathematics and his M.D. from Washington University. A member of Phi Beta Kappa, Dr. Barker's interest in classical music is understandable since his wife, Linda, holds a Master's Degree in music and performs and teaches piano at Webster College.

Dr. Jerrold A. Van Dyke was born in Denver, Colorado, graduated from the University of Florida School of Medicine, and interned in obstetrics and gynecology at Barnes Hospital. A member of Phi Beta Kappa and AOA, Dr. Van Dyke and his wife, Gretchen, have a daughter, age 3. His hobby is photography.

Postgraduates

Dr. Murray A. Solomon, a native of Winnepeg, Manitoba, holds a B.A. in political science from U.C.L.A. and an M.D. from the University of California, San Francisco. His varied interests range from classical literature and impressionist art to basketball and ping pong.

Dr. Robert W. Laakman, born in Indianapolis, Indiana, is a Phi Beta Kappa graduate of Indiana University and received his M.D. from Washington University. A member of AOA, Dr. Laakman is married and his wife, Sherlyn Rae, is an R.N. at St. Louis Children's Hospital. His hobbies are biking, golf, camping, and cooking.

Dr. Steven J. Adler, a native of Brooklyn, New York, holds a B.A. degree in biology from Swarthmore College, Swarthmore, Pennsylvania, and a medical degree from Washington University. He is a member of Phi Beta Kappa, AMA, and the Southern Medical Association. His hobbies include football and gourmet cooking.

Dr. George J. Balogh comes to MIR from his native state of Wisconsin where he received his B.S. from the University of Wisconsin in Milwaukee and his M.D. from the Medical College of Wisconsin. Elected to Phi Beta Kappa and AOA, Dr. Balogh enjoys the interesting hobby of lepidopterology (collection and study of butterflies and moths).



Postgraduates
Left, Drs. Murray Solomon, Robert Laakman,

Radiation Oncology Residents

John Clouse, M.D., is entering the program as a first year postgraduate. He received his B.A. in math from Hastings, Nebraska, and his M.D. from the University of Nebraska. Dr. Clouse's interests include airplane building and flying, basketball, and radio control. He and his wife, Linda, are expecting their first child in December.

Bharat B. Mittal, M.D., a native of India, has transferred from a residency in radiation oncology at Northwestern University to begin at MIR as a third year resident. Dr. Mittal received his B.S. in biology and chemistry and his M.D. from Christian Medical College in India. His hobby is tennis.

Sorrell L. Wolfson, M.D., first-year resident, received his M.D. from Vanderbilt University in Nashville, Tennessee, in 1954 and, after completing his internship and residency in pediatrics, he began the private practice of pediatrics and pediatric hematology/oncology in Tampa, Florida. Dr. Wolfson and his wife,

Jacqueline, a real estate broker, have four children. An active participant in outdoor sports, Dr. Wolfson is an excellent tennis player. In addition, he is writing a self-help book entitled "I'm Only Related to You by Marriage."

Delia Garcia, M.D., is entering the training program as a first year resident, after completing an internship in medicine and radiology at the University of Wisconsin in Madison. She received her B.S. in biology from Western Illinois University in Springfield.

Roland B. Hawkins, M.D., Ph.D., a first year postgraduate, received his B.S. in physics and a Ph.D. in molecular biology from Washington University. From 1971-76 he was Assistant Professor of Biochemistry at St. Louis University where he worked with Dr. Leonard Tolmach as a Research Associate. He received his M.D. from Washington University School of Medicine this spring. Dr. Hawkins and his wife, Nancy, have two sons, aged 15 and 12.



Radiation oncology residents
Left, Drs. John Clouse, Bharat Mittal,
Not pictured: Dr. Roland B. Hawkins.

Focus on Fellows



Steven Adler, and George Balogh.

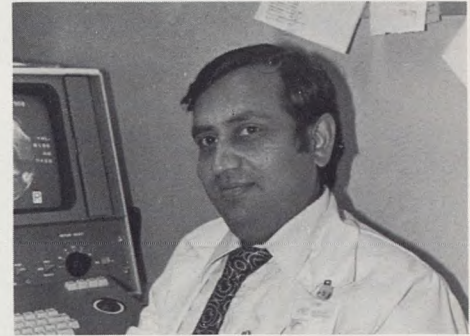
Dr. Carlos E. Rio has been appointed a fellow in the section of neuroradiology following the completion of his M.D. degree at the University of Texas Medical Branch at Galveston. Dr. Rio, of Santa Clara, Cuba, is married and has one daughter, Annette, aged 2. His wife, Lucinda, is an Occupational Therapist.

Dr. Jashbhai I. Patel has been appointed a fellow and instructor in the section of neuroradiology. Born in Lumbwa, Kenya, Dr. Patel received his medical degree from Seth G.S. Medical College in Bombay, and served his internship at the University of Louisville. Dr. Patel's wife, Nirupa, is a physician whose interest is music.

Dr. Charles Glasier, has joined the staff as an instructor with a fellowship in pediatric radiology. He completed his M.D. degree at the University of Virginia and his internship and residency in diagnostic radiology at Wilford Hall USAF Medical Center. His special interests are family activities with his wife Celina, and their two children Paul and Evan, aged 2 and 1.

Dr. John F. AufderHeide has been appointed an instructor with a fellowship in Nuclear Medicine following the completion of a three-year residency in diagnostic radiology at Mallinckrodt. Dr. AufderHeide completed his M.D. degree at Washington University and his medical internship at the University of Pennsylvania. He and his wife Nancy, have a 3 year old son and a daughter, aged 9 months.

Dr. James D. Schroering has joined the staff as an instructor with a fellowship in Nuclear Medicine. He received his M.D. from the University of Kentucky and served as a full-time emergency room physician for three years prior to completing a diagnostic radiology residency at the University/General Hospitals in Louisville. Dr. Schroering's hobbies are sailing and computers.

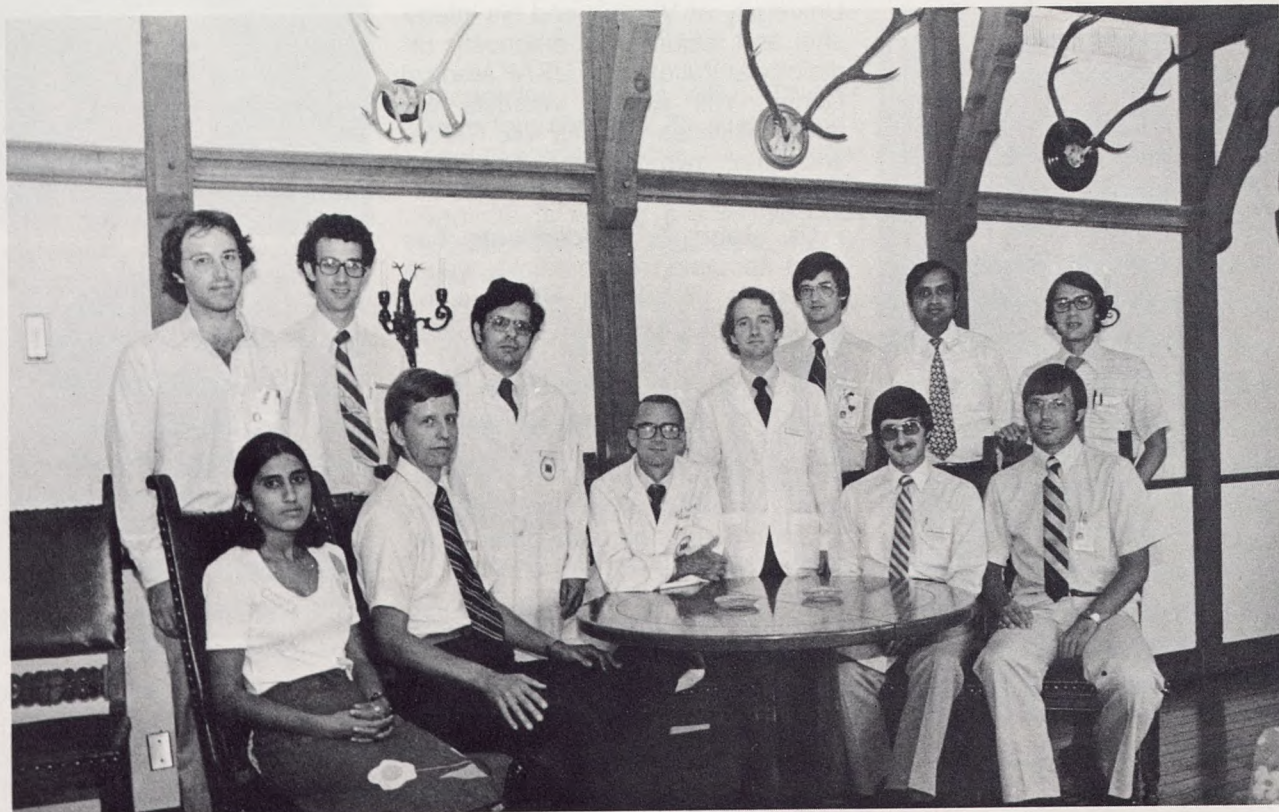


Sorrell L. Wolfson, and Delia Garcia.

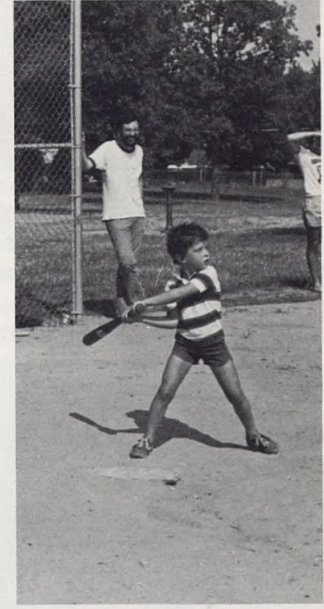
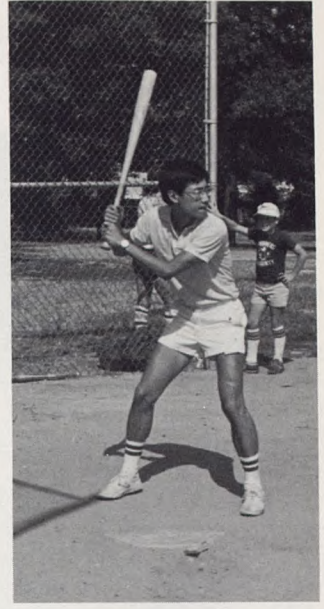
Residents Welcome



The Director's Luncheon



New members of the MIR House Staff pause after the resident luncheon for a quick photo with Dr. Evens, seated center. Standing left, are Drs. Reinus, Barker, Rio, Junker, Owen, Patel, and Weinstein. Seated, left, are Drs. Menon, Glasier, DiSantis, and Van Dyke.



Residents' Picnic



A Visit with the Chiefs



When **Dr. David Hardy** and his family came to St. Louis in 1977 to begin his first postgraduate year in

radiology, he commented, "We're delighted to be in St. Louis and especially at Mallinckrodt." Now, beginning his fourth year of diagnostic training as Chief Resident of Mallinckrodt, Dr. Hardy continues to have high regard for the professionalism of the Institute. Deeply rooted in the Mormon tradition, he considers the St. Louis community "a fine place to raise a family," which in his case is 5 year old Jeffrey, Mary, age 2, and Sarah, born April 18.

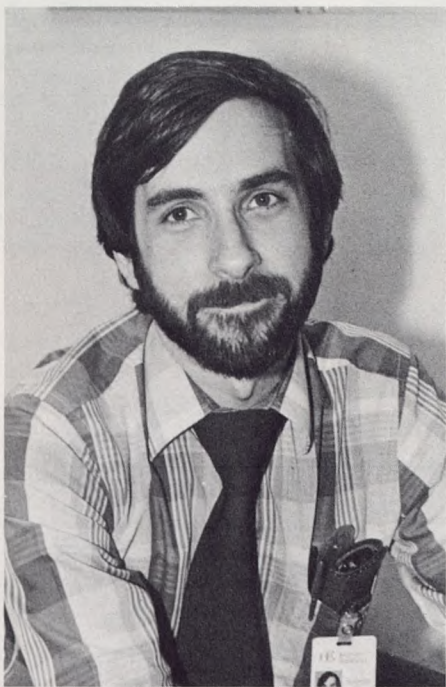
High school sweethearts, Dr. Hardy and his wife, Catherine, were married during his freshman year of medical school at the University of Utah. Catherine is a gifted pianist and composer.

At age 19, Dr. Hardy interrupted his college career at Brigham Young University to go to Japan for two years to serve as a missionary for his church. His fluency with the Japanese language enabled Dr. Hardy to achieve great success in teaching the people about Christianity and the

Mormon Church.

Although Dr. Hardy enjoys photography, tennis, and family outings, most of his off hours are devoted to his duties as a member of the local High Council of the Mormon Church. In this capacity, he is frequently called upon to speak to St. Louis area Mormon groups.

Dr. Hardy is a member of the Air Force, but hopes to enter academic radiology after the next four years of "payback" service for his postgraduate training. In the meantime, he has set high goals for himself of quality patient care and solid roentgen diagnostic discipline and will spend this year as Chief Resident dispatching the important duties as an intermediary between residents and staff — scheduling noon conferences, serving on the resident selection committee (touring the Institute with potential residential candidates), and coordinating resident social events during the year.



Dr. Harvey Glazer, Co-Chief Resident, was born and grew up in St. Louis. Graduating summa cum laude from Washington University where he was named a member of Phi Beta Kappa and a St. Louis Metropolitan

Danforth Fellow, Dr. Glazer went on to complete his medical degree at the University in 1976.

During medical school, Dr. Glazer found that he was greatly interested in the diagnostic aspects of medicine, an important factor in his choosing the field of radiology and Mallinckrodt Institute for his residency. Now, four years later, Dr. Glazer continues his commitment to radiology's important and quickly changing role in medicine.

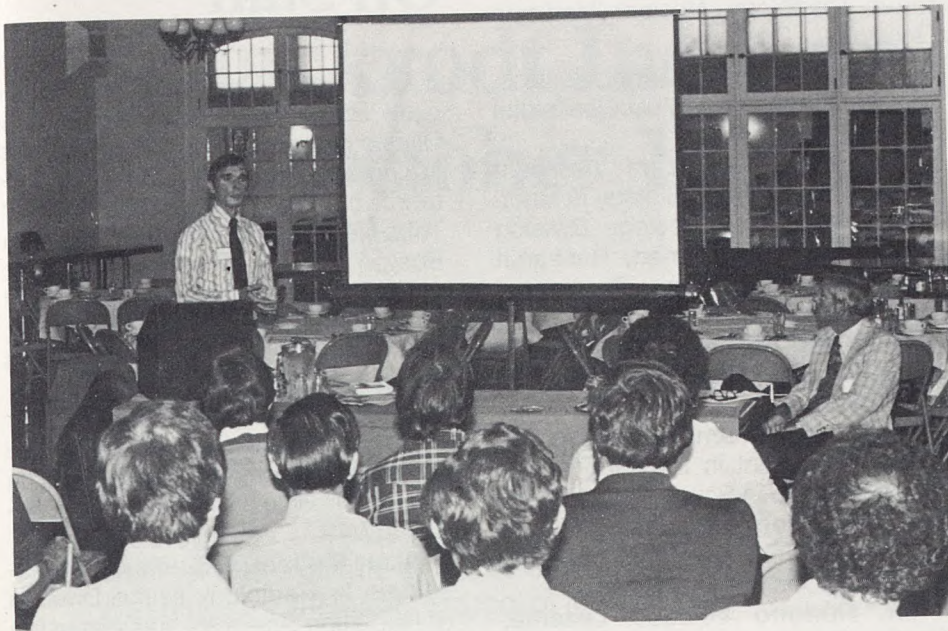
As co-chief resident, Dr. Glazer, along with his clinical rotations, has the additional administrative duties of setting up the first, second, and third year residents' call schedule and directing the "Case of the Week" which he and Dr. Hardy reinstated this year. In this activity, MIR second year residents select films of interesting case studies which are displayed each week in the first floor film library, for easy access to house staff members and medical students. Every six months, Mallinckrodt Institute awards a prize to the student and to the house staff member giving the largest number of correct an-

swers. This project represents another aspect of MIR's commitment to providing continuing education in the field of radiology to colleagues within the medical school community.

Last spring, Dr. Glazer, along with Dr. Hardy and other chief residents from across the country attended the A³CR² annual meeting where they heard of the programs the ACR would sponsor for residents in radiology. From this exchange of ideas, they organized a most successful workshop on October 18, for radiology residents entitled "From Residency to Practice." Approximately 50 radiology residents from Washington, St. Louis, and Missouri Universities, attended the workshop sponsored by the ACR and the Greater St. Louis Society of Radiologists.

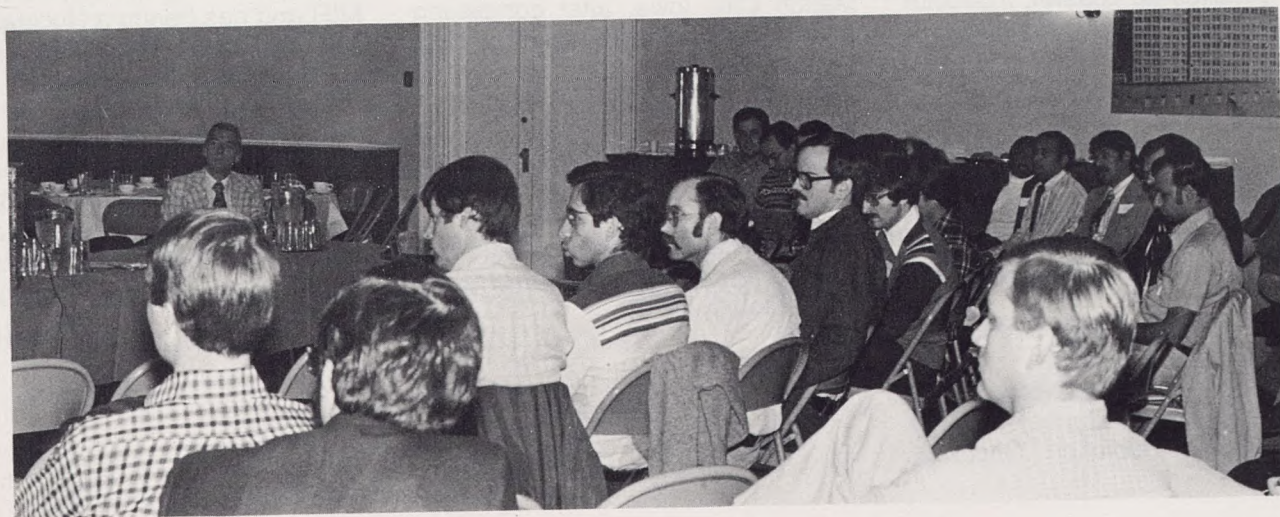
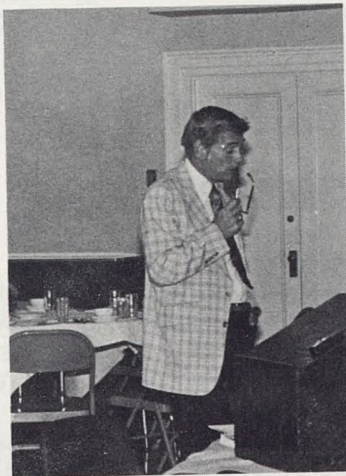
Dr. Glazer, co-chief, follows a busy schedule at Mallinckrodt but in off-hours and on weekends he fills the important role of being father and friend to his eight-year-old daughter, Kelly, doing things together like going to movies or museums, bicycling or hunting frogs — "it's all fun and important."

“Residency to Practice” Workshop



Dr. Harvey Glazer, Co-Chief Resident at Mallinckrodt, with Dr. John Nepute, Co-Chief Resident at St. Louis University Medical School, developed an innovative workshop for radiology residents entitled, “From Residency to Practice,” that dealt with the many facets of radiology practice. The workshop was presented by the American College of Radiology and the Greater St. Louis Society of Radiologists, on Saturday, October 18, at the St. Louis Medical Society, to a group of over 50 radiology residents from the St. Louis area.

Speakers and panelists discussed the bases for choosing between academic and private practice. They covered efficient methods for selecting a geographic location, and the most effective approaches for gaining information about openings in the chosen area, formulating a proper C.V., and applying for desired positions. Speakers also dealt with government regulations, radiologic organizations, professional ethics, professional relations, and the American Board of Radiology Exam. Out of town guests, Dr. Franklin Angell, Mr. John Settich, and Dr. Richard Rudman joined Mallinckrodt faculty members Drs. Ronald G. Evens, Fred Hodges, Robert Koehler, Gene Davis and other local speakers including Drs. D.E. Callahan, William Hummel, and Francis Trotter to present a comprehensive and practical workshop.



The Director's Office Reports

Recent Promotions

Dr. Hyman R. Senturia to the rank of Professor Emeritus of Clinical Radiology

Dr. William E. Allen, Jr. to the rank of Professor Emeritus of Clinical Radiology

Dr. Teresa J. Vietti to the rank of Professor of Pediatrics in Radiology (Radiation Oncology)

Dr. Philip A. Ludbrook to the rank of Associate Professor of Radiology

Dr. Philip J. Weyman to the rank of Assistant Professor of Radiology

Mr. Kondapuram S. Sampathkumar to Research Instructor in Radiology

New Staff

Dr. John F. AufderHeide, Instructor in Radiology, Nuclear Medicine Division

Dr. Robert J. Baglan, Assistant Professor of Radiology, Radiation Oncology Division

Dr. Dennis M. Balfe, Instructor in Radiology, Abdominal Radiology

Dr. Richard L. Baron, Instructor in Radiology, Abdominal Radiology

Dr. Edward M. Geltman, Assistant Professor of Radiology, Nuclear Medicine Division, also Department of Medicine

Dr. Charles M. Glasier, Instructor in Radiology, Pediatric Radiology

Dr. Albert M. Hammerman, Instructor in Clinical Radiology

Dr. Barbara Monsees, Instructor in Radiology, Musculoskeletal Radiology

Dr. Gilbert H. Nussbaum, Assistant Professor of Radiation Physics in Radiology, Radiation Oncology Division

Dr. Jashbhai I. Patel, Instructor in Radiology, Neuroradiology

Dr. Stephen A. Sapereto, Assistant Professor of Cancer Biology in Radiology, Radiation Oncology Division

Dr. James D. Schroering, Instructor in Radiology, Nuclear Medicine Division

Dr. William G. Totty, Instructor in Radiology, Musculoskeletal Radiology

Dr. Gary E. van Zant, Assistant Professor of Cancer Biology in Radiology, Radiation Oncology Division

Mr. Gary R. Hoffman, Research Assistant in Radiology, Division of Radiation Sciences

Dr. Naris Rujanavech, Instructor in Clinical Radiology, Nuclear Medicine Division

Mr. Mikio Yamamoto, Visiting Research Assistant in Radiology, Division of Radiation Sciences

Dr. Ben Dien-ming Chen, Instructor in Cancer Biology in Radiology, Radiation Oncology Division

Mr. Rudolfo Velasco Lezama, Visiting Research Associate in Cancer Biology in Radiology, Radiation Oncology Division

Residents Off Staff

Dr. Avery Brinkley, Jr., completed a four year diagnostic residency at MIR and has entered a hospital based radiology practice at West Florida Hospital in Pensacola.

Dr. Hubert F. Oakley (co-chief resident 1979-80) has entered the private practice of radiology in Mason City, Iowa, after completing a four year diagnostic radiology residency at MIR.

Change of Status

Dr. Fransiska Lee has been appointed Assistant Professor of Clinical Radiology.

Off Staff

Dr. Hywel Madoc-Jones, Associate Professor of Radiology in the Division of Radiation Oncology, has become the Chairman of the Department of Therapeutic Radiology at Tufts New England Medical Center in Boston.

Dr. Robert S. Lenobel, Instructor in the Division of Nuclear Medicine, has entered the private practice of radiology (including nuclear medicine) at the Jewish Hospital of Cincinnati, following a three-year residency in diagnostic radiology and a one-year fellowship in nuclear radiology at MIR.

Nizar Mullani, B.S., Research Associate in Radiology in the Division of Radiation Sciences, has joined the staff of the Division of Cardiology as the Director of the Physics Section at the University of Texas Medical School in Houston.

Dr. Kurichety Prasad Rao, Instructor in Radiation Oncology in Radiology, has entered private practice in therapeutic radiology at St. Elizabeth's Hospital in Belleville, Illinois. He completed a residency in radiation oncology at MIR.

Dr. Timothy J. Tewson, Assistant Professor of Radiation Sciences in Radiology, has joined the staff of the Division of Cardiology at the University of Texas Health Science Center in Houston.

Dr. Howard Glazer completed a three-year diagnostic residency at MIR and has begun a Nuclear Medicine Fellowship at the University of California at San Francisco.

Dr. Robin H. Yu completed a two-year fellowship in neuroradiology and has joined the radiology staff of Good Shepherd Hospital in Barrington, Illinois, where he is in charge of CT and neuroradiology procedures.

Announcement!

50th Anniversary Celebration

Mallinckrodt Institute of Radiology

October 1, 2 & 3, 1981

Dr. Ronald Evens has appointed an Advisory Committee to plan a three-day scientific and social program to celebrate the 50th anniversary of the Mallinckrodt Institute of Radiology. Members of the Advisory Committee include:

Dr. Michel M. Ter-Pogossian, Chairman
Professor of Radiology in Radiation
Sciences
Mallinckrodt Institute of Radiology
Washington University School of Medicine

Mr. William L. Edwards, Jr.
Member of the Board, St. Louis Children's
Hospital
Chairman of the Board, Interco
Incorporated
St. Louis, Missouri

Dr. Gladden Elliott
Clinical Professor of Radiology
University of California, San Diego

Dr. William H. McAlister
Professor of Radiology
Mallinckrodt Institute of Radiology
Washington University School of Medicine

Dr. Carlos A. Perez
Professor of Radiology in Radiation
Oncology
Mallinckrodt Institute of Radiology
Washington University School of Medicine

Mr. Ethan A. Shepley, Jr.
Member of the Board, Barnard Hospital
Vice Chairman of the Board, The
Boatmen's National Bank of St. Louis
St. Louis, Missouri

Dr. Robert Stanley
Professor of Radiology
Mallinckrodt Institute of Radiology
Washington University School of Medicine

Mr. Harold E. Thayer
Chairman of the Board, Barnes Hospital
Chairman of the Board, Mallinckrodt, Inc.
St. Louis, Missouri

Mr. Raymond H. Wittcoff
Chairman of the Board, Jewish Hospital
of St. Louis
President, Transurban Investment
Corporation
St. Louis, Missouri

Dr. Evens hopes that all alumni, staff, and friends of the Institute will reserve this time on their schedule and return to St. Louis to celebrate this important anniversary.

Ninth Annual Wendell G. Scott Lecture

A. Everette James, Jr., M.D., Professor and Chairman of the Department of Radiology and Lecturer in Legal Medicine at Vanderbilt University, delivered the Ninth Annual Wendell G. Scott Lecture, "Considerations of Law and Medicine." Speaking to an overflow audience, September 8, in Scarpellino Auditorium at Mallinckrodt Institute, the noted radiologist described the respective roles of law and medicine and their interrelationship as protectors of public and individual welfare. Citing cases to illustrate the ever-increasing role of law in health care issues, Dr. James discussed, in particular, the effect of certificate of need judgments on new radiologic services, such as computed tomography, megavoltage radiation therapy, and cardiac catheterization, which have been deemed "resources" subject to antitrust regulation.

Born in Oxford, North Carolina, Dr. James holds a medical degree from Duke University and received a jurisprudence degree from Chicago's Blackstone Law School while serving in the U.S. Army after a tour of duty in Vietnam. He trained in radiology at Massachusetts General Hospital and in nuclear medicine at Johns Hopkins where he was a member of the faculty from 1970-1975, when he was named to his present position at Vanderbilt. The author of more than 100 publications and nine textbooks in almost all areas of diagnostic imaging, Dr. James has also published articles on informed consent, law of agency, malpractice, and anti-trust.

The Wendell G. Scott Memorial Lecture was established by friends and colleagues of the late Dr. Scott as a living memorial to his excellence and leadership at Washington University and in radiology and medicine.



Dr. and Mrs. Ronald G. Evens, left, with Dr. and Mrs. A. Everette James, Jr.



Nuclear Magnetic Resonance

Dr. Ronald G. Evens was called upon for an opinion in the September 1980 issue of *Radiology* regarding another potential application of technological advances to the specialty of radiology — Nuclear Magnetic Resonance (NMR). This 1952 Nobel Prize winning discovery is a nonionizing radiation method whereby certain atomic nuclei when immersed in a magnetic field are irradiated with an appropriate radiofrequency field. The nuclei then absorb and re-emit a portion of the energy with a signal that can be detected and analyzed.

Although NMR has been an important analytic method in chemistry for years, Dr. Evens noted that its adaptation to diagnostic imaging is an exciting possibility but requires the analysis and solution of several technical problems.

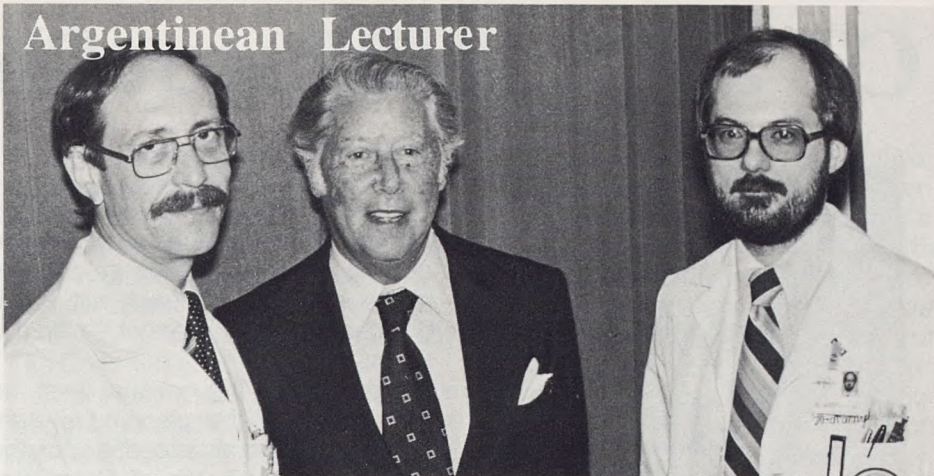
Unfortunately, the atomic nuclei detectable by NMR (e.g. ^{13}C , ^{31}P and ^{15}N) exist in very low concentrations except for ^1H (protons). Current equipment requires scanning of several minutes for proton profiles and even longer for other nuclei.

The major limitation of the method involves the low signal-to-noise ratio of nuclei that can be detected by NMR; therefore most images produced are mobile proton density (water concentration) patterns which are unlikely to be useful for differential diagnosis.

NMR is frequently compared to computed tomography since both techniques use computer reconstruction to produce cross-sectional images. The clinical usefulness of NMR is not readily apparent as was CT, which was a new imaging approach to well-understood anatomical differences between normal and abnormal tissues.

Dr. Evens, encouraging funding of engineering and clinical investigative projects, concluded that the potential of NMR in diagnostic radiology can be recognized only through future innovative research by teams of scientists and radiologists.

Argentinean Lecturer



Dr. Louis A. Gilula, left and Dr. William A. Murphy visit before the Noon Conference, Sept. 4, with distinguished guest lecturer,

Dr. Fritz Schajowitz, head of the World Health Organization Tumor Registry, from Buenos Aires, Argentina.

Pediatric Radiology



ology. Dr. William H. McAlister, Professor of Radiology, Mallinckrodt In-

As increases in knowledge and influence of third party carriers affect the trend toward specialization in all branches of medicine, demands for subspecialty certification continue to grow, particularly in the field of pediatric radiology.

stitute, in the July–August, 1980 issue of *Applied Radiology*, presented arguments in opposition to the certification of pediatric radiology as a subspecialty. According to Dr. McAlister, the certification procedure, since it is oriented to factual data, neither measures nor generates the clinical expertise that is the essence of pediatric radiology. Subspecialization could, moreover, invite fragmentation, limitation, and restriction within the radiology specialty. "Pediatric radiology is a subspecialty in practice," said Dr. McAlister, "whether or not it is certified, and it does not lack qualified trainees."

Presents Carmen Lecture



MIR alumnus, Philip O. Alderson, M.D. ('74), Professor of Radiology and Director, Division of Nuclear Medicine, College of Physicians and Surgeons, Columbia University, returned to St. Louis October 21, to present the 35th Annual Carmen Lecture to members of the St. Louis Medical Society and the Greater St. Louis Society of Radiologists. His topic was "Nuclear Cardiology: Basic Concepts and Update." Dr. Alderson was also a Visiting Lecturer for the Nuclear Medicine Noon Conference at the Institute where he spoke on "Myocardial Imaging with Thallium-201."

The recipient of academic appointments at several major medical centers, Dr. Alderson has established a notable career in nuclear research and continues to receive particular acclaim as an outstanding teacher. After serving his radiology residency and a nuclear medicine fellowship at Mallinckrodt, he received an appointment from the Institute as an Instructor in Radiology. He was subsequently named Instructor, Assistant Professor, and Associate Professor of Radiology and Environmental Health Sciences, Johns Hopkins Medical Institutions. Concurrently with his present positions, Dr. Alderson serves as Co-Director, Nuclear Cardiology Service, Columbia-Presbyterian Medical Center.

CT and Certificate of Need



A well-known authority on the economics of CT and its utilization, Dr. Ronald Evens continues to be called upon to advise health care providers from around the country as to what they can do to acquire the CT equipment they need. Even though the CT scanner is widely accepted as a necessary part of health care, though not a major factor in the cost of such, getting approval to purchase a scanner can still be a problem among health planners. Of real concern to radiologists today is the application of the Certificate of Need (CON) regulatory process. Dr. Evens has been involved with more than 10 CON projects at Mallinckrodt Institute of Radiology and has advised and aided friends and associates from outside the Institute on at least 30 additional projects.

At the 1980 RSNA scientific assembly, Dr. Evens presented information showing that charges for CT procedures have stayed the same or dropped slightly since 1978 when CT represented only 5 to 8% of diagnostic radiology costs and between 0.2 and 0.3% of total health care cost in the United States. His presentation, using information from studies associated with Dr. Gilbert Jost, Associate Professor of Radiology, also showed that by eliminating the need for other diagnostic tests, CT had reduced health care costs by approximately 450 million dollars.

Regarding the regulatory process, Dr. Evens encouraged health care providers to work toward individual exceptions from the rules in order to obtain CT at the local level. "For ex-

ample a hospital that may only be able to do 2000 patient procedures rather than 2500 could still be in great need of a scanner," said Dr. Evens.

Although on the national level, he does not see the planning system making an overall exception for the CT in the Certificate of Need process, he cites a ray of hope in the Head Equivalent Computed Tomography (HECT) system. Developed by the National Electrical Manufacturer's Association and patterned after suggestions by Dr. Richard Buenger of Rush Medical College in Chicago, this method measures CT use according to a sliding scale with each procedure assigned a specific value. It is expected that this system which enables a scanner to reach 2500 HECT equivalents without performing 2500 patient procedures will be included in the revised CT scanner provisions of the National Guidelines for Health Planning.

Dr. Evens stressed the importance of physicians understanding the intricacies of the health planning laws as well as the ground rules of the Health Systems Agency Review process. Also of paramount concern are hidden economic considerations such as time involved in planning, proving the efficacy of equipment, replacement factor, and the organizational turmoil involved in the location and supervision of the scanner.

Dr. Evens believes old CT scanners should be replaced without having to satisfy CON requirements as in the case of the Mallinckrodt Institute of Radiology where it was necessary to reapply in order to replace two first generation head scanners that were 7 years old.

"Another important problem," says Dr. Evens, "is that national and many local and state guidelines require that every CT unit in an HSA area or state meet the procedure level before any new units can come into that area. A request for replacement can be turned down even if the old equipment is doing 2500 patients and is having maintenance problems."

The CT scanner is no longer regarded as an expensive toy, but in the opinion of Dr. Evens, unless the current rules (criteria and standards) are made less rigid in the future they could serve as immovable objects to health care providers.

Attends Summit Meeting

Dr. Ronald G. Evens recently met with 52 other physicians representing 21 societies and the American Board of Radiology at a Summit Conference in Colorado Springs, Colorado. The leaders in the field of radiology were called together to debate, ask questions, and discuss the toughest problems facing the specialty today. Among them were four major topics: the effectiveness of the organizational structure of radiology; areas of responsibility involving legislation, training, and accreditation; the triage required of radiologists in providing appropriate exams to meet clinical needs of patients; and manpower dilemmas involving quality and quantity deficiencies in diagnostic radiology, radiation therapy, nuclear medicine, medical physics, radiologic research, and radiologic technology.

The meeting produced firm recommendations with supportive narrative. Dr. Evens' group, which studied areas involved in legislation and accreditation, recommended personal contacts between radiologists and legislators, regulators, and third party payors on the state and national level.

Radiation Safety at MIR

A major commitment is made by the Department of Radiology to ensure the safe use of ionizing radiation at Washington University. Several members of the Radiology staff devote time to various advisory and policy-making committees and one member serves as the University Radiation Safety Officer.

The use of ionizing radiation at Washington University and affiliated institutions is regulated by three committees — the Radiation Hazards Committee (RHC), the Radiological Safety Committee (RSC) and the Radioactive Drug Research Committee (RDRC).

The Radiation Hazards Committee was created by the Dean of the Washington University School of Medicine and has authority over all uses of ionizing radiation at the WU Medical Center (participating institutions of the WU Medical Center include Barnes Hospital, Jewish Hospital of St. Louis, St. Louis Children's Hospital and the Washington University School of Medicine). The Committee's chairman is Carlos Perez, M.D., Director of the MIR Division of Radiation Oncology. Other MIR staff serving this Committee are Barry Siegel, M.D., of the Division of Nuclear Medicine, Carlton Stewart, Ph.D., of the Division of Radiation Oncology, and John Eichling, Ph.D., and Michael Welch, Ph.D., each of the Division of Radiation Sciences.

The Radiological Safety Committee was created by the University Chancellor and has authority over the use of ionizing radiation at the Washington University main campus. Two MIR staff, Carlos Perez and John Eichling, serve as members of this Committee.

The Radioactive Drug Research Committee (RDRC) was created by the Dean of the School of Medicine and has an authority that covers human research involving certain radioactive drugs. Barry Siegel, M.D., Director of the Division of Nuclear Medicine, serves as Chairman of the RDRC, a Committee that functions as an agent of the FDA. Other MIR staff serving this Committee are Eichling, Welch and Marcus Raichle, M.D., of the Division of Radiation Sciences.

The Radiation Safety Officer of the University, John Eichling, is appointed by the Chancellor and directs the radiation safety activities necessary to implement and enforce the safety program established by the two Committees, the RHC and RSC. Eichling serves as director of the independent Division of Radiation Hazards and its staff of 13 individuals. In addition, Glenn Glasgow, Ph.D., of the Division of Radiation Oncology, serves as an Associate Radiation Safety Officer and coordinates the radiological safety efforts of Radiation Oncology. The radiation

safety effort of the staff of Radiation Hazards is University-wide and ensures that the use of ionizing radiation fulfills current safety standards and that the University is in compliance with State and Federal regulations promulgated by the Missouri Division of Health, the Occupational Safety and Health Administration (OSHA), the Nuclear Regulatory Commission (NRC) and the Environmental Protection Agency (EPA). The scope of the University effort involving ionizing radiation is substantial. For example, radioactive material licensed by the NRC is employed in nearly 500 University research laboratories directly involving some 1200 individuals making Washington University the largest NRC medical licensee in the U.S. In addition, there are three cyclotrons at the University producing radioactive material not licensed by the NRC. Also, another 300 individuals are involved in the medical use of ionizing radiation for diagnosis and treatment.

Dr. Ter-Pogossian Receives Grant

Dr. Michel M. Ter-Pogossian, Director of the Division of Radiation Sciences has received a two-year grant of \$690,000 from the National Heart, Lung, and Blood Institute for the construction of "Super PETT," a new tomograph which will be used for cardiac studies.

Perez ASTR President-Elect



Carlos A. Perez, M.D., Professor of Radiology and Director of the Division of Radiation Oncology at Mallinckrodt Institute of Radiology, was recently elected President-Elect of the American Society of Therapeutic Radiologists at its annual meeting in Dallas, Texas. Dr. Perez is the youngest therapeutic radiologist to hold this office.

Established in 1958, the ASTR is the largest society of radiotherapists in the world.

Dr. Perez served his residency in radiology at Mallinckrodt Institute and was a fellow at M.D. Anderson Hospital and Tumor Institute in Houston. He was named Professor of Radiology at Washington University School of Medicine in 1972 and Director of the Division of Radiation Oncology in 1976. Dr. Perez is a Fellow in the American College of Radiology and serves on many national and international committees involving cancer management.

Digital Radiology

Keeping pace with the wave of national studies regarding the new medical imaging technology of digital radiography, Mallinckrodt Institute has recently announced the design of its own electronic media system which interfaces radiographic imaging systems, such as an ultrasound scanner and digital minicomputer.

For the past year, Dr. Michael W. Vannier, in conjunction with other radiologists at the Institute, has studied the application of digital techniques whereby a computer and associated electronics are linked to conventional X-ray equipment to effect quality improvements in radiological imagery. The results of digital radiography can be viewed on television screens and stored on videotape or videodisk recorders, be transmitted electronically from place to place, and be transformed to hardcopy (film) form.

At a recent DECUS Symposium in San Diego, California, Dr. Vannier reported on the development at MIR of the software system named MIR-DIPS (Mallinckrodt Institute of Radiology — Digital Image Processing System) which supports the interface between the Picker 80L-D1 ultrasonograph and a digital minicomputer. According to Dr. Vannier, digital images from the ultrasound scanner used in medical diagnosis may be transmitted at high speed to the minicomputer thereby making it possible to post-process the diagnostic images for quality improvement, store the image in a digital form (rather than on the film), transmit the images rapidly to remote locations, and accumulate a data base of interesting case material. At this time, two single density images can be stored digitally on a floppy disk (resembling a

long-playing record) thereby providing a machine-readable form of ultrasound scans.

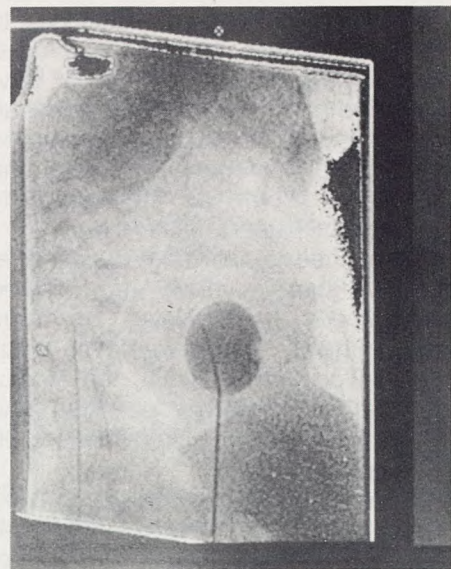
"The necessary computer hardware is installed on the 12th floor of the Institute, and the system under development at MIR," said Dr. Vannier, "will also be able to process conventional radiographs after conversion to digital form, as well as nuclear medicine scans and CAT scans in the same way ultrasound images are now available in convenient digital form."

Dr. Vannier has undertaken the preliminary investigation of the application of digital image processing in pattern recognition, ultrasound and CT studies, positron emission tomography, nuclear medicine, cardiac radiology as well as non-conventional methods of radiographic imaging such as computerized fluoroscopy, intravenous angiography, and deblurring of conventional tomograms.

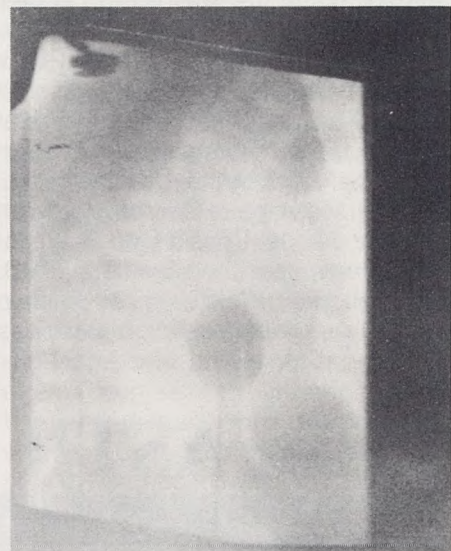
Mr. Robert Butterfield of the NASA Kennedy Space Center visited the Institute on Oct. 28-29 to discuss the recent NASA advances in digital image processing technology.

The main thrust of the MIR system, in addition to the improvement in diagnostic image quality, its ready availability to radiologists and clinicians, and substantial cost reduction, is the potential to acquire new diagnostic information at less risk to a patient.

Applications of digital radiology will continue to be studied at the Institute and Drs. R.G. Jost and M. Vannier will present details of the MIR system entitled "Digital Imaging and Computers in Radiology" at the City-Wide Radiology Conference on May 11, 1981.



Single frame from a cardiac catheterization examination in an infant. (Top) — Computer processed image shows a considerable improvement in detail visibility and contrast with some increase in graininess. (Bottom) — Original 35 mm cine frame as seen by the computer.



Real-Time Echoencephalography

Mallinckrodt radiologists, Dr. Gary Schackelford and Dr. Lee Melson, in conjunction with doctors at St. Louis Children's Hospital, are utilizing a new application of echoencephalography to detect evidence of intracranial hemorrhage in newborn infants. Premature infants are so susceptible to intracranial hemorrhage that nearly half weighing less than 1500 grams admitted to neonatal intensive care units sustain intraventricular hemorrhage. Hemorrhage in these infants can lead to neurological problems such as hydrocephalus and cerebral palsy, but in others it can resolve without apparent sequelae.

In recent years, computed tomography has enabled clinicians to detect and follow the course of intracranial hemorrhage. However, some of the special problems of premature babies could not be adequately met, even by sophisticated equipment. Computed tomography, though it produced high quality images, necessitated the transportation of critically ill infants. Ultrasound equipment, though portable, lacked the resolution capabilities to image objects as small as structures in the premature baby's brain.

Recent advances in real-time ultrasound equipment satisfy the needs for portability and high quality imaging. The small hand-held, rotating transducer features a sector scanner characterized by more rapid repetition, higher dynamic range, and higher resolution than any other real-time ultrasound equipment. Using the technically improved wand-like transducer that both sends and receives transmissions, a technologist is able to direct a single beam of ultrasonic waves through an infant's fontanelle to produce images approaching in resolution those produced by computed tomography. (Ultrasound waves produced by pre-existing echoencephalography equipment were unable to reflect or transmit minute variations within the premature infant's head.) Computed tomography, though not preferred for serial examinations, was the only means for intracranial imaging of the premature baby. Now, without risk,

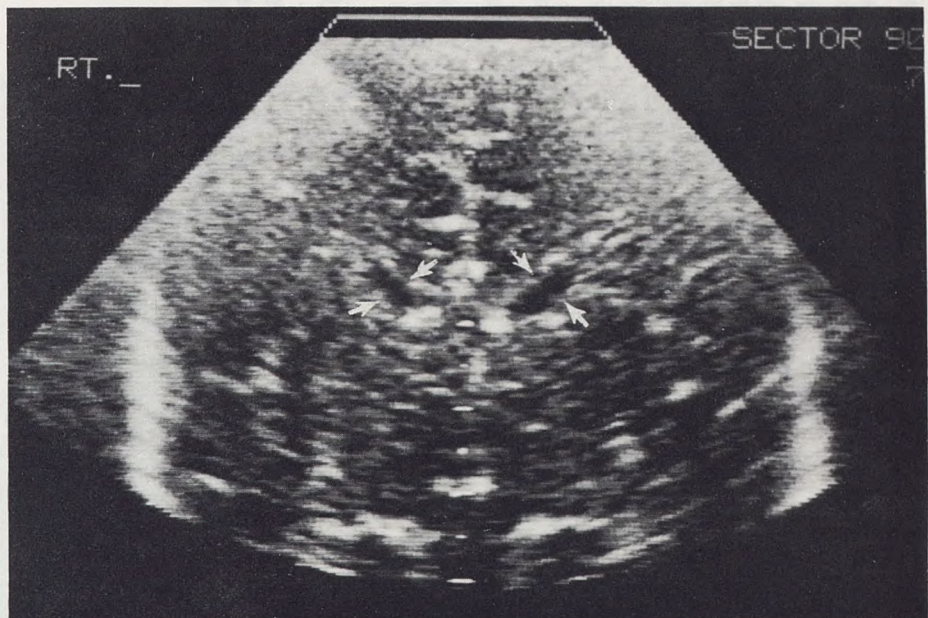


Fig. 1
Normal real-time echoencephalography in a premature infant. The frontal horns of the lateral ventricles are well seen in this coronal view (arrows).

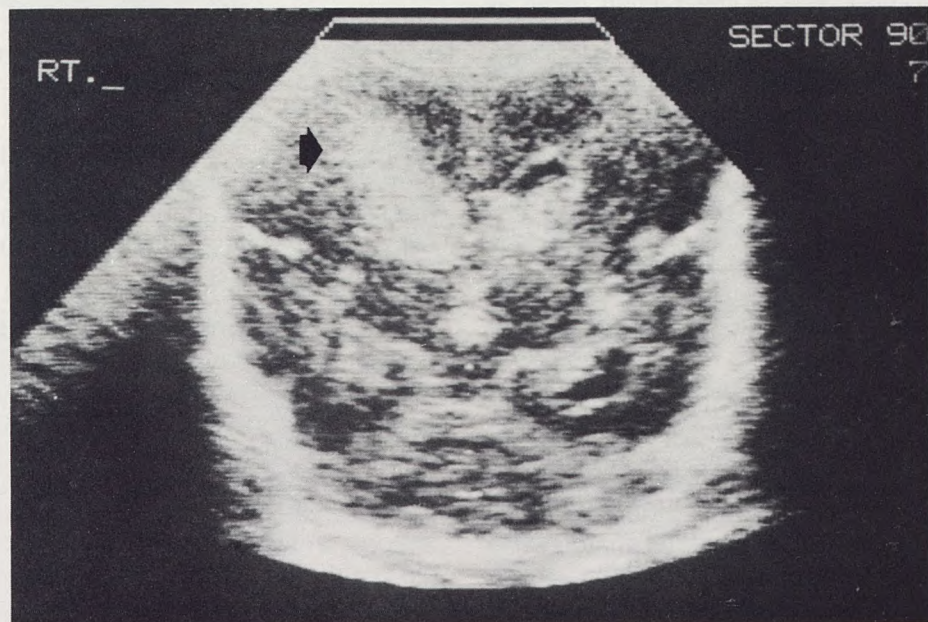


Fig. 2
Intracranial hemorrhage in a premature infant. There is blood in the ventricles and caudate nuclei, with paraventricular extension above the right lateral ventricle (arrow).

and without disturbance of the patient, echoencephalography can provide the quality images necessary for accurate diagnosis and noninvasive serial examinations of certain abnormalities. Treatment of ventriculitis, for example, which requires the gradual drainage of excess cerebrospinal fluid from the ventricles of the

brain, can now be safely monitored with repeated examinations. In addition, the real-time capabilities make it possible to see the moving image during the examination.

In the last months, Drs. Shackelford and Melson have performed over 250 scans involving approximately 100 infants.

CT Software Advances Discussed On NBC

In its first demonstration, at a national press conference held at Mallinckrodt Institute on October 22, 1975, computed tomography seemed destined to revolutionize the world of radiology. In the ensuing five years, profound technological advances have accelerated that revolution with Mallinckrodt always in the vanguard. On September 11, 1980, Dr. Robert Stanley, in a televised interview with KSDK-TV's Don Dare, explained the rapid developments that have led from basic computed tomography to the current unique CAT capability of displaying a series of cross-sectional, sagittal, coronal, or oblique images in a dynamic continuous flow rather than in the static image format. For basic computed tomography of the human body, as performed at Mallinckrodt Institute since 1975, a series of contiguous or overlapping individual 3-second scans, +/- (18 sec prior to 1979), generally using 5 or 10 mm collimation is obtained. With these transverse or cross-sectional slices, displayed as a continuous succession of static images covering the head, neck, chest, abdomen, or pelvis, the radiologist mentally reconstructs the contours of the various organs to evaluate any deviations from the normal anatomy. The anatomy has been generally well studied using this single transverse or cross-sectional approach; however, problems have arisen when the normal anatomy has been distorted by a pathologic process that alters the contour of normal organs or produces displacement of structures into unusual positions. In such cases, radiologists have needed to look at the structures from other angles in order to make complete and accurate evaluations. Such views became available when, approximately two years ago, an advancement in the computation capabilities of the computed tomography equipment made it possible for data, taken in the transverse plane, to be re-computed into a presentation of static images in sagittal, coronal, or

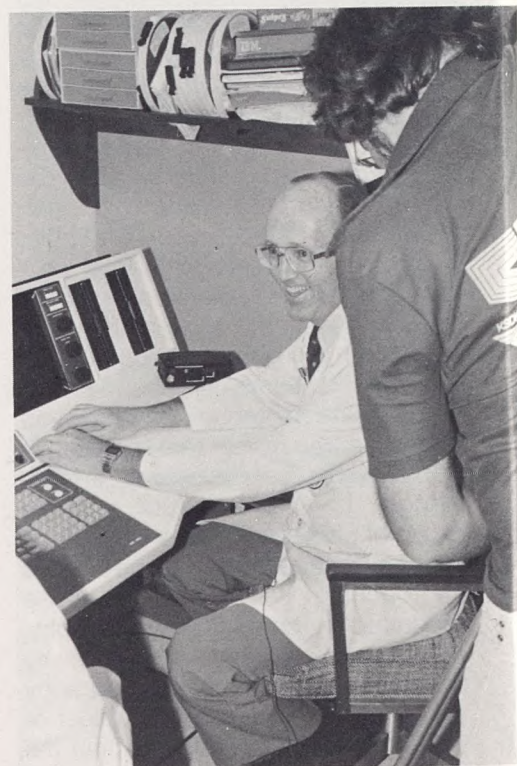


Dr. Stanley describes CT procedure on KSDK.

oblique planes. Further technical advances in computer software since then have produced the latest capability of presenting these various images in continuous flow.

During the interview at Mallinckrodt, Dr. Stanley demonstrated this newest capability on the only equipment of its kind in the country. Discussing its significance, he explained, "It's as if we are seeing a movie of the patient's anatomy — we see a continuous movement of X-ray images on the screen, without a single break. For example, we are able to follow the course of arteries and veins or to define the contour of an abnormal mass without having to mentally integrate the individual static images. It is anticipated that, as greater experience is gained in the use of this new approach to imaging the human body, we will be able to establish diagnoses with greater speed and precision.

In summary, Dr. Stanley suggested that we have seen only an early glimpse of how computed tomography will be utilized in the next decade.



CT of the Lumbar Spine

Dr. Harry Genant, Professor of Radiology at the University of California, spoke on "CT of the Lumbar Spine" for the October lecture of the City-Wide Radiology Conference series in Mallinckrodt Institute's Scarpellino Auditorium. Dr. Genant reviewed the new scanning options made possible within the last year by advanced state-of-the-art scanners with high spatial and density resolution combined with scout view localization. Traditional invasive examination methods for diagnosis and study of the various lumbar spine disorders include myelography, epidural venography, and surgical exploration. Definitive studies comparing the sensitivity and specificity of CT with that of traditional methods have not yet been reported. However, preliminary evaluations are encouraging, and suggest a high degree of accuracy in the CT examination of the spine. According to Dr. Genant, "One can speculate that CT, as a noninvasive procedure, will assume an important role as a screening procedure in low back syndromes."

As described by Dr. Genant in his review, the options for CT scanning of the low back are both practical and time-efficient. For preliminary AP

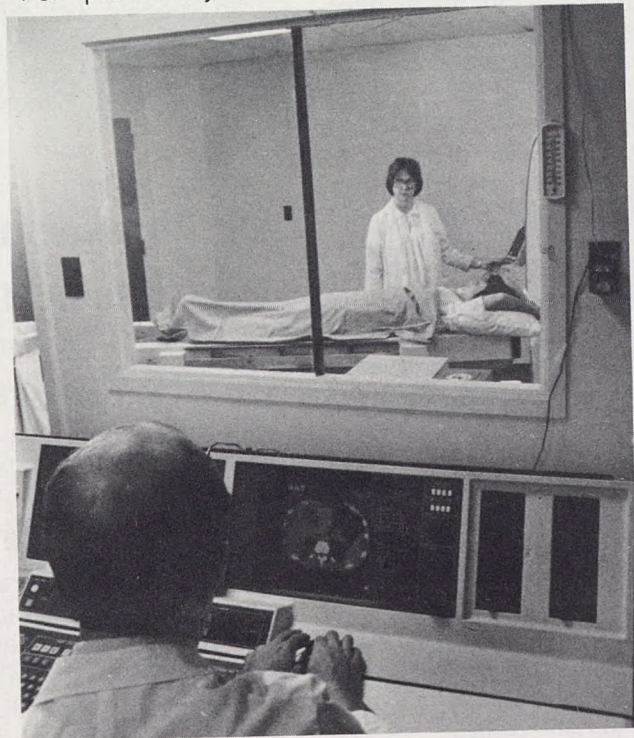
and lateral scout views, the scanning equipment itself generates an image similar in appearance to a conventional radiograph. The AP view indicates any patient position adjustments that should be made prior to obtaining the lateral view to account for anatomical irregularities such as scoliosis or angulation. The scout view image, necessary in all cases and used principally for determination of scan levels, is displayed on the video monitor and indexed to the table. According to Dr. Genant, "This technique provides precise anatomic localization for subsequent transverse scanning." Based on the suspected pathological process, the radiologist should select one of several scanning options. For example, pathologies such as spinal stenosis, pseudarthrosis, and spondylolysis are best studied by a continuous evaluation of the bony structures of the spinal canal and local soft tissue anatomy. These views are obtained with contiguous 5mm thick sections at 5mm intervals. In addition, sagittal, coronal, and oblique computer reconstructions are possible. For disc impingement syndromes, 5mm thick section scans, overlapped every 3mm at each disc level with the

gantry appropriately angled, provide true axial cuts of the discs themselves; 4 or 5 sections at each level provide views adequate in the evaluation of the disc and neural foramina. Dr. Genant stressed that interpretation, as in other diagnostic procedures in radiology, is dependent upon adequate clinical information obtained prior to computed tomography studies.

In these studies of the lumbar spine, radiologists are specifically evaluating any narrowing, enlargement, or bulging that might compromise the spinal cord or nerve roots. Some such encroachments are undetected even by conventional invasive methods. Since CT scanners have density resolution sufficient enough that the thecal sac can be differentiated from adjacent bony structures, intervertebral discs, and epidural fat without the routine use of intrathecal contrast, CT scans have obvious advantages for making a diagnosis without trauma to the patient.

Dr. Genant summarized the implications of CT findings in the evaluation of lumbar spine disorders. "When the findings are clearly normal, conservative management may be utilized, whereas, when findings are grossly abnormal and are consistent with clinical data, further diagnostic procedures may be obviated. For those cases in which CT findings are equivocal or inconsistent with clinical observation, additional invasive diagnostic procedures may be indicated prior to surgical exploration." Dr. Genant considers the potential impact of computed tomography in this area to be considerable and anticipates in the very near future that, "CT examinations of the lumbar spine will constitute a substantial portion of the body scanning procedures performed."

At Mallinckrodt Institute, CT studies of the lumbar spine are being performed by Drs. Mokhtar Gado and Fred Hodges in the Department of Neuroradiology.



Cancer Workshop: Diagnosis and Treatment of Early Breast Cancer



Participating in a post-Workshop discussion are, from left, Drs. Carlos Perez, Marc Wallack, John Bedwinek, Frank Richards, Harvey Lerner and Robert McDivitt.

A Cancer Workshop on "Diagnosis and Treatment of Early Breast Cancer" drew this year's largest Cancer Workshop crowd to date, as about 100 health professionals gathered on July 17 at Mallinckrodt Institute. The speakers, limiting their comments to early breast cancer, discussed the effects of early detection and covered surgical, radiotherapeutic, and adjuvant approaches in the treatment of minimal (less than 1 cm) tumors.

According to Robert McDivitt, M.S., Director, Division of Anatomic Pathology, Jewish Hospital, the detection of minimal tumors in asymptomatic women through self-examination, routine breast exams, and yearly mammograms should increase the percentage of breast cancer patients from about 10% to 33% who fall into the minimal tumor category. Since the chance of axillary metastasis can be related to tumor size, the overall breast cancer survival rate should increase as the percentage of patients with only minimal tumors increases.

Dr. Harvey J. Lerner, M.D., Head, Section of Cancer Chemotherapy and Surgical Oncology, Washington University, Philadelphia, discussed the question of axillary lymph node dissection. He explained that while axillary lymph node dissection (a purely local procedure) does not affect survival, it is the single most important prognostic indicator in breast cancer. Citing research into the biology of breast cancer, he also

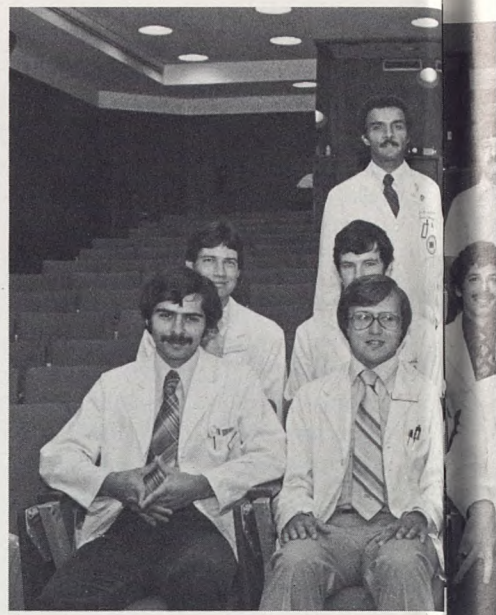
indicated that while nodal involvement is an important indicator, metastasis can be present without nodal disease. Dr. Lerner considers the disorderly nature of the breast cancer spreading process to be the biggest problem in the therapeutic approach to treatment.

Dr. John M. Bedwinek, Assistant Professor, Division of Radiation Oncology, Washington University, discussing the role of radiation therapy in the treatment of breast cancer, reported that several ongoing and retrospective studies suggest that the less radical procedures (e.g., lumpectomy plus irradiation) are as effective as more radical operations. In subclinical disease (too small to be palpable), permanent tumor control can be achieved in over 90% of the cases by using radiation therapy.

Dr. Marc Wallack, Head, Section of Surgical Oncology, Washington University, presented research data suggesting a higher survival rate in cancer patients who are treated with surgery combined with systemic chemotherapy from the beginning, even if metastatic disease has not been confirmed. The survival rate in premenopausal patients is reported to be better than in the control group. The data, though not yet conclusive, seems hopeful.

Growing research, improved treatment techniques, and early detection offer considerable bases for hope in the Stage I and II breast cancer patients.

Complete Summer Fellowship



Pictured with Drs. Simpson, left, and Stewart are: First row, left, Joel Sokel (dental), Robert Brown (Rush Medical School), Kean Griffith, and Julia Blum. Second row, left,

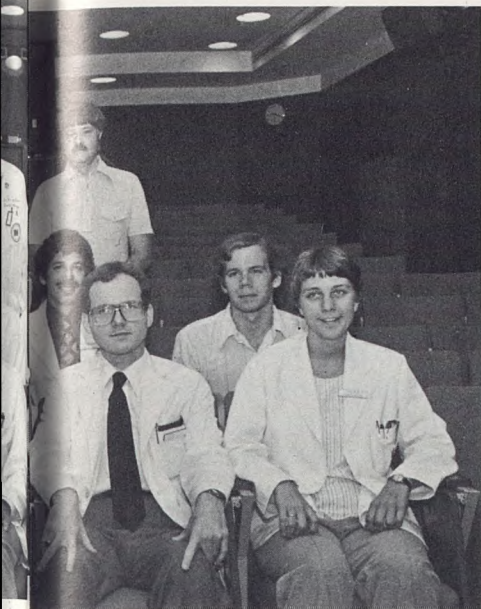
The MIR Division of Radiation Oncology continues to be a leader in the development of opportunities which provide medical students with "hands-on" experience in therapeutic radiology as well as instruction in basic radiation physics, radiation safety, and scientific research.

In keeping with this tradition, the Division successfully concluded the 1979 summer session coordinated by Joseph R. Simpson, M.D., and

Dr. Wasserman Lectures in Italy

Dr. Todd H. Wasserman reported that on his trip to Italy, May 28-June 11, he visited with Dr. Franco Pozzo, M.D., Ph.D., and Chief of Radiotherapy of the Civilian Hospital of Vicenza (30 miles west of Venice), to discuss Dr. Pozzo's work on radioprotectors. While in Vicenza, Dr. Wasserman spoke to a group of radiotherapists, medical oncologists, and radiobiologists concerning work at MIR with the radioprotector WR-2721, and specifically on its protection of bone marrow toxicity from chemotherapy agents.

1980 ASTR



Doug Munro, Robert Steelman (dental), Ethan Haskel, and Bruce Lippman (University of Buffalo). Not pictured: Neil Ettinger and Pierre La Crampe (dental).

Carlton C. Stewart, Ph.D., for the purpose of exposing first year medical students from Washington University and other institutions to the clinical and basic science aspects of oncology.

The seven medical students and three dental students participating in the program either worked primarily in clinical radiation therapy or carried out laboratory research in cancer biology.

Dr. Wasserman was also a guest lecturer at the University of Bologna, the oldest University in Europe, and the Institute of Medical and Scientific Research, located in a suburb of Rome, where he spoke on the "U.S. Clinical Trials of Misonidazole." Dr. Wasserman observed, "Cancer is as major a problem in Italy as it apparently is in the United States. Most people I met had heard of Mallinckrodt Institute of Radiology and had familiarity with the clinical publications that have emanated from this institution."

The 22nd Annual Meeting of the American Society of Therapeutic Radiologists, the largest society of radiation oncologists in the world, was held in Dallas, Texas, on October 21-25, 1980. Among the participants sharing clinical research data were many MIR Radiation Oncology staff members representing both the Clinical Oncology and Physics Sections.

New data on various treatment techniques contributed by Division staff members and their areas of presentation included:

PAPERS:

LUNG:

"Some Dosimetric Observations in Irradiation of Non-Oat Cell Unresectable Carcinoma of the Lung. A Randomized Study by the Radiation Therapy Oncology Group," **Carlos A. Perez, M.D.**

BREAST:

"Analysis of Failures Following Radiotherapy for Isolated Local-Regional Recurrence of Breast Cancer," **John M. Bedwinek, M.D.**

"Stage III Carcinoma of the Breast: Analysis of Prognostic Factors," **D.V. Rao, M.D.**

RADIATION SENSITIZERS:

"Hypoxic Cell Sensitizers and Radioprotectors: Clinical Trials of Hypoxic Sensitizers in the Radiation Therapy Oncology Groups," **Todd H. Wasserman, M.D.**

"The Tolerance of Misonidazole in RTOG Clinical Trials," **Todd Wasserman, M.D.**

"Large Fraction Radiotherapy Plus Misonidazole in the Treatment of Advanced Lung Cancer: Report of a Phase I-II Trial," **Joseph R. Simpson, M.D.**

PEDIATRICS:

"Subcapital Femoral Epiphyseal Slippage in Irradiated Children," **Craig L. Silverman, M.D.**

GYNECOLOGICAL CANCER:

"Preliminary Experiences in a Prospective Randomized Trial to Assess the Value of Hydroxycarbonyl In Addition to Conventional Radiotherapy In the Management of Advanced Stages of Carcinoma of the Uterine Cervix," **Hywel Madoc-Jones, M.D., Carlos Perez, M.D., Marvin Camel, M.D., Faye Jennings, R.N.**

"Vaginal Recurrence in Cervical Carcinoma," **D.V. Rao, M.D.**

"Analysis of Recurrences After Irradiation of Carcinoma of the Uterine Cervix," **C.A. Perez, M.D., H. Madoc-Jones, M.D., J.M. Bedwinek, M.D., J.A. Purdy, Ph.D., Sherry Breaux, B.S., W. E. Powers, M.D.**

UROLOGICAL CANCER:

"Complications of Definitive Radiotherapy for Carcinoma of the Prostate," **Miljenko V. Pilepich, M.D., Carlos A. Perez, M.D., Bruce J. Walz, M.D., Fred Zivnuska, M.D.**

"Computerized Tomography in Definitive Radiography of Prostatic Cancer, Part II," **Miljenko V. Pilepich, M.D., Carlos A. Perez, M.D.**

PHYSICS:

"The Effects of Shielding Damage of Ir¹⁹² Wires in Aesthetical Failures of Implanted Skin Cancers," **Julia Bello, M.S., C. Dyarzum, M.S., F. Abrath, Ph.D., Bruce J. Walz, M.D.**

"A Method of Producing A Homogenous Radiation Field of 'Infinite' Length — An Edge Matching Compensator for Abutting Fields to Simplify Whole and Hemibody Radiation Therapy," **Berry Stewart, M.S., Fred Abrath, Ph.D., Bruce J. Walz, M.D.**

REFRESHER COURSES:

"Carcinoma of the Hypopharynx," **James E. Marks, M.D.** "Management of Carcinoma in the Lung," **Carlos A. Perez, M.D.**

WORKS-IN-PROGRESS:

"Postoperative Adjuvant Therapy for Adenocarcinoma of Rectum — Interim Results of a Multi-institutional Trial," **Patrick R.M. Thomas, M.D.**

"Utilization of Computed Tomography for Quantitative Description of Radiotherapy Treatment Plans," **Satish C. Prasad, Ph.D., Miljenko V. Pilepich, M.D., Carlos A. Perez, M.D.**

"Carcinoma of the Urinary Bladder Treated with 2000 Rads in Five Fractions and Cystectomy," **Bruce J. Walz, M.D., Jeffrey S. Stein, A.B., Anthony A. Fathman, M.D.**

"Improved Localization Films for a High Energy Linear Acceleration," **James A. Purdy, M.D., Russell L. Gerber, Conrad Granda and Peter A. Parrino.**

SCIENTIFIC SESSION MODERATORS:

James E. Marks, M.D. — "Central Nervous System."

James A. Purdy, M.D. — "Clinical Radiation Physics."

Carlos A. Perez, M.D. — Panel Presentation on "Factors Giving Rise to and the Management of Post-Radiation Local Recurrences."

Todd Wasserman, M.D. — "Radiation Sensitizers."

PANEL PRESENTATION:

Advances In Tumor Localization, Treatment Planning, "CT Scan and Treatment Planning," **Carlos A. Perez, M.D.**

MISCELLANEOUS:

"The Effect of Radiation on Parotid Salivary Flow" — **James E. Marks, M.D., James E. Purdy, Ph.D., Fransiska Lee, M.D.**

EXHIBITS:

"Radiation Therapy Quality Control in the Southeastern Cancer Study Group" — **Glenn P. Glasgow, Ph.D., Carlos A. Perez, M.D.**

"Accessories to Improve Clinical Utilization of Radiation Therapy Treatment Units and Simulators" — **James A. Purdy, Ph.D., Peter A. Parrino, B.M.S.**

POSTERS:

"Utilization of Computed Tomography for Quantitative Description of Radiotherapy Treatment Plans" — **Satish C. Prasad, Ph.D., Miljenko V. Pilepich, M.D., Carlos A. Perez, M.D.**

Congratulations, Graduates

Technology

Class of '80 Graduates 18 Radiologic Technologists



1st row, left, Carole Hirstein, Cheryl Voss, Linda Hoyt, Janice Epplin, Ben Venegoni, Sue (Johnson) Aly, Roberta (Cattron) Sterling, Margo Lawson, and Sally Stranquist. 2nd row, Denise Brown, Michele Zak, David Forquer, David Ewing, Joe Schwarberg, Mark Albertina, Jim Teichgreaber, Marjorie Walter, and Jo Ann Wilke.

Nuclear Medicine



Back row left, Rick Devlin, C.N.M.T., Wally Fuhrman, C.N.M.T., Joel Culver, C.N.M.T. Front, Maryann Manfredini, C.N.M.T., Karen Scholl, C.N.M.T., and Hansa Amin, C.N.M.T.

Radiation Oncology



Graduates seated left, Helene Schutte, R.T.T.; Donna Linze, R.T.T.; Janet Maurath, R.T.T.; Judy Steele, R.T.T.; and Patty Belling, R.T.T., St. John's. Instructors standing left, Judy Rubach, R.T.T., Clinical Coordinator, St. John's Mercy Hospital; Betty James, R.T.T., Technical Supervisor and Program Director; Dr. Frederick G. Abrath, Instructor in Radiation Physics; Dr. G.D. Oliver, Jr., Educational Coordinator, St. John's Mercy Hospital; and Dr. Patrick R.M. Thomas, Director, Technology Training Program.

Training

Welcome New Students

25 Students Enrolled in MIR Radiologic Technology



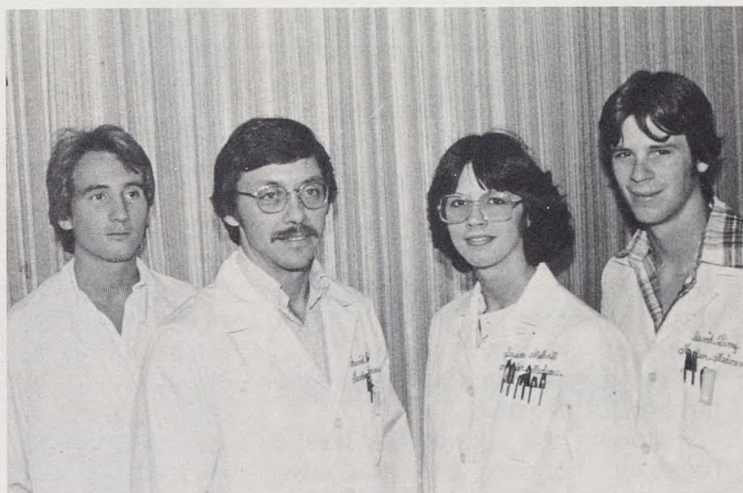
Front row, left, Saroj Suthar, Kim Bell, Tamara Lehmkuhl, Natalie Clay, Mary Chatman, Cathy Bitner, and Rita Nelson. 2nd row, Michelle Lierman, Ana Maria Gutierrez, Yamini Patel, Sue Roth, Sharon Manis, Nancy Hurley, Michelle Roth, and Debbie Crowe. Back row, Ricky Bonds, Daniel Chapman, Larry Tucker, Jacqueline Latham, Harold Watson, William Schrader, Mark McClane, and Barbara Spitzer. Not pictured: Bob Knapp and Tom Bishop.

Radiation Oncology



Back row, left, Richard Berthold, Jo Ann Wilke, Janice Eplin, Pat Hedrick, Pam Apel, Seated, Gloria Rowe, Cindy Abbott, Cathryn Mall, Kathleen Oelke, and Marsha Alliston. Not pictured: Christy Benne.

Nuclear Medicine



Left to Rt, Steve Bernier, St. Louis, MO; David Earl, Fort Wayne, IN; Susan Mulhall, Crystal Lake, IL; and David Perry, St. Louis, MO.

1980 Technology Graduation

"Some of the most important products of Mallinckrodt Institute of Radiology are the student leaders who become leaders of their profession . . . You as radiologic technologists have a special calling: to take care of patients in a compassionate concerned manner . . . we wish you good luck in caring for people in the years ahead." These were the words of Dr. Ronald Evens, Director of Mallinckrodt Institute, in a videotaped greeting to the 1980 radiologic technology graduating class at ceremonies in Scarpellino Auditorium on June 30.

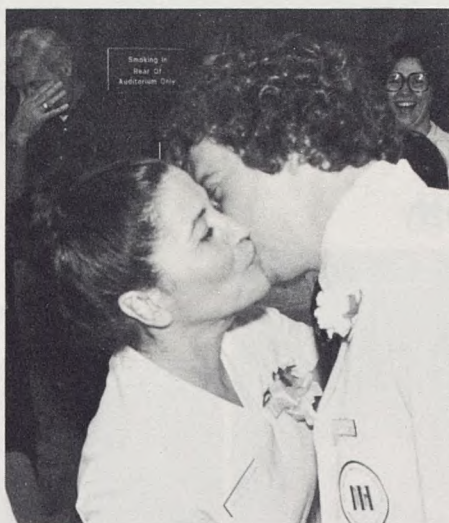
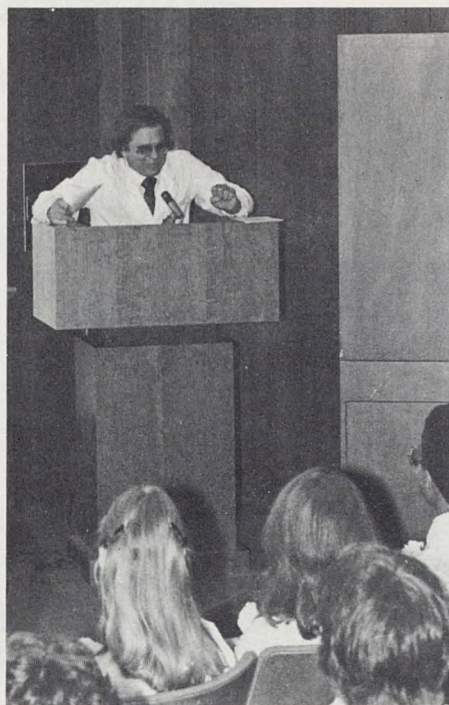
Armand Diaz, R.N.R.T., F.A.S.R.T., MIR Technical Administrator and Director of Education, joined in congratulations to the graduates for having "learned a great profession requiring discipline, perseverance, and the willingness to put needs of others ahead of their own."

Presenting the Graduate Address was David Forquer, who praised the quality of technical education at Mallinckrodt as the "best anywhere," citing examples, and attributing it in measure to the leadership of Mr. Diaz since he joined the staff in late 1960.

Gary Brink, R.T.B.S., F.A.S.R.T., Chief Technologist and Assistant Director of Education, presented the Mallinckrodt Award for outstanding achievement to David Forquer, citing his performance as "one which has singularly stood out above all the rest." Joining Gary Brink in handing out certificates to the 18 graduates was Mary Kimberlin, R.T.B.A., Program Director, Radiologic Technology.

In a surprise conclusion, Joseph Schwarberg, a member of the 1980 class presented a gift to Harriett Fieweger, secretary to Mr. Diaz, "for her patience and wonderful help throughout the years."

Following the ceremonies was a reception honoring the graduates and attended by their families and friends.



MSRT, 1980

The State Convention of the Missouri Society of Radiologic Technologists was held in St. Louis, Sept. 25-27. MIR technologists in leadership capacities were Norman Hente, R.T., general chairman; Mary Kimberlin, B.S.R.T., program chairman, and Tom Hansen, R.T., entertainment chairman.

The technical agenda included the following contributions from members of the MIR technology and nursing staff and senior technology students:

Technologist Lectures:

"Principles of Ultrasound," Jerome Campbell, R.T.

"Pediatric Radiography Utilizing Immobilization Devices," Phil Sotir, R.T.

"The Knee'd to Know — Double Contrast Fluoroscopic Knee Arthrography," Michael D. Ward, R.T.

"CPR," Linda Kratz, R.N., Jackie Martin, R.T., R.N., Mary Kimberlin, R.T., Maureen Hulse, R.T.

Technologist Scientific Exhibits:

1st Place Award — "Barium Coating, A Comparative Study," Robert Feldhaus, R.T., Norman Hente, R.T.

2nd Place Award — "Phlebography," Norman Hente, R.T., Lennis Lich, R.T.

Student Lectures:

"The Disorderly Disorder" (Arthritis), Sarah Schudel, Chris Block

"Pockets of Air" (Radiography of the Sinuses), Mary Koch, Donna Geno

"Learning the Ropes in Traction" (Portable Radiography with Traction Devices), Chris Block, Shiela Hawkins

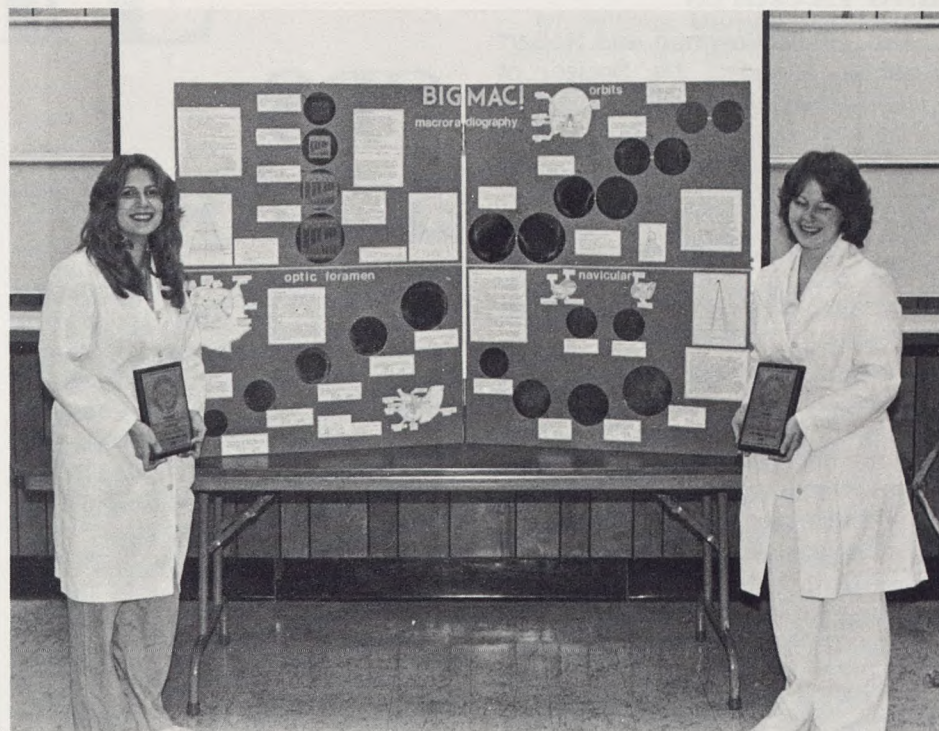
"Hydrocephalus" (Pneumoencephalography), Lisa Shockley, Jollette Nuyen

"Rays Across The Table" (Translateral Knee Radiography), Roberta Manion, Tina Meyerpeter

"Recognizing the Bug" (Isolation Technique), Larry Johnson

"TMJ Arthrography," Paul Farris, Linda Wolff

"Wee Wiggler Trap" (Pediatric Immobilization), Connie Vogler, Rachelle Vance



Student Scientific Exhibits:

1st Place Award — "Big Mac." This exhibit, by Roberta Manion and Rachelle Vance, displayed Macroradiography of various structures utilizing both small and large focal spot sizes for comparison.

2nd Place Award — "Tubal Rectification." This exhibit, by Linda Wolff and Paul Farris, pointed out the Old Method of Hysterosalpingography as compared to the many advancements.

3rd Place Award — "Renal Ultrasound." This exhibit, by Christine Block and Sarah Schudel, discussed the advantages of ultrasound of the kidneys along with the mechanics of ultrasound.

Student Essay Competition:

3rd Place Award — "Lymphangiography," Connie Vogler

Mallinckrodt Award

Radiologic Technology student, **David Forquer**, and Nuclear Medicine student, **Rick Devlin**, were the recipients of the Mallinckrodt Award for the year 1979-80. This award, which is presented to the most outstanding students, is based on academic achievement, scientific contribution, leadership ability, and loyalty to MIR.

Techno Info

MSRT Committee

Norman L. Hente, R.T., was recently appointed Chairman of the Applied Radiation Research Committee of the American Society of Radiologic Technologists. **Robert Feldhaus, R.T.**, Director of the Animal Care Facility at MIR, is also a member of this committee.

Symposiums and Lectures

Drs. Philip Weyman and Robert Koehler attended the Society of Gastrointestinal Radiology meeting in Kahului, Hawaii on the island of Maui, October 6. The Society is a group of approximately 150 radiologists from Europe, Japan and the U.S. who concentrate their interests in the field of gastrointestinal disease. Dr. Weyman presented an analysis of 40 patients in whom colon polyps were seen on X-ray but not endoscopic examination. Dr. Koehler discussed an unknown case sent to him from the University of Pennsylvania as part of an educational film review panel.

Dr. Bruce McClennan spoke on "GU Trauma" as a member of the faculty of a course on Emergency Radiology Oct. 2-4 at Upstate Medical Center in Syracuse, New York.

Dr. Bruce McClennan visited New York City Oct. 19-21 where he spoke on "Interventional Uroradiology, 1980" before the New York Roentgen Ray Society and was Visiting Professor at Columbia Presbyterian Hospital and New York University Department of Radiology.

Dr. James E. Marks spoke on "Assessing Quality of Life" at the 1980 Annual Meeting of the Missouri State Tumor Registrar's Association.

Dr. Joseph K.T. Lee presented a paper entitled "Acute Focal Bacteria Nephritis" at the Roentgen Ray Society Meeting April 19-25 in Las Vegas.

On a recent visit to Hong Kong, Dr. Lee presented three talks to members of the Hong Kong branch of the British Institute of Radiology.

Scientific Exhibit

Glenn P. Glasgow, Ph.D., and **Carlos A. Perez, M.D.**, presented a scientific exhibit on "Radiation Therapy Quality Control in the Southeastern Cancer Study Group," highlighting the radiation therapy quality control efforts in the SEG at the annual meeting of the SEG in Sarasota, Florida; the annual meeting of the Association of Physicists in Medicine, Minneapolis, Minn., July 27-31; and at the American Society of Therapeutic Radiology in Dallas, Texas, Oct. 21-26.

CBS at MIR

Dr. Michel M. Ter-Pogossian, Director of the MIR Division of Radiation Sciences, was interviewed recently by CBS Science Editor Charles Crawford on new developments in the PETT (positron emission transverse tomograph) scanner, which was developed at Mallinckrodt Institute by Dr. Ter-Pogossian and a team of bio-medical scientists. CBS camera crews visited the Institute and the site of the PETT VI to film the news segment for national television, CBS Morning News. The PETT VI is the fastest such detection system in the world for providing striking views into the living human brain.

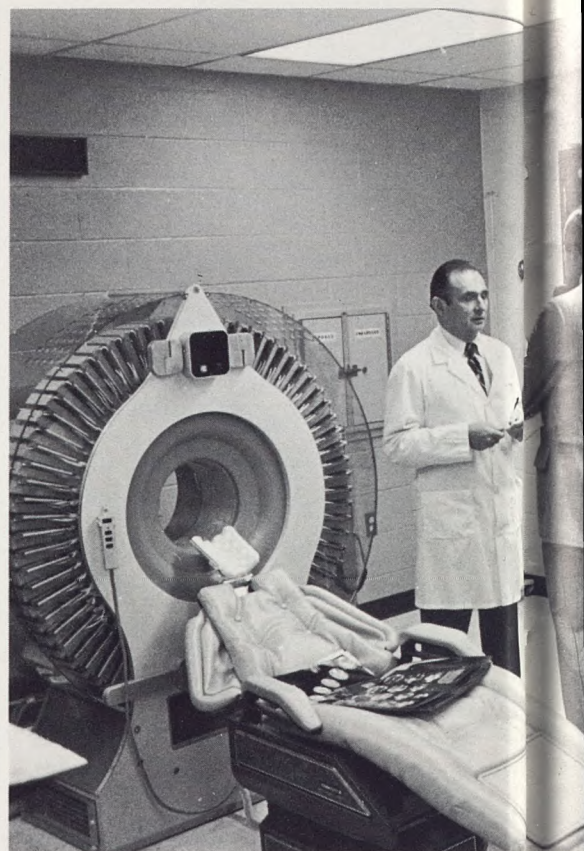
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Dr. Gilbert H. Nussbaum is the Director of the American Association of Physicists in Medicine Summer School on "Physical Aspects of Hyperthermia" to be held at Dartmouth College in July, 1981.

TV Interviews

Dr. Barry Siegel, Director, Nuclear Medicine Division, Mallinckrodt Institute of Radiology, appeared in the CBS series developed by Al Wiman, "Special Report: Cardiovascular Disease," which aired on KMOX-TV, October 14, 15, and 16. During the segment filmed in Nuclear Radiology, Dr. Siegel discussed the role of nuclear medicine in evaluating reaction to stress. For the series, Al Wiman focused on Mr. Thomas Jones, a patient who became a participant in the heart attack follow-up study being conducted by Dr. Robert Roberts. The study includes periodic stress tests that are taken in Nuclear Radiology.

NEWS



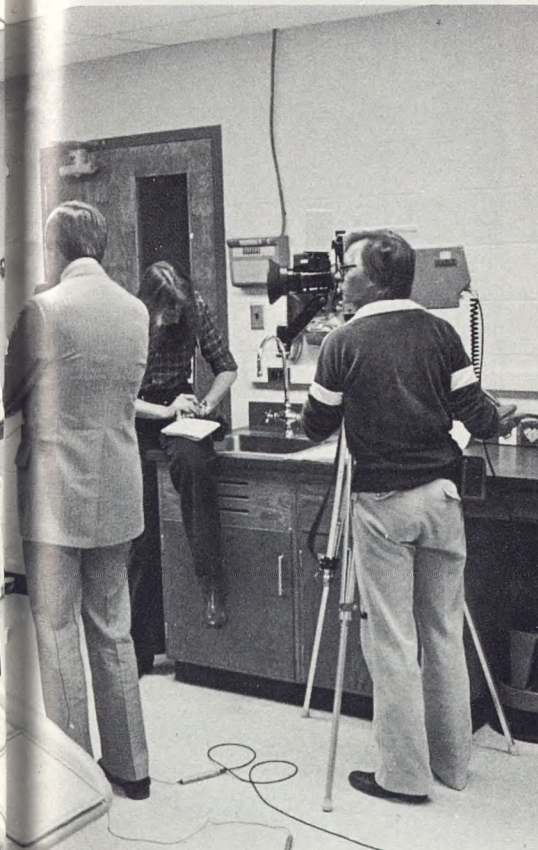
Publications

Donald R. Bernier, C.N.M.T., Director of Technical Education, Division of Nuclear Medicine, is joint editor of a comprehensive new book, *Nuclear Medicine Technology and Techniques*, which covers basic science, clinical areas, and all aspects of nuclear medicine. The book is due to be released in February, 1981.

Interviews

Several Mallinckrodt radiologists discussed "New Developments in Radiology" in a KMOX radio "To Your Health" series developed by medical reporter, Jill Stein, that aired from 9/12/80 to 9/22/80. The series included: **Dr. William Murphy** — Temporomandibular Joint Syndrome; **Dr. Lee Melson** — Real-Time Ultrasound; **Dr. Mokhtar Gado** — Embolization; **Dr. Phil Weyman** — Transhepatic Biliary Drainage and Biopsies of the Kidney, Liver and Lymph Nodes; and **Dr. Joseph Lee** — Needle Biopsies.

UPDATE



Visiting Professor

June 17-18, **Dr. G. Leland Melson** served as a Visiting Professor in the Central Department of Diagnostic Radiology, University Hospital, Lund, Sweden. He presented lectures entitled, "The Applications of Ultrasonography in Pediatric Patients," "Ultrasonographic and CT Findings in Acute Focal Bacterial Nephritis," and "The Application of CT for Staging of Renal Cell Carcinoma."

Elected Officer

Glenn P. Glasgow, Ph.D., is the current president of the Missouri River Valley Chapter, of the American Association of Physicists in Medicine which encompasses Missouri, Kansas, Nebraska, and Iowa.

Editorial

Appointments

Dr. William Murphy was recently elected to membership on the Advisory Editorial Board of *Radiology* in recognition of the past service he has rendered to the Journal through his editorial skill and expertise.

Dr. Barry Siegel was recently designated an Associate Editor of *Radiology* in recognition of his prior service to the Journal as a member of its Advisory Editorial Board.

Committee

Appointees

Glenn P. Glasgow, Ph.D. has been appointed a Member of the Radiation Protection Committee in the American Association of Physicists in Medicine for 1980 and 1981.

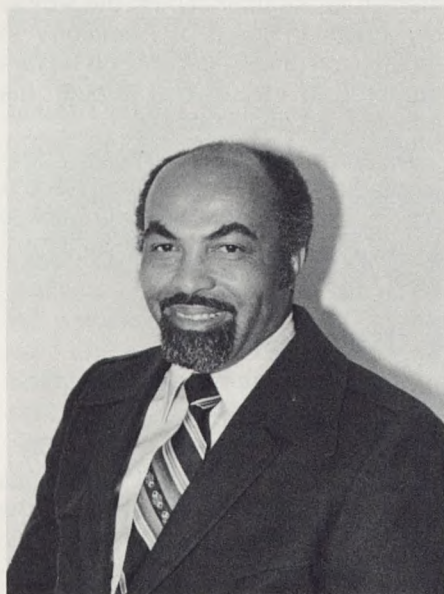
Dr. D. Venkato Rao has been appointed to the Lung Cancer Committee, Radiation Therapy Oncology Group and the Hyperthermia Committee, RTOG.

Dr. Patrick R.M. Thomas has been appointed Chairman of the Quality Control Committee, Southwest Oncology Group-Pediatrics.

CITY-WIDE RADIOLOGY CONFERENCE St. Louis, Missouri, 1980-1981

DATE	TOPIC	SPEAKER	RESPONSIBILITY FOR CLINICAL MATERIAL Second Session (7:15-8:30 p.m.)
1/19/81	Ultrasound in Obstetrics	E.A. Lyons, M.D. Director of Diagnostic Ultrasound University of Manitoba Winnipeg, Canada	Dr. G. Leland Melson and MIR Staff
2/9/81	At St. Louis University	Glen W. Hartman, M.D. Professor of Radiology Mayo Clinic	Dr. John Shields and St. Louis University Staff
3/9/81	Interventional Radiology	William J. Casarella, M.D. Professor of Radiology Columbia University, New York	Dr. Bruce L. McClennan and MIR Staff
4/13/81	Leroy Sante Lecture At St. Louis University	Nicholas E. Sargent, M.D. Professor of Radiology U.S.C. Medical Center, Los Angeles	No second session
5/11/81	Digital Imaging and Computers Radiology	R. Gilbert Jost, M.D. Associate Professor of Radiology, and Michael W. Vannier, M.D. Resident in Radiology Mallinckrodt Institute of Radiology	To be announced

Award to James Patterson



James Patterson, Administrator of Biological Research in the Division of Radiation Oncology, was one of 20 special achievers honored at the St. Louis Sentinel's seventh annual "Yes, I Can Dinner" held September 18 in Stouffer's Riverfront Towers. Awarded this recognition for his expert handling of his job responsibilities as an excellent model for young blacks, Jim has been a member of the MIR staff since 1960 where he administers affairs regarding finance and accounting, systems and operations, and personnel, in the Section of Cancer Biology. He holds a B.A. in Biology from Lincoln University and Master of Arts in Business Administration from Webster College. Jim and his wife, Mildred, who is a remedial reading specialist, live in University City with their two sons, James, III, 17, and Roger, 13.

The "Yes I Can" dinners were started in 1974 by the late Sentinel Publisher, Howard B. Woods, to honor minority achievers in business and industry in St. Louis and to inspire young black people to pursue excellence by providing an opportunity for them to meet black men and women who have risen above great obstacles to achieve success in their careers. Speaker at the dinner was Ernest Green, U.S. Assistant Secretary of Labor for Employment and Training.

Cancer Information Center is Prototype for Others

The Cancer Information Center in Barnard Hospital has inspired similar centers around the country. The first one at Ellis Fischel State Cancer Hospital in Columbia opened October 13; other centers in the organizational stages include Southeast Hospital, Cape Girardeau, and St. Anthony's Hospital and Highland Baptist Hospital in Louisville, Kentucky. Sally Herman, who as a Division volunteer was instrumental in establishing the Radiation Oncology CIC, is working closely with personnel from the other hospitals to coordinate and organize the centers.

Volunteers



Pictured with Dr. Evens in his office are: back row, left, Fred Bingaman, Ellen Christopher, Milva McGhee, Ed Thompson, Mary Ann Fritschle, and Mike Martin. Front row, left, Tyrone Thomas, Yasmine Gado, Helen Boyles, Marion Volmer, and Vincie Rehme.

An invaluable resource at Mallinckrodt are our hospital volunteers without whom it would be difficult for us to provide the quality of services that we do. In appreciation of their

Elected



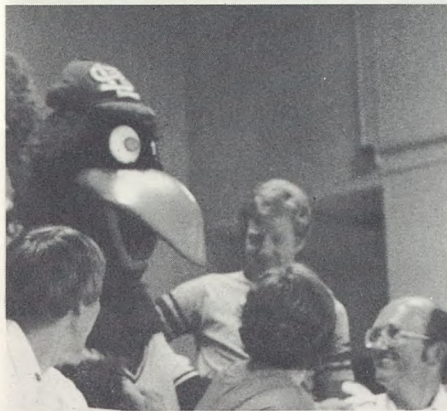
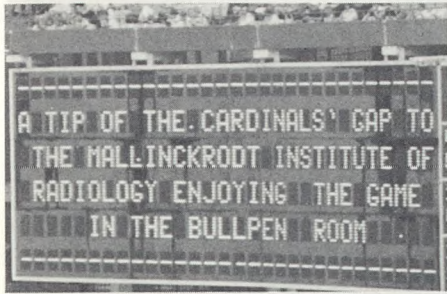
Rebecca Banks, A.C.W.W., social worker in the MIR Division of Radiation Oncology, has been elected a member of the board of directors of the Central Metro Unit of the American Cancer Society. A native St. Louisan, Mrs. Banks holds a Master's Degree in Social Work from Washington University.

The Central Metro Unit is one of the 11 volunteer units of the Cancer Society in greater St. Louis and serves the area bounded by the Mississippi River, the city limits, U.S. 40, Delmar and Page and University City.

time and talents spent serving our patients, Dr. Ronald Evens honored these volunteers at a luncheon August 21 in the eighth floor conference room.

MIR Sports Outings

Mallinckrodt Institute has its share of sports fans as evidenced by the overwhelming response of staff members, residents, spouses and friends to the Cardinal baseball and football outings. Dr. Larry L. Bauer has successfully coordinated the events which included enjoying a Cardinal victory over the L.A. Dodgers in the comfort of the Cardinal Bullpen Room and tailgating a fried chicken feast in the parking lot before attending the Big Red win over Philadelphia. Coming up on the MIR sports agenda in 1981 is a St. Louis Blues Hockey outing complete with a pre-game pizza dinner.



Historical Visit

For the Ronald G. Evens family, a highlight of a recent trip to southern Italy was their pilgrimage to Herculaneum, a Roman city, which along with Pompeii, was buried in lava and ashes when Mount Vesuvius erupted in A.D. 79. The excavation, beginning in the 1700's, uncovered a small, pleasant city with a good harbor, standing at the foot of Mt. Vesuvius, five miles from Naples. Today, a second city, which the Italians named Ercolano, has been built on top of the lava-covered Herculaneum.

In 1808, two explorers, Moses Austin and Samuel Hammond, established a community at the mouth of the Joachim Creek in southeast Missouri (the second or third continuing community west of the Mississippi River) and named it "Herculaneum" in memory of the ancient Roman city. This mining town of 2500 people was to be the birthplace of Dr. Ronald Evens in 1939. Always interested in their family heritage, Dr. Evens was especially happy to share this historical visit with his wife, Hanna, and three children, Ron, Jr., 18, Christy, 16, and Amy, 13.



Continuing Education

Current Concepts in Musculoskeletal Radiology and Orthopedics

22.5 Hours in Category 1 of the PRA of the AMA

presented by . . .

**The Musculoskeletal Section of the
Edward Mallinckrodt Institute of Radiology**
in conjunction with . . .

**The Office of Continuing Medical Education,
Washington University School of Medicine**
directed by . . .

**Louis A Gilula, M.D. and
William A. Murphy, M.D.**

Associate Professors of Radiology and
Co-Directors of the Musculoskeletal Section of the
Mallinckrodt Institute of Radiology
conducted aboard the . . .

**S/S NORWAY visiting St. Thomas and a Bahamian
Out Island. April 5-12, 1981**

The object of this symposium is to review current
diagnostic and treatment concepts of various musculo-
skeletal problems. The course is designed to help bridge
the knowledge of radiologists and orthopedic surgeons
through illustration of normal and abnormal anatomy.
Ample time is provided for audience participation and
demonstration of case material.

also featuring . . .

**"Financial Planning and Management:
A Woman's Perspective"**

conducted by . . .

William M. Friedman, Ph.D.

Associate Professor and Chairman, Department of Busi-
ness and Administration
Fontbonne College, St. Louis, Missouri

Guest Faculty

Amy Beth Goldman, M.D.
Cornell University, New York, New York
Howard A. Kiernan, M.D.
Columbia-Presbyterian Hospital, New York, New York
Morrie E. Kricun, M.D.
Hahnemann Medical College and Hospital
Philadelphia, Pennsylvania
Donald L. Resnick, M.D.
University of California, San Diego, San Diego, California
Donald P. Speer, M.D.
Arizona Health Science Center, Tucson, Arizona

Washington University Faculty

Judy M. Destouet, M.D.
Assistant Professor of Radiology
Barry A. Siegel, M.D.
Professor of Radiology
Director, Division of Nuclear Medicine

Registration Fee: \$300.00 (scientific meeting)
\$ 75.00 (financial symposium)

For information contact:

Current Concepts in Radiology and Orthopedics
P.O. Box 1835
Kansas City, Mo. 65141

Deadline for reservations: January 23, 1981



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