

Fall 1982

Focal Spot, Fall 1982

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Focal Spot

A NEWSLETTER OF THE MALLINCKRODT INSTITUTE OF RADIOLOGY

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Ultramodern Ultrasound at MIR

Ultrasound — the word itself seems to suggest the excitement generated by the wide and varied diagnostic uses of this medical application of sonar for imaging organs within the body. Highly effective in providing information on size, contour, volume, and composition of internal tissues, it is painless, noninvasive, cost-effective and can be done on an outpatient basis.

At Mallinckrodt Institute, 4,000 sonographic studies were performed in 1981 compared to 1,160 in 1977. To accommodate the growth of this diagnostic modality, the MIR Diagnostic Ultrasound (US) laboratory moved in February 1982 to newly renovated space on the fourth floor of the Institute that consists of three examining rooms, a previewing room, and an attractive patient waiting area. One room on 3 West, the former location of the laboratory, was retained for superficial-parts ultrasound scanning.

The heart of an ultrasound unit is the transducer, which contains a specialized crystal that converts electrical energy into the mechanical energy of ultrasound waves and vice versa. When the transducer is electrically stimulated, a very short pulse

(less than 1/1,000,000th of a second) of high frequency sound waves is transmitted into the body. As the pulses strike the interfaces between body structures, echoes are produced. These echoes are detected by the transducer and are converted into electrical energy. The electronic circuitry of the scanner determines the direction, depth, and strength of the echo. Combining these factors the scanner literally "paints" a static cross sectional picture or sonogram of the portion of the body examined.

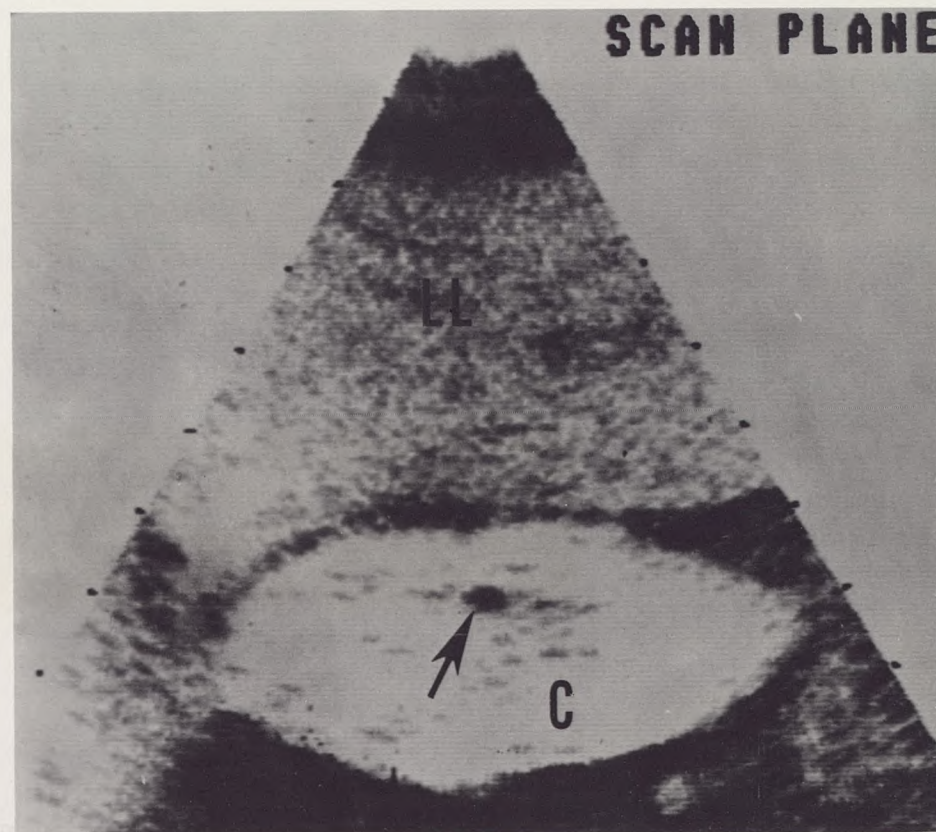
Real-time scanning, which allows the appreciation of motion, like fluoroscopy, has rapidly evolved over the past three to four years as being complementary to static scanning, particularly in the abdomen. More recently, the exclusive use of real-time scanning has gained increasing support.

Major advances in scanner design are incorporated in the US laboratory armamentarium. All of the scanners, both static B-mode and real-time, utilize computers for signal processing, which results in more reliable scanner performance, improved image quality, and enhanced capabilities for image processing. Two of the new exam rooms are equipped with digital static gray scale scanners while a third room houses a real-time mechanical sector scanner to be used for experimental image processing as well as for clinical applications. Three portable real-time scanners provide state-of-the-art examinations on critically ill patients in intensive care units and on pediatric patients, and permit rapid localization and guidance for needle-puncture procedures. Two of

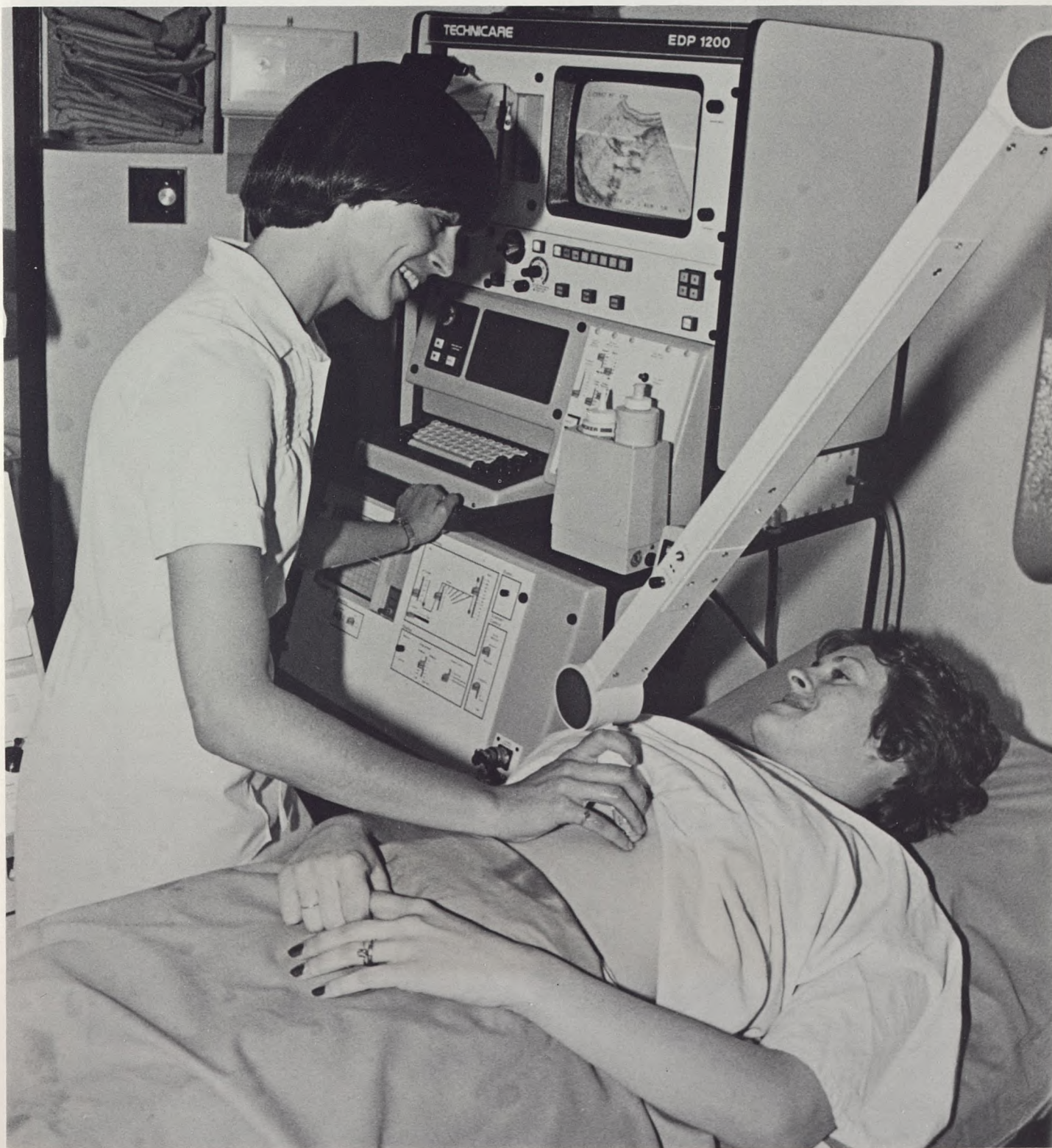
Portable real-time sector scan of the upper abdomen in a patient critically ill with pancreatitis and a large aortic aneurysm. A pancreatic pseudocyst (C) is present posterior to the left lobe of the liver (LL). Diagnostic aspiration guided by US established the diagnosis. A strong echo due to the needle tip (arrow) is shown.

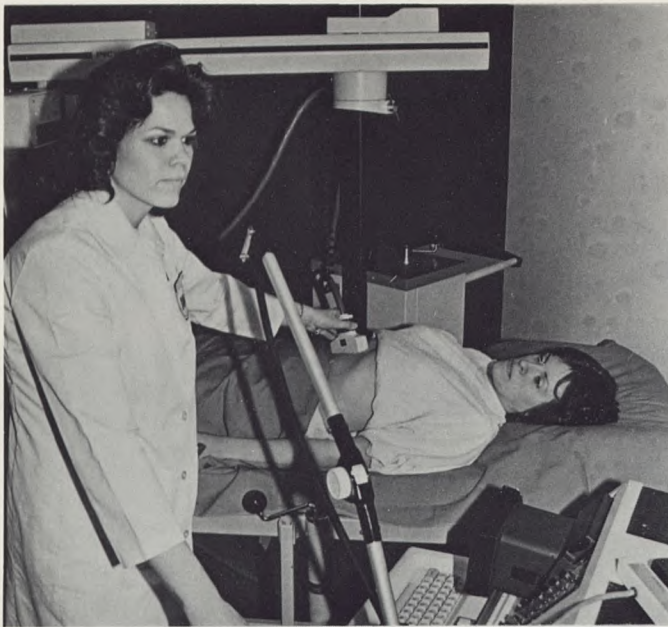
On the cover

Maureen Layton, R.T., RDMS, Technical Supervisor of Ultrasound at MIR, in the neonatal nursery of St. Louis Children's Hospital uses the rotating transducer of a portable mechanical sector scanner to direct the ultrasound beam through an infant's anterior fontanelle to produce a real-time intracranial image.



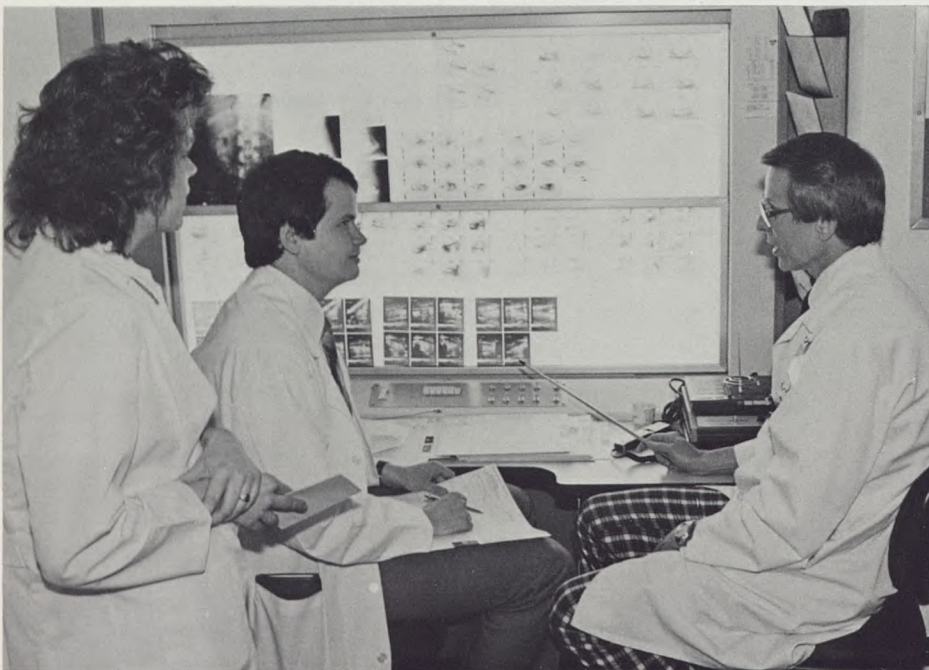
Maureen Layton, in the new MIR Diagnostic Ultrasound laboratory, performs a standard static B mode sonogram on a patient to evaluate the pancreas, liver, and gallbladder.





Theresia Girresch, R.T., at the linear array scanner, performs an upper abdominal scan.

Dr. Leland Melson, right, Chief of Diagnostic Ultrasound at MIR, reviews sonographic studies with Dr. James McDonald.



these units, a mechanical sector scanner and a high resolution linear array scanner, are utilized in most patients to complement scans performed on two static scanners. The linear array unit provides a rapid survey of organs to be studied, quickly identifies the optimal axis of these organs or masses for standard B scan studies (often showing unsuspected lesions) and is equipped with a biopsy transducer with the potential to perform intraoperative scanning.

Real-time scanning offers many advantages over articulated arm B scanning. Studies require less time and skill to perform than static B scans. The display of motion helps to differentiate cystic masses, abscess-

es, and other pathological processes from fluid-filled bowel loops. Sector scanners permit imaging through a small acoustic window and are particularly useful in evaluating patients with surgical wounds, drains, and dressings or for examining the upper quadrants of the abdomen. Identifying and tracing small anatomic structures, such as the common bile duct and small vessels, is much easier and faster with real-time studies. Published studies have established that real-time scanning is as accurate or more accurate than conventional static scanning for several applications.

Since 1980, Mallinckrodt radiologists have utilized real-time neonatal cranial scanning in collaboration with

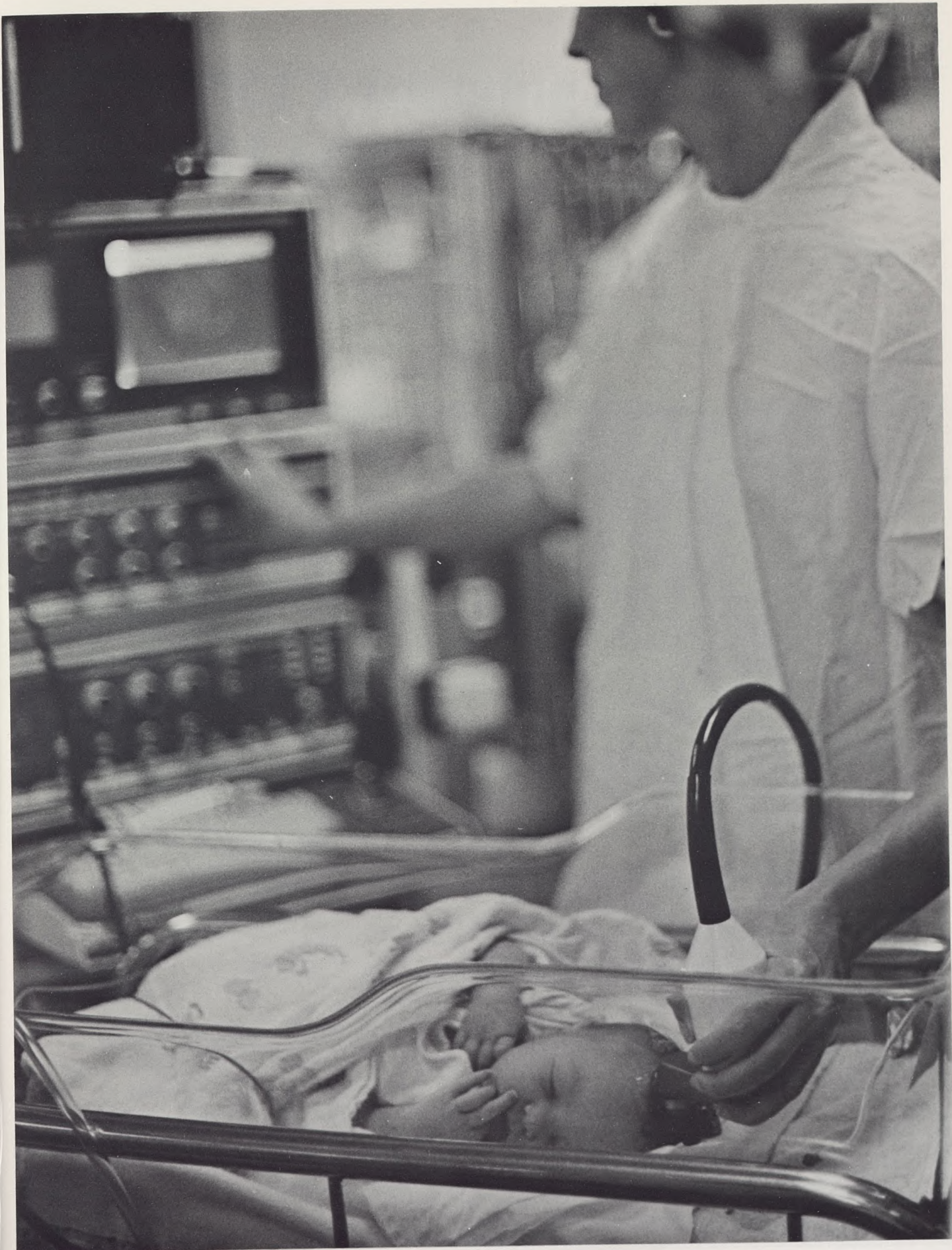
the Pediatric Section to detect minute indications of intracranial hemorrhage, which occurs in about 50% of premature and even in many full-term infants. **A portable mechanical sector scanner, right, equipped with a hand-held rotating transducer, is used to direct the ultrasound beam through an infant's anterior fontanelle to produce intracranial images that are excellent in determining the size of the ventricular system as well as determining any evidence of recent intracranial hemorrhage.** The results correlate well with computed tomography, and the studies, approximately 100 a month, are done in the neonatal nurseries of St. Louis Children's and Barnes hospitals, eliminating the need of transporting sick infants to the Institute.

Another significant advance within the US laboratory has been the development of the superficial scanner. Employing high frequency transducers (7.5-10 MHz), which allow the imaging of structures less than 1mm in size, these scanners have proven valuable in evaluating the thyroid or parathyroid glands, testes, and other superficial structures.

Ultrasonography has been firmly established as a primary imaging method for diagnosing cholelithiasis, obstructive jaundice, hydrocephalus, aortic aneurysms, gynecologic conditions, intra-abdominal abscesses, and neonatal intracranial hemorrhage and hydrocephalus. US has also proven complementary to computed tomography and other imaging techniques.

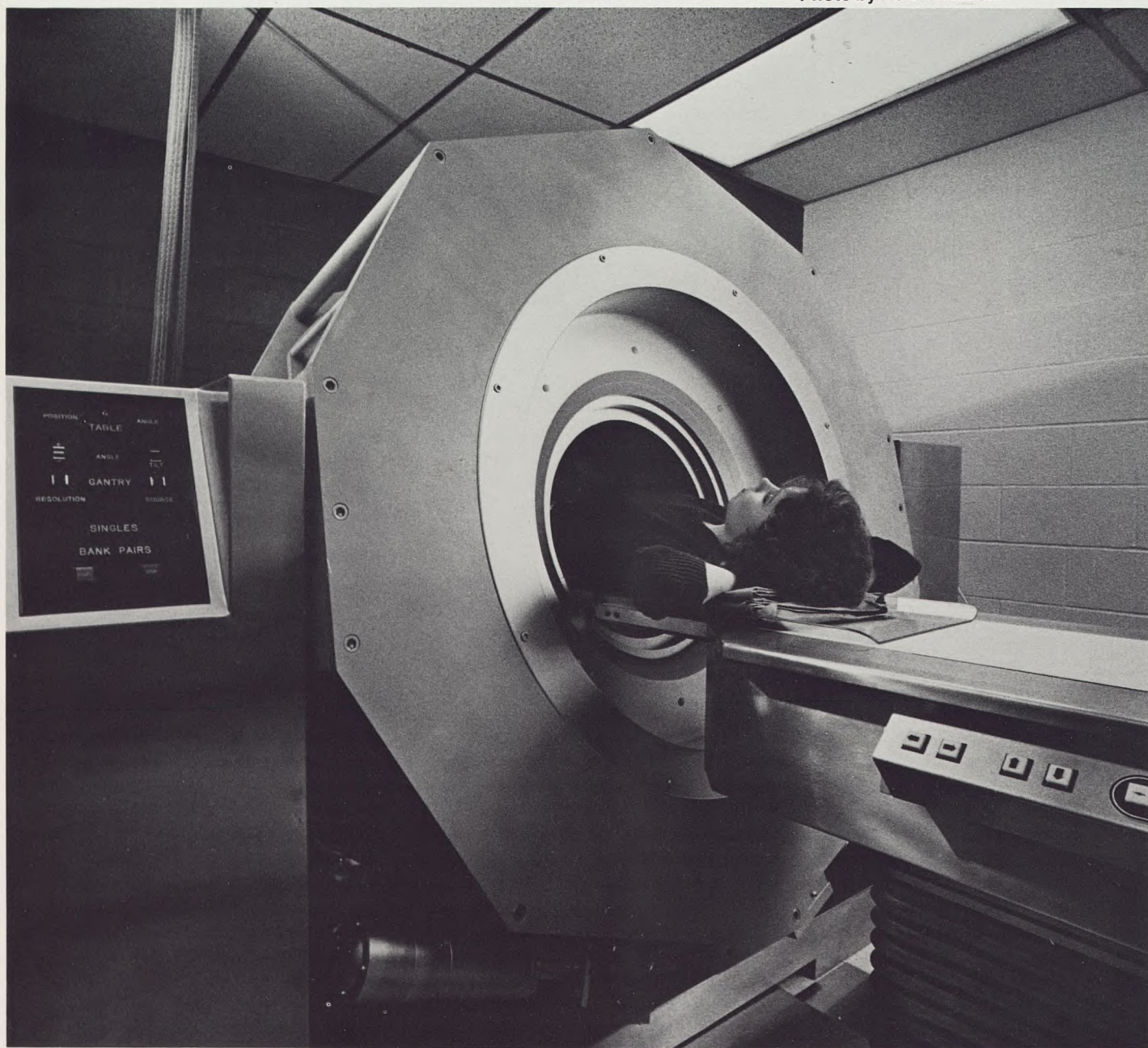
What does the future hold? Doppler ultrasound, routinely used for the examination of peripheral blood flow, is being studied as a means of detecting increased blood flow associated with rapidly growing tumors in the breast and also for evaluating the carotid arteries. US is also gaining support in distinguishing between palpable cysts and solid tumors in the dense breasts of young women and to determine whether the tumors are benign or malignant. Projected wider applications of ultrasound include imaging the prostate and bladder. Research is underway on the effects of ultrasound as an immunosuppressant therapy in cancer where reduced antibody production is desired.

The future investigative possibilities are more than intriguing.



Super PETT, seventh in the line of positron emission tomography equipment, and the first of its generation in the country.

Photo by Herb Weitman



Super PETT Imaging at the Speed of Light

In nearly two decades of research, supported by over 10 million dollars in funds from the National Institutes of Health, Michel Ter-Pogossian, Ph.D., Director of the Division of Radiation Sciences at Mallinckrodt Institute of Radiology, and other members of an interdisciplinary team have refined six generations of positron emission transaxial tomography (PETT) scanners with successive improvements that have brought PET (the generic acronym) technology to full maturity in the state-of-the-art Super PETT.

"This PET scanner represents the first biomedical imaging application of speed-of-light measurements," says Dr. Ter-Pogossian, "— a quantum leap beyond the technology and capability of the first six scanners we built at the Institute."

To undergo a PET scan, a patient inhales or is injected with molecules such as glucose or hemoglobin that are natural to the body and have been tagged with short-lived cyclotron-produced radioisotopes of oxygen, nitrogen, carbon, or fluorine. By tracking the distribution of these radiopharmaceuticals, PET produces a three-dimensional image revealing physiological functions of the organ under study. Once injected or inhaled, these radioisotopes decay by the emission of positively charged particles called positrons. When a positron encounters an electron (a negatively charged particle of equal weight but opposite charge), the annihilation radiation that occurs produces energy in the form of two equal gamma rays or photons which travel with the speed of light in opposite directions along a straight line. At the point these photons nearly simultaneously strike two PET detectors, they signal that an emission has occurred somewhere on the line between the detectors. Super PETT's 384 detectors (an increase of 96

over PETT VI) view the occurrence from many angles, sort the data into activity profiles for each angle, correct the detection efficiency and the absorption of gamma rays in the body, then display the results on a television screen.

The time-of-flight circuitry employed in Super PETT not only counts the number of photons to strike the detectors, it also identifies both the line on which annihilation radiation occurs and where along that line the photons were released. Because the photons travel at the speed of light, Super PETT's computer must be able to time photon arrival to within one-billionth of a second.

Super PETT, by more accurately defining the distribution of radiopharmaceuticals, produces a sharper signal than its predecessor, PETT VI, and further diminishes the significance of any interference. This increase in the signal-to-noise ratio results in better quality images that can provide detailed information about a biomedical irregularity within an area as small as the size of a pea.

Clinical protocols for utilizing the precision of Super PETT in imaging the function of the heart in conjunction with by-pass surgery and the enzyme treatment of myocardial infarcts have already been developed by Dr. Burton Sobel, Director of the Barnes Hospital Coronary Care Unit, the future home of Super PETT. Since images are obtained on the Super PETT in fifteen to thirty seconds (compared to eight minutes on PETT VI) the patient is able to suspend breathing during the scan, and thus reduce the possibility of a blurred image by respiratory heart movement. This single most important advance over PETT VI not only results in faster scanning time but also in lower dose of radiation to the patient.

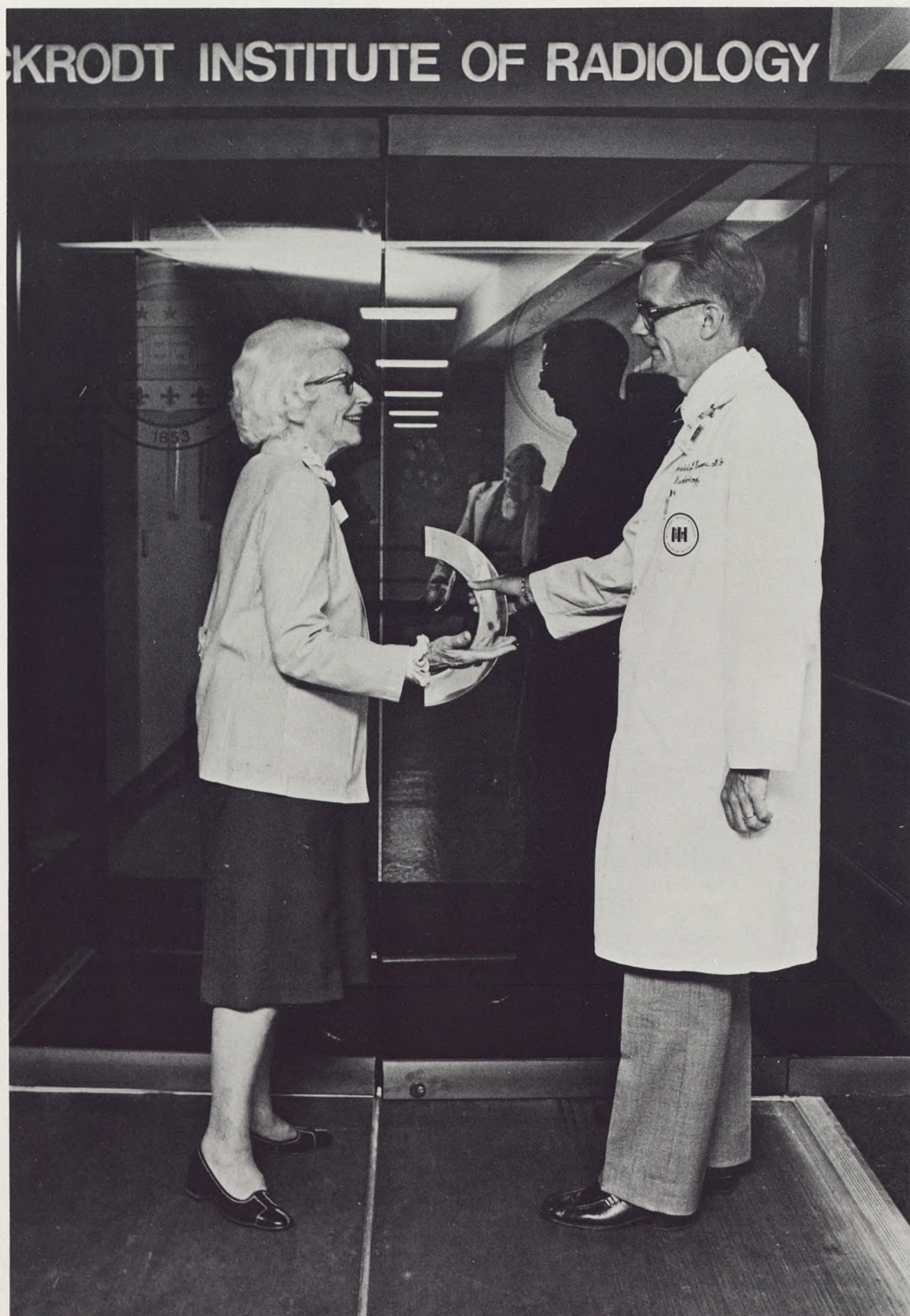
Many interdisciplinary facets have

been involved in the development of the PET scanners at Mallinckrodt Institute. Over the years, Michael J. Welch, Ph.D., and a team of scientists within the Division of Radiation Sciences have developed a major component of the PET technology: the chemical procedures for incorporating radionuclides into molecules important to the organ under study. Through ongoing collaborative research with Dr. Ter-Pogossian, the Biomedical Computer Laboratory (BCL) of Washington University headed by Dr. Lewis J. Thomas, Jr., has provided the instrumentation to follow the fate of the molecules and developed highly sophisticated strategies to interpret their data.

Dr. Marcus Raichle, neurologist, is one of the principal investigators to involve PETT VI in normal brain studies and in the quantitative interpretation of these data in terms of metabolism, tissue biochemistry, and blood flow. He predicts that if Super PETT can give better images of coronary blockages, it should also be able to give better images of the vessel blockages in the head area that can lead to strokes.

The Super PETT with its use of time-of-flight information has required specialized electronic circuits, new computer hardware, and data processing architecture — all new challenges for Don Snyder, Ph.D., chairman of electrical engineering at Washington University and others in the BCL. John Hood, Director of Operations for Washington University cyclotrons and a member of the team since PETT's inception, with Research Assistants David Ficke and Mikio Yamamoto, designed and built the gantry. The MIR Super PETT, the first of its generation in the country, was produced at a cost of approximately one million dollars.

Bea Adams, founder of the Gridiron, chats with Dr. Ronald G. Evens at the entrance of the West Pavilion facility of Mallinckrodt Institute of Radiology. The 49th Annual Gridiron will be presented April 15, 1983. Globe-Democrat photo by W.R. Moore.



A Thousand Songs, A Million Laughs 'Buy' Medical Tools

Ad Federation sees what its
Gridiron frolics have bought in
fight to cure cancer

*This article by Mary Kimbrough reprinted with permission from the St. Louis
Globe-Democrat.*

They came to see sophisticated hospital equipment designed by medical science to treat victims of cancer and find a key to its cure.

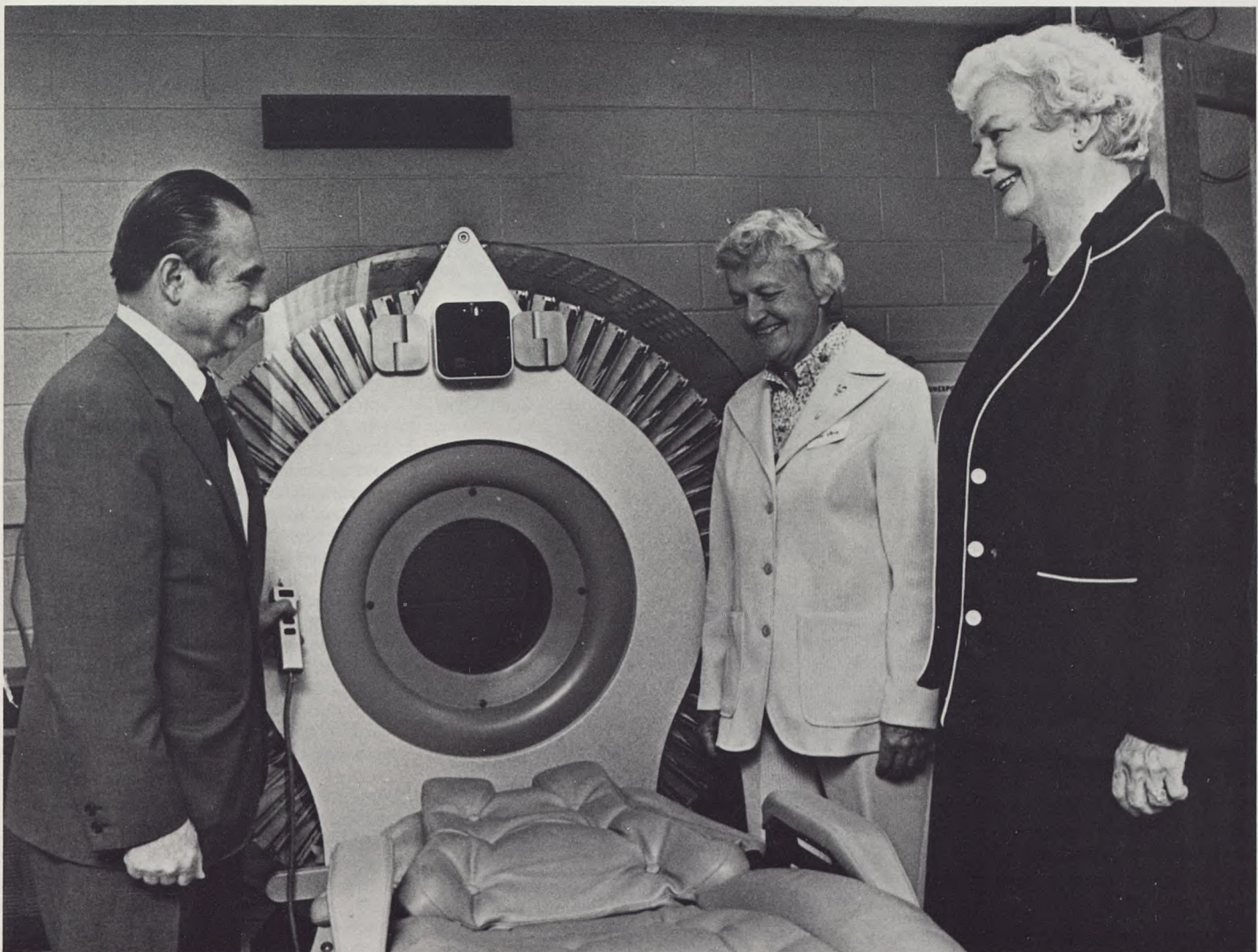
But for members of the Advertising Federation of St. Louis, it was more than a hospital tour. It was a sentimental journey.

It was more than a look at gleaming computerized giants of the nuclear age in a world of suffering and pain and, often, grief. It was a voyage backward through time.

Back to 1935 it took them, back to a winter night when a funny, stumbling little bunch of skits in a private dining room at the old Statler

Hotel became the queen mother of the rollicking, legendary Gridiron. Back to 1945 when proceeds of the Gridiron, by then well-established and thriving, were first earmarked for cancer research.

TODAY, THE TOTAL of those annual gifts exceeds \$450,000. The federation recently



Dr. Michel Ter-Pogossian discusses PETT with Ellie Ohrn, center, and Pat Mansfield, chairman of the 1974 Gridiron, the show whose proceeds represented a portion of the funding for PETT. *Globe-Democrat* photo by W.R. Moore.



Participating in the presentation of a check for \$10,000 representing the proceeds of the 1982 Gridiron were, from left, Mrs. Wendell G. Scott, vice-president, Board of Directors, Barnard Hospital; Joan Persels, 1982 AFSL president; Dr. Carlos A. Perez; and Sharon Wachter, 1982 general chairman.

combined its annual meeting with a tour of two beneficiaries, Barnard Hospital and Mallinckrodt Institute of Radiology, both units of Washington University Medical Center. During the tour, federation President Joan Persels presented this year's Gridiron proceeds — \$10,000.

The organization's contributions have served as seed money to stimulate more than \$1 million in grants and other donations and because of its interest, one research floor at Barnard has been dedicated to the Women's Advertising Club, as the federation formerly was known.

It has been paid for, in part, with a thousand songs and a million laughs. This is the stuff of Gridiron.

As they walked through the halls and the laboratories, these business and professional women who one evening each year happily turn into clowns for charity, were looking back and remembering.

Here were Bea Adams, who started it all in January 1935 on the wings of a parody and a prayer. And here were those who have kept 'em laughing through the years as Gridiron grew and prospered: Pat Mansfield, Ellie Ohrn, Lucile Quernheim, Rosalie Solomon and Dorothy DeDoyard. Here were younger members who have stepped into the Gridiron world.

AND OVER IT ALL hovered the giggling ghosts of Gridiron gags and gaffes. Here they belonged. "Laughter is still the best medicine," said Bea Adams as she joined the group for its tour.

"That's why Gridiron began back in 1935," she added. "We were just coming out of the Depression. People needed to laugh. And we gave them that."

The first show, meant to be a one-time-only

event, was on the night of the Gridiron sponsored by the men of the St. Louis Advertising Club. Because women were not allowed to attend the men's Gridiron, the wives of the members of the men's ad club were special guests at the 1935 show.

"It was a snowy night," Bea recalled, "and I was driving over from Belleville where I lived and the car slid into the ditch."

She was bringing the cocktails for the party and props for the show. She thumbed a ride with a bakery truck and arrived at the Statler in time for the show, startling hotel guests as she paraded into the dining room with her big show sign, "Gates of Heaven."

The show, as rough-hewn as it was, proved such a spectacular success that stars were born and a tradition was launched.

"AT FIRST, IT WAS just for fun," Miss Adams continued. "We had people laughing not only at us but at themselves, and that was good.

"Then came the war, and we gave them more to laugh about, helped them forget there was a war on."

But the advertising women didn't forget. They sent blankets to Britain for women and children sleeping in London subways and bought ambulances for Barnes Hospital and the American Red Cross and a plane for Civil Air Patrol.

With war's end, the beneficiary changed to medical research, but not the tradition of Gridiron.

"St. Louis Boos," "Corned Beef," "Lass Menagerie," "A Funny Thing Almost Happened," "Kook's Tour," "Queens Are Wild" — only the show names were changed, but not to protect the innocent. The great and the near-great and the wish-they-were-great have shared the barbs and the boo-boos and

laughed at each other and at themselves.

"BUT ONE OF THE great things about Gridiron," she continued, as she greeted longtime stars of the show arriving for the meeting, "is that it brought us close together. We became good friends. We cared about each other. I remember one dress rehearsal when Elna Engelhardt couldn't drive from her home in Marissa, Ill., because of a snowstorm and Frieda Homsey drove all the way over there to pick her up. That's how much people cared.

"Once," she recalled, "we hid tape recorders on the tables, then played back the conversation. The women almost died. Another time, we had a female impersonator at a table, then brought him on stage and he took off his wig and told what he had heard. The women were desperately trying to remember what stories they had been passing around the table."

Miss Adams, retired vice president of Gardner Advertising Co., a National Advertising Woman of the Year and a 1956 Globe-Democrat Woman of Achievement, authored many of the scripts, but she just couldn't stop writing, even after the curtain had gone up. She would stand in the wings and toss new gag lines to players as they were waiting to go on again for another scene.

THAT'S ONE REASON she wrote in the now-famous scrubwomen, such a success in their debut that they returned year after year, among the most popular acts in Gridiron history.

Sometimes a line was muffed or a scene went flat. At the first Gridiron, the makeshift curtain of a white sheet fell down when a guest accidentally walked by, so Bea just kicked it aside and went on with the show. Flubs and fizzes and flops are a part of Gridiron's story.

But its charity has never failed.

And recently, as Federation members walked through Mallinckrodt and Barnard, some for the first time, they saw the results of that philanthropy.

Among them are:

- **Hyperthermia Treatment and Research Center**, the world's largest such facility, developed by Mallinckrodt scientists. Hyperthermia, high body temperature induced for therapeutic purposes, was first documented in 1866 as a means of inducing tumor regression, but only in recent years, with development of new technology, has it become a viable treatment method. Hyperthermia temperatures of 107.6 degrees to 113 degrees tend to kill cancer cells but leave normal cells less affected.

- **Positron Emission Tomography (PET)**, a unique device which can detect isotopes in specific locations. Developed by Dr. Michel Ter-Pogossian, professor of radiation sciences, and a team of biomedical scientists, PET offers exciting possibilities, authorities say, in the detection of cancer in many organs and in providing information on tumors hitherto undetectable by other methods.

- **Nuclear Medicine Computer**, uses of which include following the heart function of cancer patients who are being treated with anti-cancer drugs which have toxic effects on the heart; diagnosing heart attacks and analyzing the effects of cardiac treatments, and predicting the post-operative function of the remaining lung after removal of a tumor-bearing lung.

- **20 MEV**, a radiation treatment machine utilizing high energy X-ray and electron beams to penetrate deep-seated tumors while sparing sensitive normal tissues.

- **Mammography equipment** which detects breast cancer as small as a pencil point.

Just as the diagnostic and treatment facilities have changed and expanded and grown more sophisticated, so has their special "angel," the annual Gridiron.

The funny little bunch of skits of 1935 has developed into an extravaganza. The price of tickets has multiplied fiftyfold. Husbands and escorts used to arrive late to pick up their wives and dates at the all-woman show and party, but today, men are in the cast and the audience.

Still, the 48th annual Gridiron, presented April 1 at the Chase-Park Plaza Hotel, "Ding-a-Ling Bros. and Burnum & Boilum Presents The Greatest Show on Mirth," followed by the pattern of pans and puns and songs and dances begun nearly a half-century ago.

As a part of the federation's annual meeting, a videotape of the 1982 show was replayed for the members as they sat in the Mallinckrodt Institute auditorium.

"Hear the Gridiron cry," shouted the chorus. "Help us boil and fry, take the hypocrites and knock 'em in the eye, take your blues and woes and put 'em in the past."

A few hundred feet away stood the cancer research and treatment equipment which the federation had helped buy with a million laughs, and not far were the patients, beneficiaries of Gridiron charity.

Once again, pain had melted into song.



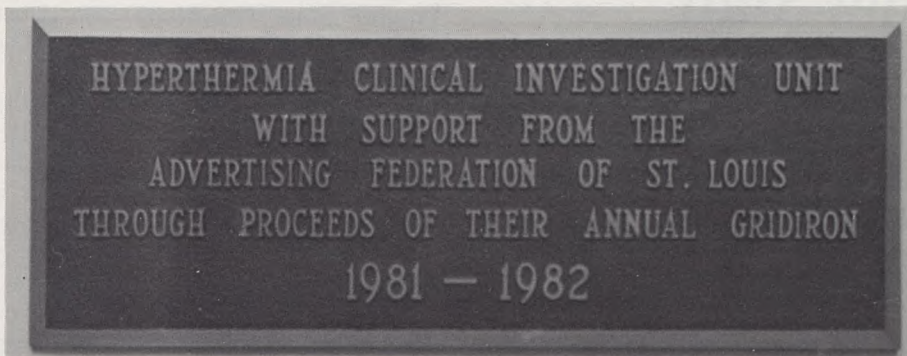
The 1977 Gridiron proceeds were contributed toward the purchase of a special purpose mini-computer in Nuclear Medicine. Dr. Barry Siegel, Director of the Division, explains its uses to Ruth Noble, left, and Naomi Ringis.



Sally Hermann, right, chairman of the volunteer staff of the Cancer Information Center in Barnard Hospital, welcomes AFSL members.



The 20 MeV, a sophisticated cancer treatment machine utilizing high energy and electron beams, is explained by Richard Keyes, M.S., Assistant Clinical Physicist at MIR.



AFSL's support of the Hyperthermia Treatment and Research Center is commemorated at the entrance to the facility with a new bronze plaque, which is unveiled during the members' tour of Mallinckrodt and Barnard.

The Director's Office Reports

Recent Promotions

James E. Marks, M.D., to Professor of Radiology.

Gary D. Shackelford, M.D., to Professor of Radiology.

Rexford L. Hill, M.S., to Associate Professor of Radiology.

Joseph K.T. Lee, M.D., to Associate Professor of Radiology.

Miljenko V. Pilepich, M.D., to Associate Professor of Radiology.

Charles L. Abramson, M.D., to Associate Professor of Clinical Radiology.

Bruce J. Walz, M.D., to Associate Professor of Radiology.

Alexander Nakeff, Ph.D., to Associate Professor of Cancer Biology in Radiology.

Ben Dien-ming Chen, Ph.D., to Assistant Professor of Cancer Biology in Radiology.

D. Venkata Rao, M.D., to Assistant Professor of Radiology.

Michael R. Kilbourn, Ph.D., to Assistant Professor of Radiation Sciences in Radiology.

Harvey Glazer, M.D., to Assistant Professor of Radiology.

Donald Wadsworth, M.D., to Assistant Professor of Radiology.

John Wong, Ph.D., to Assistant Professor of Radiation Physics in Radiology.

New Staff

Michael W. Vannier, M.D., Assistant Professor of Radiology

John Wai-Chiu Wong, Ph.D., Assistant Professor of Radiation Physics in Radiology

Mark A. Green, Ph.D., Research Associate of Radiation Sciences in Radiology

Off Staff

Robert J. Stanley, M.D., accepted the position of Professor and Chairman of the Department of Diagnostic Radiology at the University of Alabama Medical Center in Birmingham, effective July 1, 1982. Dr. Stanley joined the staff of Mallinckrodt Institute in 1970 and was appointed Director of the Abdominal Radiology Section in 1971 and Professor of Radiology in 1978.

Gregory T. Odrezin, M.D., has begun a one-year fellowship in pediatric radiology at Children's Hospital Medical Center, Cincinnati, Ohio, after completing a four-year diagnostic radiology residency.

James D. Schroering, M.D., after completing one year as an instructor and fellow in Nuclear Medicine, has entered a multi-specialty private practice associated with Winona Memorial Hospital in Indianapolis, Indiana.

Craig L. Silverman, M.D., completed a two-year residency in Radiation Oncology and has joined the staff of the Joint Radiation Oncology Center at the University-Presbyterian Hospitals, Pittsburgh, Pennsylvania.

Bruce J. Thaler, M.D., completed a four-year diagnostic radiology residency and has entered private practice at Genesee Hospital, Rochester, New York.

Frederick A. Valeriote, Ph.D., Professor of Cancer Biology in Radiology, has accepted a position at Wayne State University School of Medicine and the Michigan Cancer Foundation, Detroit, Michigan.

Miriam Jill White, M.D., after completing a three-year diagnostic radiology residency, has entered private radiology practice at St. John's Hospital in Springfield, Illinois, and has a faculty appointment at the Southern Illinois School of Medicine.

Robert E. Koehler, M.D., Associate Professor of Radiology, has joined the Department of Radiology at the University of Alabama Hospitals, Birmingham, as Professor and Vice-Chairman.

Peter A. Parrino, M.S., Research Associate in Radiation Physics in Radiology, has joined the staff of McDonnell Douglas as a systems electronic engineer.

David Ling, M.D., completed a three-year diagnostic residency and has begun a fellowship in ultrasound/computed tomography at Duke University Medical Center, Durham, North Carolina.

Sidney D. Machevsky, M.D., has entered a hospital-based radiology practice at St. Joseph's Hospital in St. Charles, Missouri, after completing a three-year diagnostic residency and a one-year fellowship in Nuclear Medicine.

Matthew A. Mauro, M.D., completed a one-year fellowship in abdominal radiology at MIR and has joined the radiology staff of the University of North Carolina, Chapel Hill, as Assistant Professor of Radiology and Chief of Gastrointestinal Radiology.

James E. McDonald, M.D., has joined a private practice radiology group associated with Mississippi Baptist Hospital in Jackson, Mississippi, and has an appointment to the clinical radiology faculty of the University of Mississippi School of Medicine.

Bharat B. Mittal, M.D., Instructor in Radiology in the Division of Radiation Oncology, has accepted an academic position as Assistant Professor in the Department of Radiation Oncology, University of Pittsburgh.

Keith L. Mullenger, M.D., completed a four-year diagnostic radiology residency and has entered private radiology practice at Belleville Memorial Hospital, Belleville, Illinois.

Mark D. Nicol, M.D., completed a three-year diagnostic radiology residency and for the next four years will serve on the radiology staff of the Naval Regional Medical Center, San Diego.

Stephen Sapareto, Ph.D., Assistant Professor of Cancer Biology, has joined the staff of Wayne State University School of Medicine as Assistant Professor in the Department of Medical Oncology.

Washington University Honors Nobel Winner

Dr. and Mrs. Ronald G. Evens are pictured with Sir Godfrey Hounsfield, right, Nobel Prize winner and recipient of an honorary Doctor of Science degree at Washington University's 121st annual commencement, May 21. A Commander of (the order of) the British Empire (C.B.E.) and a Fellow of the Royal Society (F.R.S.), Sir Godfrey Hounsfield was named co-recipient of the 1979 Nobel Prize in medicine for inventing the revolutionary computed tomography (CT) scanner system. He was awarded the Gold Medal of the American College of Radiology in 1980. Sir Godfrey has visited the Institute on several occasions since 1974 to collaborate with Dr. Evens and MIR scientists and clinicians. The EMI body scanner was evaluated for clinical use at the Institute before the machines were developed for use throughout the world.

The distinguished inventor, senior staff scientist at Thorn EMI Central Research Laboratories, Hayes, Middlesex, England, discussed NMR at the noon conference on a visit to the Institute May 20th.



Mallinckrodt Institute and the Medical World Community

(MIR continually shares clinical expertise and medical research with institutions and individuals around the world. This article is the first in a series concerning the Institute's outreach program.)

During the spring months of 1982, **Dr. Robert G. Levitt** was on assignment to the CT Scanning Unit at the Royal Marsden Hospital in Sutton, London. A 250-bed referral hospital for patients with unusual cancers that require specialized treatment including chemotherapy and radiotherapy, the Marsden draws its patient population from the British Isles, the Continent, and the Middle East.

"My attachment to the Marsden CT Scanning Unit, which is one of the few in the United Kingdom, was an opportunity for me to share our body CT experience at the Mallinckrodt Institute, and at the same time to learn the English approach to CT scanning," said Dr. Levitt, Associate Professor in the Chest Radiology

Section. "The hospital's CT scanner (Siemens Somatom 2) is shared by Diagnostic Radiology, Radiation Therapy, Hospital Physics, and the Institute of Cancer Research located on the hospital grounds. Because of the heavy demand upon the scanner, CT examinations of the brain and body are tailored to a patient's particular clinical problem. Patients with diseases which can be evaluated by other radiographic modalities, e.g., lymphangiography to evaluate lymphoma, do not undergo CT scanning because of the demands upon the scanner."

"I was particularly impressed by the clinical acumen of English House Officers in training as well as that of the Consultants," said Dr. Levitt. "They have developed their clinical skills to a high degree since many of the diagnostic tests we have available in the United States are not available in the United Kingdom."

Dr. Levitt considers the values of this assignment to include the opportunity to study many varieties of tumors which he had not encountered in the U.S. and to have become acquainted with different cultures. For example, he learned that the Nomadic tribesmen of the Middle East have a very high incidence of osteogenic sarcoma in middle age.

A large percent of the Marsden patient population included children with cancer who, though quite ill, motivated everyone to work together harmoniously and efficiently. "The hospital functioned as an oversized family rather than as a medical institution," noted Dr. Levitt. "Patient care remained unaffected by a national strike which closed down other hospitals. The goals in all diagnostic tests and therapies, including CT, were to relieve pain and allow patients to lead functional lives."

A New Beginning

1982 —

Diagnostic Radiology 1st Postgraduate Year

Dr. Akemi C. Chang was born in Tokyo, Japan, and received her undergraduate degree in chemistry at Stanford University in Palo Alto, California. Completing her M.D. degree at Washington University, Dr. Chang was the recipient of the Merck Manual Award. Dr. Chang's husband, Daniel Gluckstein, M.D., is a resident in Internal Medicine at Jewish Hospital.

Dr. Michael Ethan Katz, a native of Michigan, received his B.S. degree in zoology from the University of Michigan in Ann Arbor and his M.D. degree from Yale Medical School in New Haven, Connecticut. A member of AMA and the American Academy of Sciences, Dr. Katz enjoys swimming and indoor racquet sports. His wife, Cheryl, is a dental hygienist.

Dr. Kenneth Wade Martin was born in High Point, North Carolina, and educated in California. He obtained an A.A. and a B.S. in biological sciences from Los Angeles Pierce College and the University of Southern California, then completed his M.D. degree at the University of California, San Diego. Dr. Martin pursues interests in gymnastics and hang-gliding, while his wife, Dominique, who is trained in child psychology, particularly enjoys water sports and skiing.



Dr. John Hart Niemeyer was born in Akron, Ohio, and received his B.S. in physiology from the University of Michigan and his M.D. at Washington University, where he was recipient of the Alfred Goldman Book Prize in Diseases of the Chest. Dr. Niemeyer and his wife, Maureen, who is an RN at St. Louis Children's Hospital, enjoy running and swimming. Together they enjoy golf, skiing, and their ten-month-old son Matthew.

Dr. Chris L. Palaskas, from Kansas City, Missouri, received his B.A. in chemistry and M.D. from Kansas University. A member of AOA and Phi Beta Kappa, he was the recipient of the Lange Book Award and the Mosby Book Award, and was placed on the National Dean's List. A guitarist who plays both classical and jazz, Dr. Palaskas also enjoys bicycling and tennis.

Dr. Kenneth S. Rholl, from Minneapolis, Minnesota, received his B.A. degree in chemistry from Gustavus Adolphus College in St. Peter, Minnesota. He holds an M.D. degree from the University of Minnesota and is a member of AOA. Dr. Rholl's special interests are tennis, racquetball, skiing, and wind-surfing.

2nd Postgraduate Year

Dr. Norbert J. Liebsch, from Haseluenne, West Germany, received his Ph.D. in physics and his M.D. from the University of Munich. After serving an internship at the University Hospital in Munich, he came to the United States for a year's residency in radiation therapy at the Mayo Clinic in Rochester, Minnesota. In his leisure, he enjoys reading, classical music, and playing the piano.

Dr. Mark Schwimmer, a native of Brooklyn, New York, received his B.S. in microbiology from the University of Michigan in Ann Arbor, then returned to take his M.D. at New York University in New York City. His wife, Eva, is an occupational therapist and enjoys cooking. In contrast to his enthusiasm for the fast action of racquetball, he is also interested in photography and philately.

Dr. Paul Norman Weiss left his native Salt Lake City, to obtain an A.A. in Liberal Arts from Franklin College in Lugano, Switzerland. He returned to Salt Lake City and the University of Utah for a bachelor's degree in chemistry, an M.D., and an



New Residents

New members of the MIR House Staff with Dr. Ronald G. Evens, Radiologist-in-Chief and Director of MIR, after the resident luncheon. Back row, left, Drs. Norbert Liebsch, John Niemeyer, Kenneth Rholl, Kenneth Martin, David Trenkner, Chris Palaskas, Mark Schwimmer, Jay Heiken, and Michael Katz. Seated, left, Drs. Michael Teng, Janette Worthington, Ronald Evens, Akemi Chang, and Paul Weiss. Not pictured, Drs. Marie E. Lee, Joseph Fields, and Perry Grigsby.

internship at LDS Hospital also in Salt Lake. Active in motorcycle touring and alpine and cross-country skiing, Dr. Weiss and his wife Bonnie add individual interests in photography and geology to create a full slate of leisure activities. Bonnie is employed by a title company where she does record searches.

Dr. Janette Lewis Worthington received her medical education in her native Richmond, Virginia, at the Medical College of Virginia, where she obtained a degree in medical technology, completed the M.D. degree, and served an internship in internal medicine. There she also met her husband, Andrew K. Worthington, a neurology resident at Barnes Hospital. Dr. Worthington's hobbies are painting and playing the piano.

Dr. Michael Mu Huo Teng was born in Taiwan and received both his M.B. in medicine and his M.D. at the National Defense Medical Center in Taipei, Taiwan. He served an internship and a radiology residency at Veterans General Hospital in Taipei before coming to MIR. Dr. Chang and his wife, Mei Lin, who is a nurse, have two children: Ya-Tin, age four, and Chin-Wen, one-year.

Radiation Oncology 1st Postgraduate Year

Dr. Joseph N. Fields was born in Beaumont, Texas, and is entering his first postgraduate year in Radiation Oncology at MIR. His previous formal education includes a B.S. in physics from Massachusetts Institute of Technology, a M.S. in physics from Cambridge University in England, a Ph.D. in physics from Stanford University, and his M.D. from the University of Miami. He is a member of AMA and the American Physical Society. Dr. Fields and his wife Deborah have one daughter, Emily, age five.

Dr. Perry W. Grigsby, a native of Kentucky, was born in Cadiz and was educated at the University of Kentucky where he received a B.S. in zoology, an M.S. in Medical Physics, and his M.D. degree. Honored as Outstanding Senior Student in Radiation Oncology and a member of several professional societies, Dr. Grigsby is in his first postgraduate year in Radiation Oncology at MIR. He and his wife Connie have two daughters, Amy, three, and Beth, five. In his leisure he enjoys reading, cooking, and woodworking.

Dr. David A. Trenkner is beginning his first postgraduate year as a resident in Radiation Oncology. Born in South Bend, Indiana, he received both his B.A. degree in math and his M.D. degree from Indiana University in Bloomington. Dr. Trenkner enjoys basketball and skiing and plays tennis at least once a week.

Nuclear Medicine 5th Year Resident

Dr. Marie E. Lee, 5th year resident in Nuclear Medicine, was born in Atlanta and graduated Phi Beta Kappa from Emory University where she received both her B.S. in biology and her M.D. degree. Following the completion of an internship at Texas Children's Hospital in Houston, Dr. Lee served a one-year pediatric residency at Baylor College of Medicine and a three-year radiology residency at the University of Virginia. She is a member of Phi Beta Kappa and enjoys bicycling and hiking.

Focus on Fellows

Jay Paul Heiken, M.D., an instructor and fellow in the Abdominal Section, was born in New York City and received his B.A. in biology at Williams College in Williamstown, Massachusetts. After receiving his M.D. from Columbia University College of Physicians and Surgeons in New York City, he served an internship at Emory University Affiliated Hospitals in Atlanta before returning to New York for a radiology residency at Columbia Presbyterian Medical Center. Dr. Heiken's interests are sports, music, and theater.

Ralph L. Smathers, M.D., has been appointed an instructor and fellow in the Abdominal Radiology Section. Born in Miami, he received his B.S. in chemistry from the University of Florida in Gainesville and his M.D. from the University of Chicago. A member of Phi Beta Kappa, Dr. Smathers served his internship and radiology residency at the University of Virginia Medical College in Richmond. In off-hours, he enjoys hiking and playing "go," an Oriental game similar to backgammon.

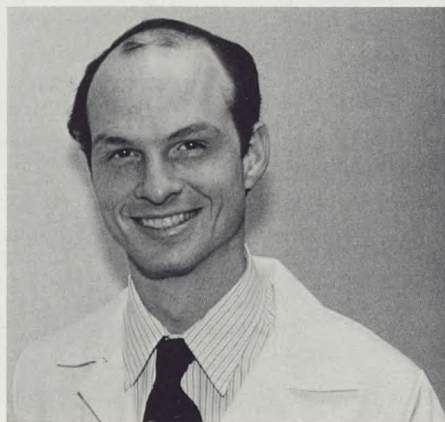
Franz J. Wippold, M.D., a native of St. Louis, who received his B.A. in biology from Westminster College in Fulton, Missouri, and his M.S. from St. Louis University, has joined the staff as an instructor and a fellow in the Section of Neuroradiology. Recipient of the Alumni Distinguished Student Award and a member of AOA, Dr. Wippold went on to Walter Reed Army Medical Center where he completed an internship, then served residencies in both neurology and radiology. At home with his wife Carol Ann, a Lutheran Deaconess, and his daughter Rachel, three years old, he enjoys model railroading and stamp collecting.

Pamela A. Kopen, M.D., has been appointed an instructor with a fellowship in Pediatric Radiology following the completion of four years of diagnostic radiology training at Mallinckrodt. Dr. Kopen completed her M.D. degree at Hershey Medical Center in Hershey, Pennsylvania.

Pamela Kopen, M.D.



Jay P. Heiken, M.D.



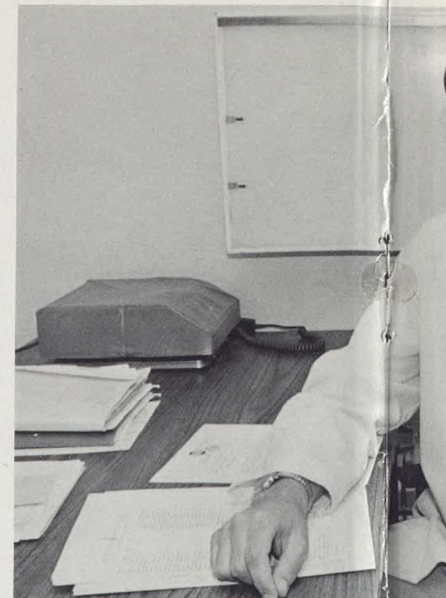
Ralph L. Smathers, M.D.



Franz J. Wippold II, M.D.



A Visit with t

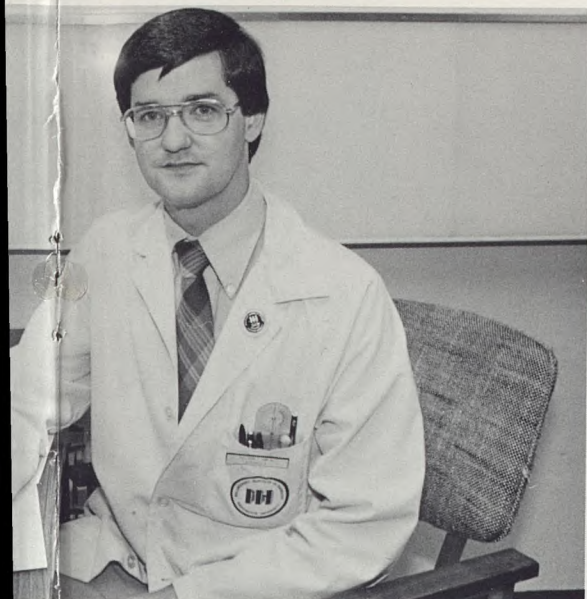


James W. Owen III, M.D., Mallinckrodt's Chief Resident, who graduated Phi Beta Kappa from Southern Methodist University with a B.A. in chemistry, recommends attending college for four years — "It's a last chance to learn something in an organized manner outside of your field." Embarking on a career closely resembling that of his father, St. Louis cardiologist James W. Owen, Jr., Dr. Owen, III, attended Washington University Medical School — was selected for membership in AOA — became chief resident of his specialty — and married a nurse.

During his fourth year of medical school, Dr. Owen realized that he enjoyed radiology "more than routine medical exams and looking at charts," but was already committed to a one-year internship in internal medicine. In retrospect, he considers this year a valuable experience. "Being on the other side of the fence has helped me to feel more comfortable around sick people — to know what clinicians are looking for." There were also other rewards that year. Dr. Owen met Jane Duggan, an instructor in Barnes Hospital School of Nursing and his future wife.

Sharing many mutual interests, Dr. and Mrs. Owen have been Saturday night Symphony-goers since 1975, as well as Muncy Opera buffs. Drawing on genealogy (his great³ grandfather did the original survey of Chicago) and ten years of piano training for relaxing pastimes, Dr. Owen also teams

h the Chiefs



up with other MIR residents for golf or enjoys flying an airplane on Sunday afternoon.

One of Dr. Owen's main interests in radiology is the opportunity he is provided to observe a broad spectrum of diseases, pathology, and abnormal studies while maintaining patient contact. In his new role as intermediary between residents and staff members, many of whom are nationally and internationally known, Dr. Owen relies on one of the trademarks of the Mallinckrodt Institute — the friendly, first-name interaction between residents and staff. Realizing the time involved in resident lectures, Dr. Owen takes seriously his job of scheduling noon conferences. He explained a resident's one-hour lecture equates to 50-60 hours preparation time involving research, assembling and adapting films from the teaching file, and finally reducing a large volume of information to a concise, cohesive discussion.

Taking over chief resident duties in July officially, but unofficially doing the work since April, Dr. Owen says, "I'm busy and behind already. Dr. Van Dyke and I aim for more flexibility in schedules, and to pursue a good exchange of ideas from the A³CR² meeting. We're going to do many things jointly — have a couple of people's input instead of one in a real effort to provide strong, unified leadership to our 37 diagnostic residents at MIR."



When **Jerrold A. Van Dyke, M.D.**, Co-Chief Resident, made the decision as an undergraduate to apply his interest in life sciences toward medicine instead of zoology, he was yielding to a strong need to work with people. His family background in the strict Dutch tradition prepared him to achieve any personal or career goal with a standard of excellence. Graduating from high school as valedictorian of his class, Dr. Van Dyke left his home town of Miami, Florida, for Grand Rapids, Michigan, to attend Calvin College, a Dutch Christian Reformed Church school ensconced in the largest Dutch population in the United States. There, he met Gretchen Westerbeck, also of Dutch heritage and the woman who would later become his wife.

After two years, Dr. Van Dyke returned to Florida to complete his B.S. degree at the University of Florida in Gainesville. Graduating Phi Beta Kappa and Phi Kappa Alpha with high honors, he then entered medical school. With Gretchen's continuous support ("she worked him through school") and in spite of the inevitable — but pleasant — distractions of their first child, Kristen Rae, who was born during his second year, Dr. Van Dyke went on to achieve an enviable academic record. He was named a Junior member of Alpha Omega Alpha, the recipient of both the Medical Guild Award for Academic Excellence and the Upjohn Achievement Award, and in 1979 received his M.D. as the number one graduate.

Attracted by Barnes' excellent rep-

utation as a teaching hospital with a varied and well-balanced clinical program, Dr. Van Dyke moved his family to St. Louis in 1979 and began his internship in obstetrics and gynecology. Within a few weeks, he had decided that radiology and the training program at MIR offered the challenge he wanted for a residency. Describing his experience at Mallinckrodt as even more challenging than he thought it could be, he enjoyed the variety found within the broad base of information required of radiologists, the interaction with so many physicians in other specialties, involvement in the rapidly-developing technology of radiology, and the pursuit of his special interest — interventional radiology. "The real fun of radiology," says Dr. Van Dyke, "is that you are not cooped up doing only one thing."

The arrival in April 1982, of their second child, Jerrold Todd, added a new dimension to Dr. and Mrs. Van Dyke's family life and further reduced the time available for his wide slate of "hobbies." Not only does he raise parakeets, cockatiels, and zebra finches, he is a nature photographer who specializes in orchids, a cabinet maker working on an Ethan Allen-style desk for the home, and a glass worker who finds St. Louis a great place to get stained glass for lamps.

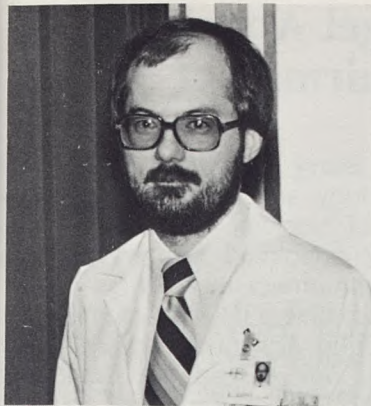
Meeting the opportunity to serve as Co-Chief Resident with his typical enthusiasm for challenge and variety, Dr. Van Dyke shares Dr. Owen's interest in a close working relationship.



Front row, left, Drs. Middleton; Junker; Adler; Naykhin; Shackelford; McDonald, Co-Chief Resident; Dr. Ronald G. Evens, Radiologist-in-Chief; Odrezin, Chief Resident; White; Kopen; Semenkovich; Menon; Law. Center row, Drs. Winthrop; Van Dyke; Ling; Reed; Nicol; Mullenger; Hoffman; Solomon; Glazer; Weinstein; Wadsworth; Stein; Picus; Amundsen. Back row, Drs. Mulholland; Laakman; Owen; Ward; Scales; Thaler; Wahl; Vannier; Bauer; Machevsky; Johnston; Balogh; Reinus; Neeley.

Residents, Fellows & Trainees 1981-1982

Murphy Appointed to ACR Commission on NMR



Dr. William A. Murphy has been appointed to the ACR Commission on Nuclear Magnetic Resonance (NMR), Committee on Clinical Applications. The Commission was established in early 1982 to provide necessary information to ACR members on the use and importance of NMR as well as act as a resource to health care providers and policymakers in the clinical application of this new modality.

Based on the principles of nuclear magnetic resonance discovered in the 1940s, NMR imaging was first

performed in the late 1970s. NMR makes use of a supermagnet that creates a magnetic field 7,000 times greater than the earth's magnetic force. When entered into this field, the spins of certain nuclei can be oriented within the magnetic field. A radio wave of a frequency selected specifically for the atoms to be examined is then emitted by the NMR scanner, passes through the subject, and partially depolarizes the molecules. When the radio signal is turned off, the molecules release their own radiofrequency energy as they reassume their original alignment in the magnetic field. The resulting radiofrequency signal can be detected and analyzed according to the density of nuclei, the spin-lattice relaxation time and spin-spin relaxation time. The signal goes into a computer that produces images potentially providing tissue-specific information as well as anatomical details about the body.

The basic advantages of NMR are that it uses no radiation and is non-invasive. Ultimately it may enable

physicians to evaluate body fluids, tissues and organs according to their chemical composition and metabolic parameters.

In establishing the new Commission, the ACR underscored a need to provide a national cooperative effort toward early understanding of NMR based on early experience with CT where a coordinated effort to understand and analyze the new technology did not exist.

Initial objectives of the Committee on Clinical Applications, chaired by Dr. Juan M. Taveras, Radiologist-in-Chief at Massachusetts General Hospital, will be to monitor clinical investigation on NMR imaging; identify its potential applications, develop methodologies for a dialogue between clinical investigators in the field; and communicate findings to other key committees within the Commission.

Dr. Murphy is Associate Professor of Radiology and Co-Chief of the Musculoskeletal and Peripheral Vascular Radiology Section at Mallinckrodt Institute.

Edda Quintero, M.D. Radiology Chief



At the Veterans Administration Hospital and Regional Center in San Juan, Puerto Rico, a few women are Chiefs. At age 35, **Dr. Edda C. Quintero** (MIR '75), Chief of Radiology is the youngest. In fact, she is the only woman in charge of a hospital radiology department in Puerto Rico.

Dr. Quintero joined the staff of San Juan VAH in 1975 as a full-time radiologist and soon became the "local expert" in arthrography and dialysis fistulograms and the first radiologist to perform aspiration biopsies of the lung. She attributes her rapid advance to the excellent training at Mallinckrodt.

"Thanks to Ron Evens' interest in administration and his introducing this matter to us as residents," said

Dr. Quintero, "I became involved in structural and organizational changes at VA." An example of her leadership in this area was the initiation of a cost-effective 24-hour 3-shift technologist coverage for the hospital. She assumed major responsibilities in the residency training program, arranged elective courses for fourth-year medical students, and encouraged colleagues to seek additional training at Mallinckrodt Institute.

Dr. Fernando Gutierrez was one who continued his radiology training with a one-year fellowship in cardiac radiology at MIR, remained on the staff, and is at present an assistant professor of radiology in the MIR cardiac section. Dr. Elsie Cintron, after taking the radiology elective under Dr. Quintero, became interested in the discipline and came to Mallinckrodt to complete a three-year residency in diagnostic radiology. (She returned to the San Juan VAH in 1981 as a staff member and recently welcomed a baby girl.)

Named Assistant chief of Radiology near the end of 1975, Edda C. Quintero continued to expand the

VA Radiology Department as she planned a new angiography suite, recruited an angiographer, performed ultrasound procedures, and was the first to advocate renal cyst punctures for diagnosis and treatment. In 1981, Dr. Quintero was promoted to the top management position in the VA radiology service, which put her in charge of a staff of nine physicians, a physicist, thirty technologists, and an impressive amount of sophisticated equipment. She expects the VA Radiology Service to obtain a CAT scanner within the next few months.

The mother of two children, Angel, 8, and David, 5, Edda Quintero's goal is to raise her children to become "progressive young men who can some day provide for themselves and their families."

Applying her high standards of excellence to everyone, Edda says, "If I demand that other people perform in an excellent way, I must do so." Always with appreciation she speaks of the Mallinckrodt staff (1972-75) and fellow residents who "helped me be what I am now." And Edda Quintero does nothing less than her best.

Awarded Grants

Michel M. Ter-Pogossian, Ph.D., Director of the Division of Radiation Sciences, Mallinckrodt Institute of Radiology and Professor of Radiology, Washington University School of Medicine, has received a five-year grant of \$4,700,000 from the National Heart, Lung, and Blood Institute. This investigative program is composed of projects headed by Drs. Michael J. Welch, Burton E. Sobel, and Marcus E. Raichle.

The grant provides support for Mallinckrodt Institute of Radiology's continuing research efforts in labeling compounds of importance in biology and medicine with cyclotron-produced isotopes (of carbon, nitrogen, oxygen, fluoride, and iodine) to study the major metabolic pathways, which sustain the function of vital organs, particularly the brain and heart.

The incorporation of these compounds into the body's metabolic processes is monitored by positron emission transaxial tomography (PETT) equipment developed at Mallinckrodt Institute by members of an interdisciplinary team headed by Dr. Ter-Pogossian. In nearly two decades of research supported by funds from the National Institutes of Health, the biomedical scientists have refined six generations of PETT with successive improvements that have brought PET (the generic acronym) technology to maturity in the state-of-the-art **Super PETT**, undergoing final testing at MIR. Similar grants have also enabled the purchase of a second cyclotron at the Washington University Medical Center to supply the short-lived radioisotopes required for PET studies.

Scientists in the Washington University Medical School's departments of radiology, neurology, neurosurgery, cardiology, and the biomedical computer laboratory are collaborating with Dr. Ter-Pogossian in this research.

R. Gilbert Jost, M.D., and the MIR Diagnostic Computer Division were recently awarded a grant from the Digital Equipment Corporation (DEC) for color graphic computer equipment to be used for student training and faculty research. The grant valued at over \$25,000 in-

cludes five General Imaging Generator and Interpreter (GIGI) color graphics terminals.

According to Dr. Jost, the GIGI color graphics terminals have been incorporated with the existing RSTS host system at MIR to develop new ways for displaying medical information as well as to permit a collaboration in this development between the MIR computer systems and two other recipients of DEC equipment — the Washington University Computer Science and Biomedical Computer laboratories.

Awarded Fellowships

Louis A. Gilula, M.D., Professor of Radiology and Co-Chief of the Musculoskeletal Section, and **Stuart S. Sagel, M.D.**, Professor and Chief of the Chest Section, have been named 1982 Fellows of the American College of Radiology, a professional medical society representing 18,000 physicians specializing in radiology. Cited for their scientific accomplishments, leadership, and teaching performance in radiology, Drs. Sagel and Gilula received the awards during the College's 59th Annual Meeting in Boston, Sept. 20-23.

Editorial Boards

William A. Murphy, M.D., has been appointed to the Editorial Boards of *Radiology* and *Arthritis and Rheumatism*.

Bruce L. McClennan, M.D., has accepted an appointment to the Board of Consultants for *The Journal of Urology*. Nominated to fill a position requiring his expertise in computed tomography and general diagnostic radiology, Dr. McClennan will serve a three-year term on the Board comprised of twelve experts in fields other than urology and will serve an eight-year term on the Editorial Board.

Committee

William A. Murphy, M.D., has been appointed to the Osteoarthritis Criteria Subcommittee of the American Rheumatism Association.

Siegel Appointed Chairman of RDAC

Dr. Barry A. Siegel, Professor of Radiology and Director of the Division of Nuclear Medicine, was recently appointed Chairman of the Radiopharmaceutical Drugs Advisory Committee (RDAC) of the Food and Drug Administration (FDA). Dr. Siegel has served the Committee and the FDA as a member and consultant for a period of ten years. During this time, he has made several major contributions which have influenced the approval and regulation of radiopharmaceuticals; these include his co-authorship of the FDA guidelines for Clinical Evaluation of Radiopharmaceutical Drug Products and his development of class-labeling petitions for pediatric applications of approved radiopharmaceuticals. Dr. Siegel is also Chairman of the Radioactive Drug Research Committee at Washington University.

The 11-member RDAC participates in the evaluation of new radiopharmaceuticals used in diagnostic and therapeutic nuclear medicine procedures, and in evaluation of new contrast media for radiological studies.

Alumni Award

Virginia R. Trent was recently presented the Alumni Merit Award from Lindenwood Colleges in St. Charles, Missouri, in recognition of distinguished service to the colleges, a career, and the community.

Beginning her 12th year as MIR Director of Public Relations, Virginia is president-elect of the Advertising Federation of St. Louis and chairman of the 1983 Gridiron Show. She is a member of the Women's Society of Washington University, and the Auxiliary Board of the St. Louis Conservatory and School for the Arts, and is listed in Who's Who of American Women.

Virginia formerly served as president of the Lindenwood College Alumnae Club, the Junior Division of the Women's Association of the St. Louis Symphony Society, and the Ladue Chapel Nursery School Board.

S UPDATE

Staff Elected to Offices

Ronald G. Evens, M.D., was elected Second Vice President of the American Roentgen Ray Society at its annual meeting held in New Orleans on May 9-14. Dr. Evens has previously served the Society as Chairman of the Finance and Budget Committee, member of the Executive Council, and Chairman of the Executive Council.

Bruce L. McClennan, M.D., has been elected Secretary-Treasurer of the Society of Uroradiology for a three-year term.

Joseph K.T. Lee, M.D., has been elected to membership in the Society of Computed Body Tomography. Other MIR members of the Society include Drs. Stuart S. Sagel, President, Ronald G. Evens, and Robert J. Stanley (formerly of MIR).

Carlos A. Perez, M.D., Director of the Division of Radiation Oncology, was elected to the Executive Committee of the American Radium Society (ARS) at the 64th annual meeting in San Antonio, March 14-18. The ARS, an organization of about 600 physicians and other scientists with a common interest in cancer therapy, was founded in 1916 to study the uses of radium. Its area of interest has expanded to cover other forms of ionizing radiation and encourages liaison between all specialties concerned with the study and treatment of cancer.

Dr. Perez presented a paper on "Complications in the Treatment of Carcinoma of the Uterine Cervix with Radiation Therapy Alone" at the ARS meeting.

G. Leland Melson, M.D., was elected by the Faculty Council of the Washington University School of Medicine to a two-year term, effective July 1, as Clinical Representative to the Medical School Executive Faculty.

Guest Faculty/ Visiting Professors

Bruce L. McClennan, M.D., served on the faculty of the following postgraduate radiology courses: Duke University (Current Imaging Techniques), April 21-23; Harvard University (GU Interventional Techniques), April 28-29; Washington (D.C.) Imaging Course, (Digital Vascular Imaging and CT), May 4-6; Hospital of the University of Pennsylvania (held in Martha's Vineyard), (Digital Vascular Imaging and CT), July 12-16.

William A. Murphy, M.D., served as Visiting Professor and Guest Lecturer at the Milton S. Hershey Medical Center of Pennsylvania State University ("Paget Disease: Natural History and Response to Modern Medical Therapy"), May 13.

Bruce L. McClennan, M.D., was Residents' Annual Visiting Professor at the University of California, San Francisco, April 14-16 and Visiting Professor at Johns Hopkins University, May 17-18.

Robert J. Stanley, M.D., was Visiting Professor for a course sponsored by the Royal Marsden Hospital in London during the last week of June.

Barry A. Siegel, M.D., presented "Evaluation of Renal Structure and Function by Radionuclide Imaging," for Radiology Grand Rounds at the Brigham and Women's Hospital, Harvard Medical School, April 20.

Tom R. Miller, M.D., Ph.D., and **K.S. Sampathkumaran, M.S.**, were invited to visit Yu-Quan Lu Hospital in Peking, China, July 19-30 to present lectures on clinical nuclear medicine and computer applications and assist with integrating a new computer into the hospital's nuclear medicine department. Dr. and Mrs. Miller and Sampathkumaran then visited Shanghai for an additional week.

G. Leland Melson, M.D., as Visiting Professor at the Michigan State University School of Medicine, presented "Low Level Echoes and Shadows — What's New" on March 2.

Prize Awards

Michael W. Vannier, M.D., of Mallinckrodt Institute and Jeffrey L. Marsh, M.D., Director of the Craniofacial Institute at St. Louis Children's Hospital, were awarded second prize (\$750) for their studies on "The Third Dimension in Craniofacial Surgery" in the 1982 Scholarship Competition of the Plastic Surgery Education Foundation.

D. Venkata Rao, M.D., has been awarded an American Cancer Society Junior Faculty Fellowship for 1982-85.

Radiation Oncology Chief Residents

Delia Garcia, M.D., has been appointed Chief Resident in Radiation Oncology for 1982-83 and **Gregory Cotter, M.D.**, Assistant Chief Resident.

Honored

Robert Wagner, Business Administrator of MIR, was recognized as one of the founding members of the American Hospital Radiology Administrators at the organization's tenth annual meeting in Las Vegas, Nevada, August 1-5.

Husband-Wife Elected Directors

Dr. Bruce J. Walz, Associate Professor of Radiology, was recently elected to the Board of Directors of the Missouri Radiological Society, the state chapter of the American College of Radiology. Representing radiologists throughout the state as it establishes and maintains the highest medical and ethical standards in the practice of radiology, the society also sponsors continuing education projects for radiologists.

Dr. Walz, his wife Renata, and their two children are residents of Ballwin, Missouri. Mrs. Walz was recently elected to a three-year term on the Parkway School Board.

Meetings — Symposia — Workshops

Todd H. Wasserman, M.D., made presentations at the following meetings: American Society of Clinical Oncologists, St. Louis, April 26, and First Annual Meeting, European Society for Therapeutic Radiology and Oncology, London, England, June 29: "Pharmacology and Toxicology of Desmethylmisonidazole: An Hypoxic Cell Sensitizer"; Ninth Varian Clinac Users meeting, Hilton Head, May 11: "Update on Clinical Trials of Hypoxic Cell Sensitizers"; Seventh Annual Meeting, American Association of Medical Dosimetrists, Philadelphia, May 12: "Radiation Sensitizers — Clinical Results."

G. Leland Melson, M.D., presented "Real-time Ultrasonography of the Abdomen" and "Ultrasonography in Jaundice" to the Mississippi Ultrasound Society Meeting in Jackson, Mississippi, April 2.

Mokhtar H. Gado, M.D., made presentations at the following: Neuroradiology Review Course sponsored by Loyola University of Chicago and held in Oakbrook, Illinois, May 1-2, "Infarction"; International Symposium and Course on CT, New Orleans, April 12-16, "Brain Anatomy" and "CT of Intraspinal Contents in Adults."

Craig L. Silverman, M.D., presented "Late Psychological and Emotional Effects of Irradiation in Medulloblastoma Survivors and Their Families" to the American Society of Clinical Oncologists Meeting in St. Louis, April 27.

Stuart S. Sagel, M.D., and **Robert J. Stanley, M.D.**, participated in a Categorical Course on Computed Tomography of the Body during the annual meeting of the American Roentgen Ray Society in New Orleans, May 9-14. Dr. Sagel spoke on "CT of the Thorax" and Dr. Stanley presented "CT of the Kidney."

Richard L. Wahl, M.D., presented a paper entitled "Monoclonal Radio-immune Detection of Human-Derived Colon Cancer" at the Association of University Radiologists' meeting in Baltimore, March 23-26.

Mark J. Hoffman, M.D., presented a paper entitled "Internal Intussusception of the Rectum, Diagnosis and Surgical Management" at the annual meeting of the American Society of

Colon and Rectal Surgeons in San Francisco, May 3-16.

G. Leland Melson, M.D., presented "Recent Advances in Clinical Ultrasound" on the Scientific Program for Alumni, Washington University School of Medicine, April 29.

Stephen Sapareto, M.D., attended the Radiation Research Society meeting, April 18-24 in Salt Lake City.

Stephen Sapareto, M.D., recently spent six weeks at Los Alamos National Laboratory collaborating with Carlton Stewart, Ph.D., on studies involving hyperthermic effects on microphages.

William A. Murphy, M.D., presented "Musculoskeletal Computed Tomography," "Percutaneous Skeletal Biopsy," and "Bone Scans: Beyond the Image" at the Musculoskeletal and Orthopedic Radiology Course sponsored by the University of Pennsylvania in Colorado Springs, August 2-6.

James A. Purdy, M.D., Ph.D., as guest lecturer in an NCR-Health Physics/Radiation Protection Course at Oak Ridge Associated Universities, Oak Ridge, Tennessee, spoke on "Radiation Therapy Linear Accelerators" and "X-ray and Electron Beam Calibration Procedures."

Gary Van Zant, Ph.D., spoke on "Differentiation of Hematopoietic Stem Cells" at a McGill University seminar, May 31 in Montreal.

John R. Bedwinek, M.D., attended the Southeastern Cancer Study Group meeting in Sarasota, Florida, June 21-24.

Glenn P. Glasgow, Ph.D., made presentations at the following meetings: Health Physics Society 15th Mid-Year Topical Symposium on Accelerator Health Physics, Orlando, Feb. 21-24, "Neutron Leakage Around a 20 MeV Linac with a Modified Neutron Shield"; American Society of Clinical Oncologist Meeting, St. Louis, April 25, "Heni-Body Irradiation in Multiple Myeloma Relapsing After or Resistant to Chemotherapy" (joint presentation). Dr. Glasgow, as a member of the invited faculty at the University of Wisconsin for "A Short Course on Radiotherapy Safety," spoke on "Personnel Dose Equivalents and Radiation from Treatment Aids," March 25-26.

Bruce L. McClennan, M.D., Joseph K.T. Lee, M.D., and Robert J. Stanley, M.D., attended the annual meeting of the Society of Uroradiology in activities that included courses, workshops, panel discussions, and presentations. Dr. McClennan served as moderator for a panel on the Diagnostic Approach to the Renal Mass Lesion; panel members included Drs. Lee and Stanley. Dr. Lee presented "CT Staging of Testis Cancer" for a course in Recent Advances in Uroradiology.

William A. Murphy, M.D., presented "The Radiograph as a Window to the Pathophysiology of Rheumatoid Arthritis and Its Look Alikes" at the Sixty-seventh Annual Meeting of the Pennsylvania Radiological Society, May 15.

Bharat B. Mittal, M.D., presented "Transglottic Carcinoma" at the American Radium Society meeting in San Antonio, March 15.

Emily L. Smith, M.D., attended the "Masters" Radiology Conference held in Maui, Hawaii, March 8-12.

Media

Barry Siegel, M.D., Director of the MIR Division of Nuclear Medicine, appeared as a panel member on a call-in program on low-level radioactive waste management produced by KETC-TV/Channel 9 in cooperation with the League of Women Voters, May 17. Especially timely as low-level radioactive waste disposal sites now operating in the United States have been granted authority to refuse material from other states beginning January 1986, the discussion focused on Missouri's options for handling its low-level radioactive by-products and proposed legislation allowing the state to participate in a regional interstate compact for waste management. The five panelists represented environmental and citizens groups, governmental officials, the media, industrial and institutional generators of low-level radioactive waste, and the scientific community.

S UPDATE

International Workshop

The International Workshop on Time-of-Flight Emission Tomography hosted by Washington University and held at MIR in Scarpellino Auditorium, May 17-19, drew participants from all over the world to share information on time-of-flight tomography. The sixty scientists who attended the three-day workshop represented a number of scientific disciplines, including medicine, biology, mathematics, physics, electronic engineering and computer science, that have been involved in the development of time-of-flight systems. In addition to support from Washington University (MIR and BCL), co-sponsorship included the National Institutes of Health (DRR & NHLBI), the IEEE Computer Society, Hamamatsu Corporation, and Nucletronix and

Scanditronix.

For over a decade, the strong collaboration between Radiation Sciences and the Biomedical Computer Laboratory at Washington University has produced significant results. "Our focus continues to be on using state-of-the-art technology to help solve problems in biomedical research," said Dr. L.J. Thomas, Jr., Director of the Biomedical Computer Laboratory, who with Dr. M.M. Ter-Pogossian, Director of Radiation Sciences at MIR, co-chaired the workshop. "We're more successful at this institution than most because of the federation of laboratories and departments whose collaboration has been sustained over the years by support from the National Institutes of Health's Division of Research Re-

sources. Taken all together, WU has one of the largest technical and biomedical computing resources in the nation."

The scientific program for the workshop included sessions on biomedical motivations, systems under development, event detection, design considerations, and reconstruction algorithms. Working with Drs. Thomas and Ter-Pogossian to develop the workshop program were Dr. D.L. Snyder, Chairman of Electrical Engineering; Dr. J.R. Cox, Jr., Chairman of Computer Science; Dr. M.E. Raichle, Department of Neurology and Radiology; and Dr. G.J. Blaine III, Associate Director of the Biomedical Computer Laboratory. The workshop proceedings will be published by the IEEE Computer Society.



Pictured left, Heather Muchmore, Alan Tenaglia, Corbin Johnson, Christopher Walsh (New York State University, Buffalo), Dr. Van Zant, and Karl King.

Complete Summer Oncology Fellowship

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 1982 summer session coordinated by Joseph R. Simpson, M.D., and Gary E. Van Zant, 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 five medical students participating in the program either worked primarily in clinical radiation therapy or carried out laboratory research in cancer biology.

Congratulations, Graduates

Class of '82 Graduates 17 Radiologic Technologists



Front row, from left, Mary Chatman, Ana Maria Gutierrez, Michele Roth, Michele Lierman, Debbie Crowe, Tamara Lehmkuhl, Cathy Bitner, and Kim Bell. Second row, Daniel Chapman, Tom Bishop, Bob Knapp, Bill Schrader, Jaqueline Latham, Barbara Spitzer, Mark McClane, and Larry Tucker.

Radiation Oncology



Left to Right, R.T.T.s, Karen Smolen, Kent McCune, Anita Lagow, Dawn Withrow, Rob Scheper, Kim Draeger.

Nuclear Medicine



Left to right, Regina Hillenbrand, Norman Richter, Helen Mattaline, and Barbara Hente.

y Training

Welcome New Students

25 Students Enrolled in MIR Radiologic Technology



Front row, left, Robin Lee, Jacquelyn Schroeder, Debra Gintz, Manmohan Kaur, Valinda Braun, Pamela Glasper, Anita Rodgers, Mark Brillows, Mary Welker, Tracy Kidd. Second row, Mark Witte, Sharon West, Alex Jahncke, Cynthia Brinkman, Elissa Shaffer, Mary Breihan, Theresa Harris, Renee Sadler. Back row, Douglas Winkler, Kenneth Williams, Kenneth Crawford, Thomas Maloney, Charles Morse, Steven Stiffler and Charles Schaab.

Radiation Oncology



Left to right, Sherry Campbell, Jacqueline Latham, Gaye Sponamore, Edwin Delacruz, Kathy Buettner, Sandy Garrett, and Pat Helich.

Nuclear Medicine

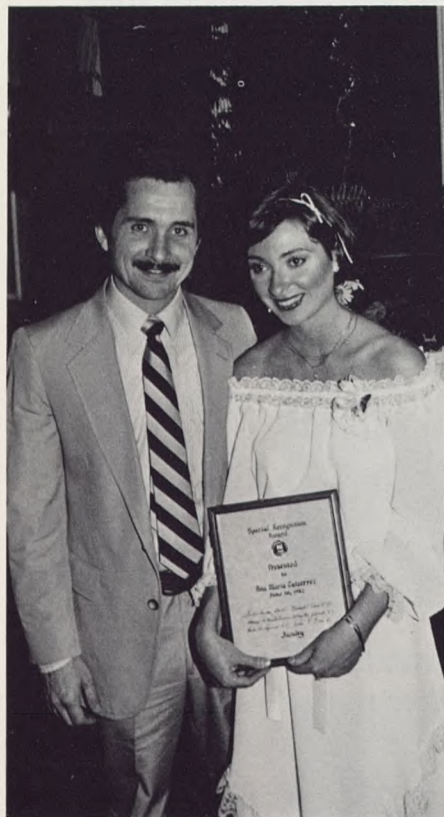


Front row, left, R.T.s, Carol Francesca Barbier, Theresa Cole, Karen Nikolaisen. Back row, left, Bill Schrader, Larry Tucker, Michele Roth.

Student Awards

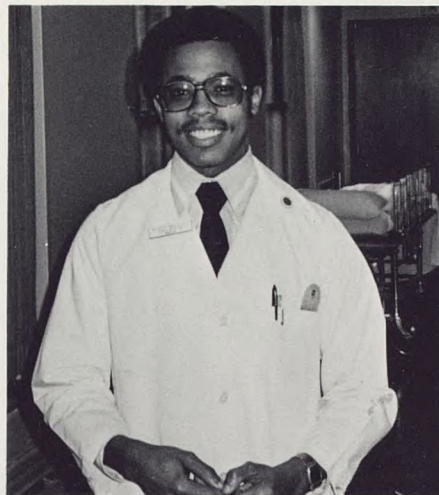


Barbara Spitzer, recipient of the Mallinckrodt Award, with her husband, Jack, son Nicholas, and her parents, Mr. and Mrs. Paul Politte. The Mallinckrodt Award is presented to the student who maintained outstanding achievements in academic and clinical practice and overall professional attitude.



Ana Maria Gutierrez, R.T., recipient of the Special Recognition Award, is congratulated by her brother, Fernando Gutierrez, M.D., Assistant Professor of Radiology in the Cardiac Section of MIR. The Special Recognition Award is presented to the student who has performed beyond the usual expectations of a student in an area vitally important in patient communication.

MSRT President



Michael D. Ward, R.T., B.S., president and chairman of the board of the fourth district of the Missouri Society of Radiologic Technologists (MSRT) has been elected president of MSRT for the 1982-83 year and will be installed during the annual convention in Kansas City, October 14-16.

ISSRT

The board of directors of the Illinois State Society of Radiologic Technologists (ISSRT) has appointed **Norman Hente** counselor of the southern district. As counselor, he will also serve on the state board of directors.

AAMT

Congratulations to MIR transcriptionists who have met the requirements established by the American Association for Medical Transcription (AAMT) and have become Certified Medical Transcriptionists (CMTs): **Jackie Rudolph, Sharon Keathley, Carmen Cook, Nancy Marty, Sheila Doerhoff, Sue Ratliff, Julia Lambert, Rhoda Brownell**; and in Radiation Oncology, **Tarry Drake, Fran Hirsch, and Doris Zabel**. The AAMT grants certification to members of a local chapter who, within the first year of the chapter's formation, present evidence of excellence in full-time medical transcription for a minimum period of five years; others must pass the AAMT certification examination. In addition, thirty continuing education (CE) credits must be acquired within three years of certification. Through its Higher Education Committee, the AAMT is developing an associate degree in medical transcription. Jackie Rudolph chairs that committee locally.

The Greater St. Louis chapter of AAMT, with 175 members, is one of the largest local chapters in the country and will host the national AAMT convention at MIR in October of 1983. Sue Ratliff and Sharon Keathley are serving on the public relations committee for the convention.

The July meeting of the local chapter was held at MIR in Scarpellino Auditorium and included a guest lecture by Dr. Louis Gilula, entitled, "Overview of the Musculoskeletal System." President, Phyllis Robertson, CMT, Supervisor of Medical Transcription at Cardinal Glennon, presided.

ASRT Convention

The 1982 ASRT convention was held in New Orleans, July 3-8. Attending from MIR were **Robert Feldhaus, Norman Hente, Barbara Hente, and Gary Brink**. Norman Hente was appointed to the committee on membership, Barbara Hente to the committee on nuclear medicine, and Gary Brink to a three-year term on the Fellows committee, serving as treasurer in the first year.

CITY-WIDE RADIOLOGY CONFERENCE St. Louis, Missouri, 1982-1983

DATE	TOPIC AND PLACE	SPEAKER	RESPONSIBILITY FOR CLINICAL MATERIAL Second Session (7:15-8:30 p.m.)
9/13/82 (Monday)	GU Radiology Scarpellino Auditorium	Richard C. Pfister, M.D. Associate Professor Harvard Medical School Head, GU Radiology Massachusetts General Hospital	Abdominal Radiology Section — MIR
10/12/82 (Tues. — note spe- cial date)	Wendell G. Scott Lecture Scarpellino Auditorium	Henry S. Kaplan, M.D. Professor of Radiology; Director, Cancer Biology Research Laboratory Stanford University Medical Center	No second session
11/8/82 (Monday)	Radiological Management of the Multiply Traumatized Patient Scarpellino Auditorium	John H. Harris, Jr., M.D. Professor and Acting Chairman Department of Radiology University of Texas at Houston	Musculoskeletal Radiology — MIR
12/13/82 (Monday)	Arteriography and Interventional Radiology Scarpellino Auditorium	John L. Doppman, M.D. Director of Radiology National Institutes of Health	M. Vannier, M.D., and MIR Staff
1/10/83 (Monday)	St. Louis University	To Be Announced	St. Louis University
2/14/83 (Monday)	CT Experience from an English Cancer Center Scarpellino Auditorium	Robert G. Levitt, M.D. Associate Professor Mallinckrodt Institute of Radiology	MIR Staff
3/14/83 (Monday)	New Approaches to Measuring Cardiac Function in Nuclear Radiology Scarpellino Auditorium	Tom R. Miller, M.D. Assistant Professor Mallinckrodt Institute of Radiology	Nuclear Medicine Staff — MIR
4/11/83 (Monday)	Leroy Sante Lecture St. Louis University	To Be Announced	No second session
5/9/83 (Monday)	Pediatric Radiology Scarpellino Auditorium	To Be Announced	Pediatric Radiology Section — MIR

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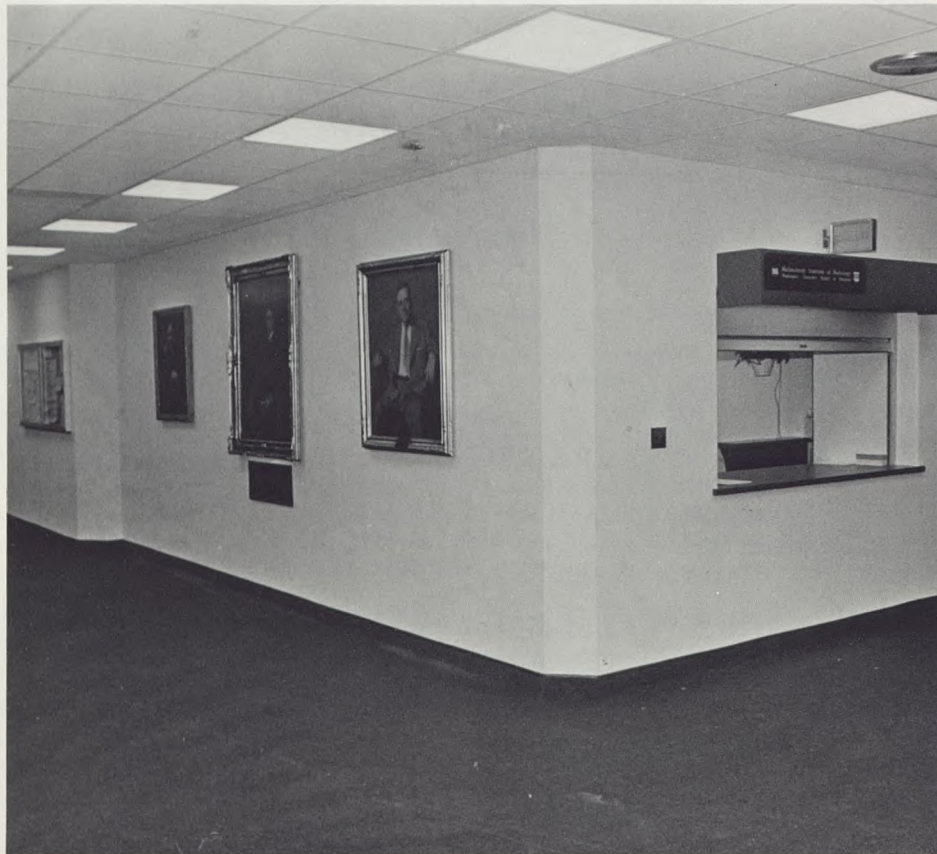
IN MEMORY OF

Dr. William E. Allen, Jr.
Dr. Harold B. Rapp
Dr. Harold B. Rapp

A donation to Mallinckrodt's Library Memorial Fund is a meaningful way to observe a birthday, an anniversary, the recovery from an illness, or the memory of a loved one.

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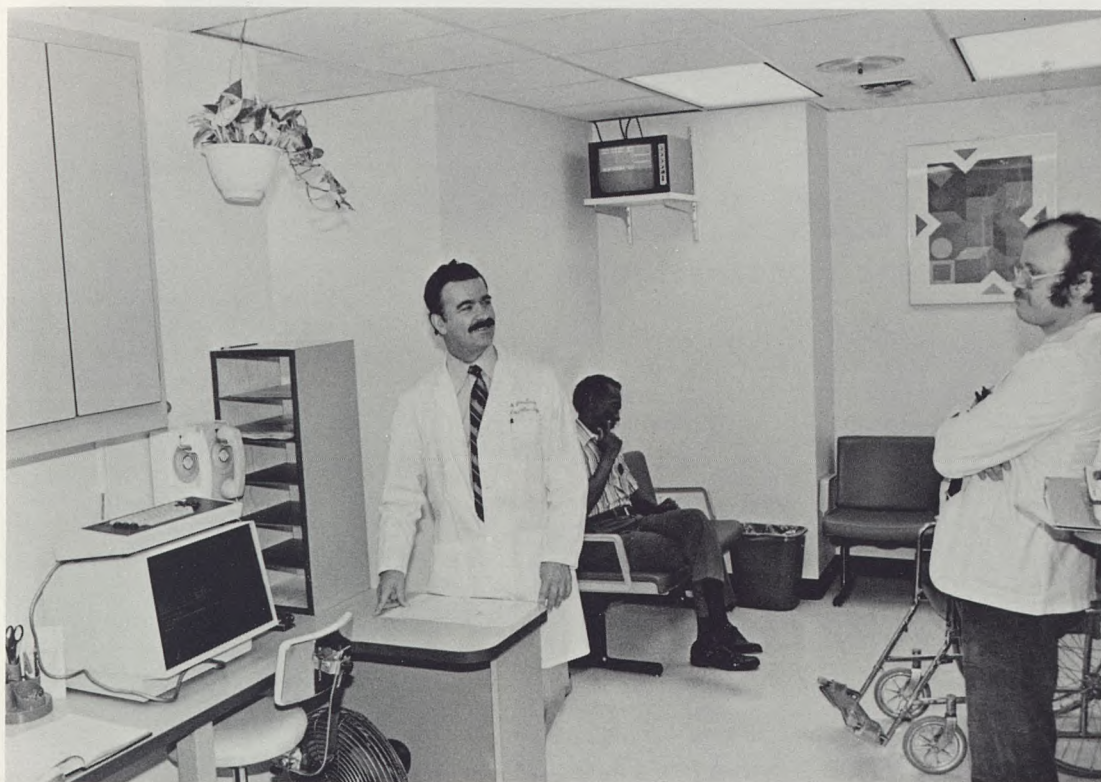


The first floor of Mallinckrodt Institute has recently undergone a transformation which has left it virtually unrecognizable. The spacious newly-designed lobby (top left) offers a fresh, bright showcase of ivory walls and warm brown carpeting to complement the various tributes to Mallinckrodt's history and tradition: a handsome portrait gallery, the exhibit of the first gallbladder visualization, and a photographic display wall of noted guest lecturers.

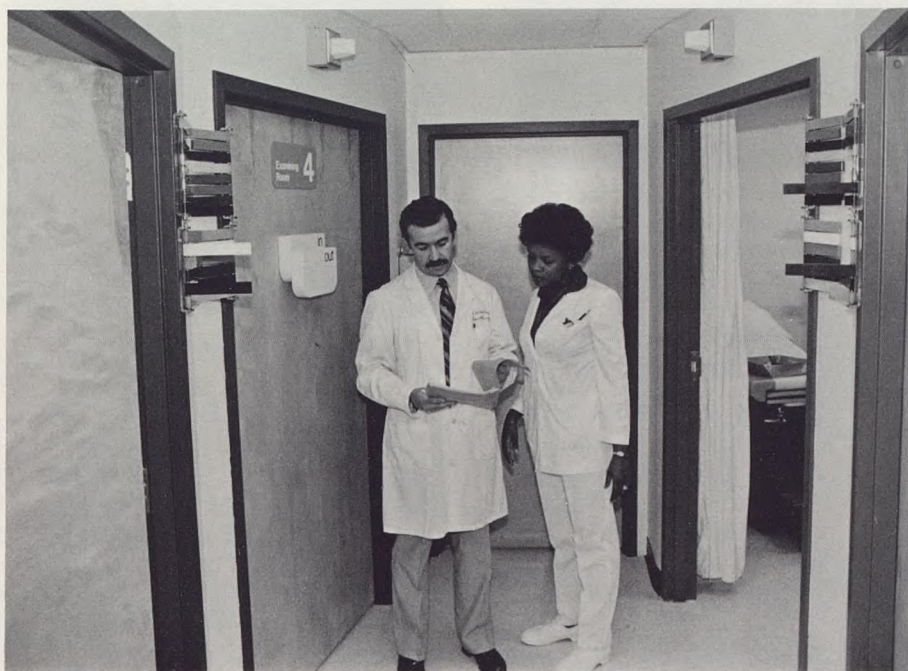
Adjoining the modern reception desk, the scheduling-film library facility (lower left) further enhances the open atmosphere through its coordinated decor and spacious floor design. In this bustling hub facility, efficient desk and counter appointments provide warm orange accents to the sophisticated computer operation, while a variety of hanging green plants add a cheerful, airy touch to the area.



Look of Welcome



In the new first-floor Radiation Oncology waiting area adjacent to the lobby, Carlos A. Perez, M.D., Director of the Division, confers with clinical aide, Mike White, regarding a patient's treatment schedule. Throughout the Institute, the course of each patient is recorded and monitored on computer equipment conveniently located in patient areas to provide the most efficient service available.



Carlos A. Perez, M.D., and Cheryl Gorden, Clinical Aide, refer to the day's schedule of patients to be seen in the first floor examination and nursing area.

Directly off the lobby's open main corridor and next to the film library is Radiation Oncology's new First Floor Exam/Nursing Area. Located in space formerly occupied by Patient Accounts, the new area, with its accents of bright green, contains four examining rooms and a small waiting room to accommodate new outpatients who are at MIR to undergo their initial examination and evaluation.

This upward expansion of the Radiation Oncology treatment area from ground floor to first floor has improved the quality of patient care by removing from the treatment area patients who need not be there and by freeing space for new treatment equipment.

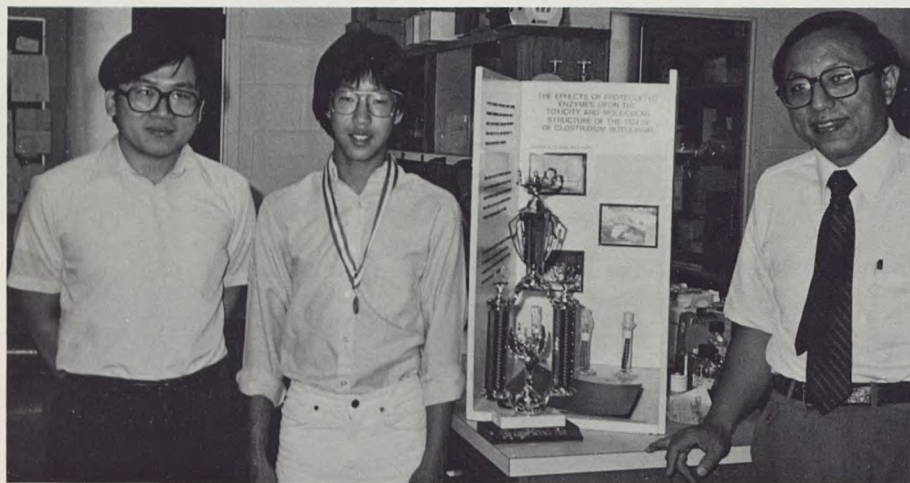
Patient Discussions



Radiation Oncology patients and staff members spend time together each week in a discussion session covering a wide range of patient concerns and anxieties. On this particular morning they are joined by Dr. Chang-Hung Chung, Director of Ra-

diotherapy at McKay Memorial Hospital in Taipei, Taiwan. Dr. Chung is visiting MIR for six months to observe radiotherapy treatment techniques and regimens, research, and patient care in Radiation Oncology.

Pictured with Dr. Chung are, from left, Cathy Feldmeier, dietitian; Becky Banks, MIR Social Worker; Mattie Johnson, Barnes Hospital Volunteer; Margaret Byington of Farmington, Missouri; Shirley Byington of Bonne Terre, Missouri; and Lindell and Logan Crim of Du Quoin, Illinois.



Eric Liu, center, with his MIR preceptors, Drs. Ben Dien-ming Chen, left, and Hsiusan Lin, poses proudly beside his award-winning project.

Top Award

A four-award winner in the 1982 Monsanto/Post-Dispatch Greater St. Louis Science Fair did his research under the preceptorship of Drs. Hsiusan Lin and Ben Dien-ming Chen in MIR's Section of Cancer Biology. As a winner of the top award in the Senior Biology division, **Eric Liu**, a junior at Parkway Central High School, is eligible to enter his research in the 1983 Honors Division competition for the top scholarship. His study of the effects of proteolytic enzymes upon the toxicity and the molecular structure of the toxin produced by clostridium botulinum in-

involved nearly eight months of after-school and weekend laboratory work at Mallinckrodt Institute. The research showed that the enzymes present in the digestive system have no effect on the toxicity of botulin and that 1ng of the toxin is fatal in a mouse in less than 12 hours.

In addition to the Senior Biology award, Eric received a \$250 award from the St. Louis Medical Society, a \$100 award from the U.S. Army Research Office, and a student certificate from the American Society for Microbiology.



Carlos S. Perez, son of Drs. Carlos and Blanca Perez and a 1982 graduate of John Burroughs School, has been named a National Merit Scholar. This high award is based on exceptional academic achievement and promise and is given to only a limited number of graduates throughout the United States. Carlos is now a freshman at Rice University in Houston.

**“The only true gift
is a portion of thyself . . .”**

— Emerson



In the Radiation Oncology waiting area, Mary Ann Fritschle chats with patient, Roberta Johnson, who is embroidering a baby quilt for a future grandchild.



Mary Ann Fritschle was the very first volunteer to work in the Department of Radiology in 1971. There were few guidelines for her to follow but she led the way with a level of compassion, intelligence, and hard work that made her unique assignment to radiology a success and inspired other volunteers to follow her lead. Clocking more than 1,600 “on-duty” hours through the years, she has been able to boost the morale of patients and staff alike with her willingness to help, a warm smile, and a special personal touch.

Although she has helped out on every patient floor of Mallinckrodt Institute, Mary Ann has devoted much of her time to cancer patients in Radiation Oncology. Here she has worked with such boundless energy and cheer that members of the staff often comment, “What would we do without Mary Ann?”

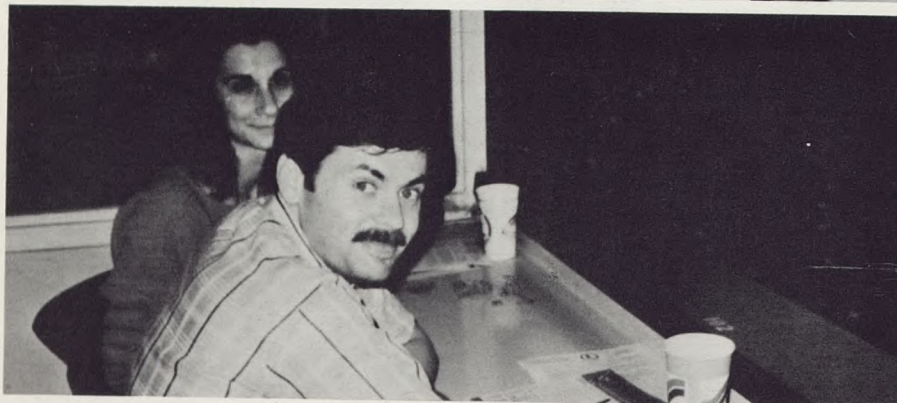
She arrives at the Institute each week ready to work. The speed with which she accomplishes a job mere-

ly creates the opportunity for another. A typical day often finds her escorting patients, visiting inpatients, picking up films in the film library and Nuclear Medicine, picking up charts in Medical Records, making chart packets, labeling slides in the lab, weighing patients, preparing films for mailing, and delivering as many as sixty informational x-ray procedure pamphlets to patients throughout the hospital. Frequently chatting with patients in waiting areas, she often finds ways to make them more comfortable. An offer of coffee, a magazine, a drink of water, a kleenex, a comforted child can be the very thing that makes a brighter day for cancer patients and their families.

As to her “off hours,” in addition to other community activities and maintaining a home for her husband Parker, an insurance broker, and their two children, Betsy, a junior at the University of Virginia, and Bob, who entered Kansas University this fall, Mary Ann regularly collects a station

wagon load of new magazines and delivers them to the Institute for distribution to patient waiting areas. (Not even a broken left foot and lower leg cast daunted her determination to continue this service.) For the last several Christmases Mary Ann has baked 27 batches of cookies for staff and patients in Radiation Oncology. Recently she devoted several evenings to help decorate the pediatric x-ray department and make it more special for the young patients.

Mallinckrodt performs more than 1,000 diagnostic x-rays and 100 radiation therapy treatments each day. Amidst the busy work flow of the Institute, Mary Ann provides a special touch to the patients, who are concerned about their health and often anxious or distraught. Her commitment to give a part of herself to help the sick, to go the extra mile remains strong. No one knows a Mary Ann who isn't cheerful or who is tired. She continues in her eleventh year as dedicated as the day she first began.



Baseball Outing

A 6-2 Cardinal victory over the Houston Astros and a visit from Fredbird, the genial host of the Cardinal Bullpen Room, provided the MIR spectators with smiles and laughs as evidenced by Dr. and Mrs. Ronald Evens, young Darryl Sagel, and his dad, Dr. Stuart Sagel.

The MIR baseball outing on July 23 was organized by Dr. Larry Bauer, seated with his wife, Susan.

Photos by Todd H. Wasserman, M.D.



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