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University of Tennessee Graduate School of
Medicine

2006

Frontiers (Anniversary Edition 2006) - Celebrating 50 Years

University of Tennessee Medical Center

University of Tennessee Graduate School of Medicine

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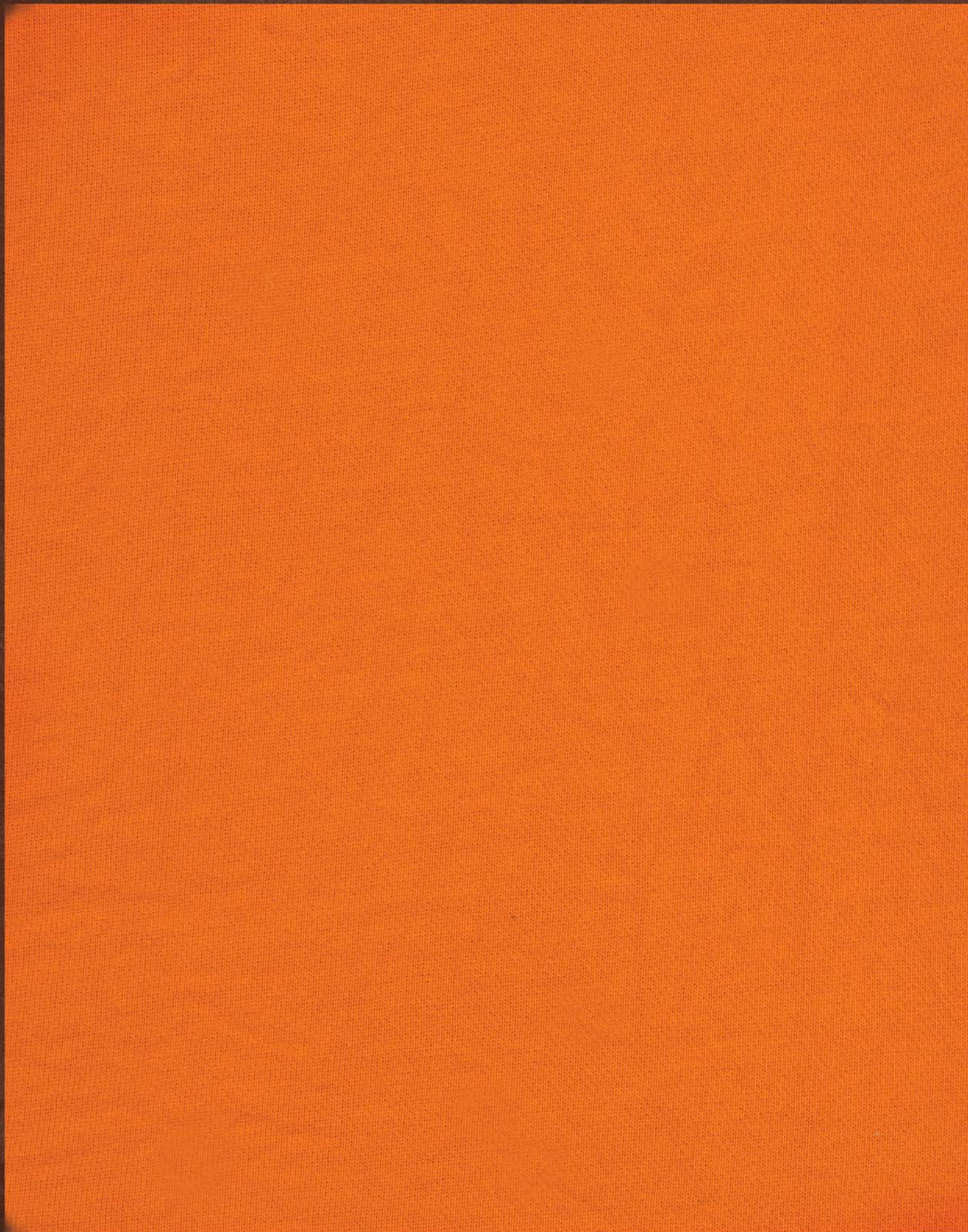
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FRONTIERS



*The University of Tennessee
Medical Center*





*...of Excellent Health Care,
Improving Lives
and Preparing for the Future.*

The University of Tennessee
 Medical Center and The University
 of Tennessee Graduate School of
 Medicine Frontiers

Anniversary Edition 2006

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 Medical Center
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THE UNIVERSITY OF TENNESSEE 
 Graduate School of Medicine

 THE UNIVERSITY OF TENNESSEE
 MEDICAL CENTER

EXPANDING THE FRONTIERS OF MEDICINE™



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Celebrating

We are proud to present this special edition of *Frontiers*, which celebrates The University of Tennessee Medical Center's 50th anniversary and the 15th anniversary of the University of Tennessee Graduate School of Medicine. A look back over the past half-century offers many reasons for celebration.

Throughout their existence the Medical Center and the Graduate School of Medicine have been at the forefront of medical innovation throughout the region, and their leadership in research, education, and patient care has helped change the face of healthcare in East Tennessee. Together they embody the Medical Center's philosophy and mission bringing to the task a spirit of exploration, a passion for teaching, and a compassion that restores.

One of only 117 academic medical centers in the United States, the University of Tennessee Medical Center today is a 581-bed, not-for-profit organization, serving eastern Tennessee, southeastern Kentucky, and western North Carolina. Its six centers of excellence specialize in brain and spine disorders, emergency and trauma services, heart, lung, and vascular disease, cancer, women and children's health, and primary care. In addition, some of the specialized services provided include a Level I trauma center, LIFESTAR aeromedical services, a Level III neonatal

intensive care unit, pediatric kidney dialysis, and pancreas and kidney transplants—all while training tomorrow's physicians, dentists, and other health professionals.

In this issue, we recognize and honor a few people and accomplishments from our past. Advances in medical education, research, technology, and the delivery of care are among the achievements we are most proud.

On behalf of our boards, our staff, our faculty, our students, and our physicians, we hope you enjoy this look at some highlights in the history of the Medical Center and the Graduate School of Medicine and their contributions to this region.



Joseph R. Landsman, Jr.
President & CEO
University Health System, Inc.



James J. Neutens, Ph.D.
Interim Dean
UT Graduate School of Medicine

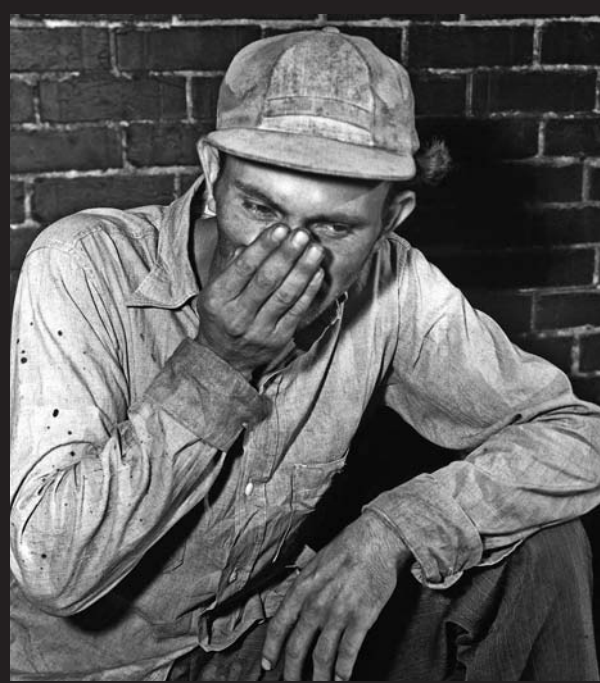
50 Years

*of Healthcare Excellence
& Accomplishment*



Step Back in Time With Us

With Some of Our Favorite Memories



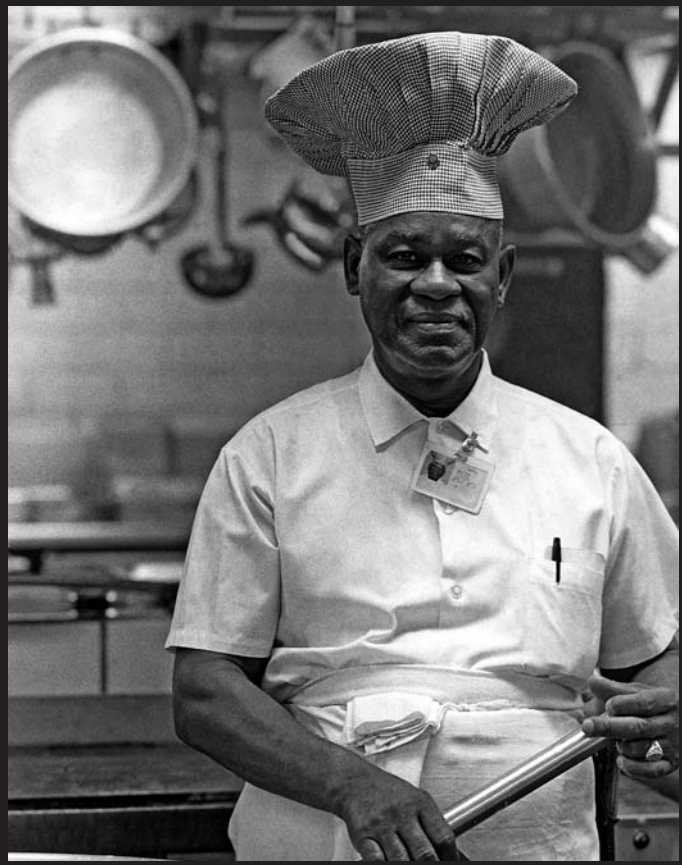
*The Medical Center's first patient, James Daughtery, August 9, 1956.
Photo courtesy of the Knoxville News Sentinel.*



Dr. Robert Lash answers questions about LIFESTAR.



*The first baby born at the Medical Center, Lowell Vincent Johnson and his mother, Mrs. Charter Johnson, August 10, 1956.
Photo courtesy of the Knoxville News Sentinel.*



Medical Center cafeteria Chef Harry A. King, 1980.





*The outpatient clinic, 1966.
Photo courtesy of the Knoxville News Sentinel.*



*James Ferguson, first administrator of
the hospital, 1954-1970.
Photo courtesy of the Knoxville
News Sentinel.*



A nurse comforting one of the smallest patients.



Kidney transplant operation.



*Ambulance transportation in 1963.
Photo courtesy of the Knoxville News Sentinel.*

Rumination & Recollections of an Old Surgeon



Originally named the University of Tennessee Memorial Research Center and Hospital, the University of Tennessee Medical Center opens with James Ferguson as administrator.

1956

1957

Dr. E. Stanfield Rogers is named first director of the research center.

Remembering the “Good Old Days” with Doctor Schuchmann

One of the pleasures of being an old doctor is that of reflecting back on the “good old days,” which in retrospect really weren’t that great. When I graduated from medical school in 1963, I could never have dreamed of the advances in medicine we accept as standard in 2006.

I remember once, as a 16-year-old, sitting at our Iowa farm table listening to the news. The exciting release that day was that Dr. John Gibbons had placed a young girl on a heart-lung machine, opened her heart, and closed a congenital hole in it. My mom, knowing that I dreamed of becoming a physician, remarked that I would probably do that operation someday. My response was “Sure, Mom. That will happen right after a man walks on the Moon.” In 1969 Neil Armstrong took that “one small step for mankind,” and a short time later I duplicated John Gibbons’s operation, closing my first atria septal defect, the same congenital hole he repaired in 1953.

My childhood medical care was handled solely by our local family doctor, who delivered me in our farmhouse without anesthesia. He painted my tonsils with iodine for strep throat,

First graduates of the School of Nursing.

1957

First open heart surgery is performed at the Medical Center.

1959

My advice: Walk, go fishing, get some fresh air, plant a garden and eat those vegetables.

took out my tonsils and appendix, set numerous fractures, and treated my pneumonia during daily house calls with a new wonder drug called penicillin. That same doctor also pronounced my dad dead of an unheralded heart attack. EKGs and X-rays were not sophisticated, and there were few specialists. The family doctor was expected to deliver babies, read X-rays, do surgery, and set fractures. If a patient had a bad outcome, everyone accepted that old Doc had done his best. Who would ever sue his physician?

Medical subspecialties such as cardiology, pulmonology, and endocrinology were emerging. Highlights in medicine included the advent of antibiotics and vaccination for polio. I was a pallbearer for three cousins in one summer and still remember the solemn rows of deserted body-box breathing-machine iron lungs at the university hospital. Modern ventilators had not been invented.

Surgical accomplishments during the 1960s were spurred by open-heart surgery and the Vietnam War. There were new anesthetics for surgery (do any of you remember open drop ether?). Air evacuation of casualties, techniques evolved for massive transfusion, breathing machines, and open reduction and pinning of fractures were among such feats. I vividly remember the hundreds of amputees we treated during my military surgery residency days. We learned, by necessity, heroic new methods for the treatment of waves of GIs. I recall one of my surgical colleagues removing a live grenade from a soldier's open abdominal wound behind sand bunkers, after all others had evacuated the operating room.

Current wonders are beyond my expertise. Radiology has led in this field—CAT scans, PET scans, and MRI. Cardiac catheterization, stents, and endografts for aneurysm and carotid blockages come to mind. There are transplantations for heart, lung, liver, kidneys, and pancreas, and artificial organs are on the horizon. Our nurses are now providing care and have knowledge that would have embarrassed my family doctor in the 1950 era.

Yes, we have expanded our scope of medical options by a light-year during my time, but we also have much that has been neglected. My farm-family ancestors did hard manual labor and produced and ate what came from their land. Our generation is dominated by computer-driven offices, fast food, diet drinks, and folks who drive down to their mailboxes. We eat too much, exercise too little, and stay up too late in couch-potato activities. Fewer than 5% of us take medications as prescribed.

My advice: Walk, go fishing, get some fresh air, plant a garden, and eat those vegetables. See your physician for "oil changes and 30,000-mile checkups." Take charge of your opportunity to live a long and healthy life.

George Schuchmann, MD



UT President Andy Holt outlines new plan for physician training that includes continuing education programs for "near-by" physicians.

1960

See your physician for “oil changes and 30,000 mile check ups”.

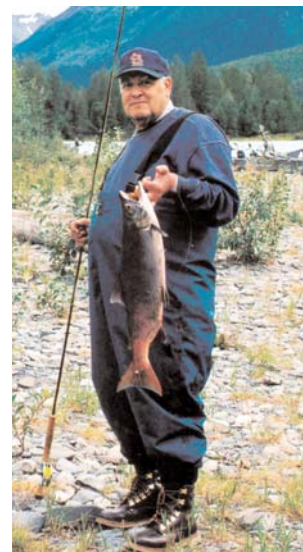
Brigadier General Crone, hospital commander and Col. John H. Sharp, chief, Department of Surgery, pin gold oak leaves on newly-promoted Major George Schuchmann, general surgery resident (right).



George Schuchmann, MD performing a heart transplant in 1986 (far right).



George Schuchmann, MD enjoys fishing (right) and taking his grandson, Aden, for a ride on his tractor (above).



1963

The UT Research Center (now part of the University of Tennessee Graduate School of Medicine) is designated as a graduate and postgraduate training center.

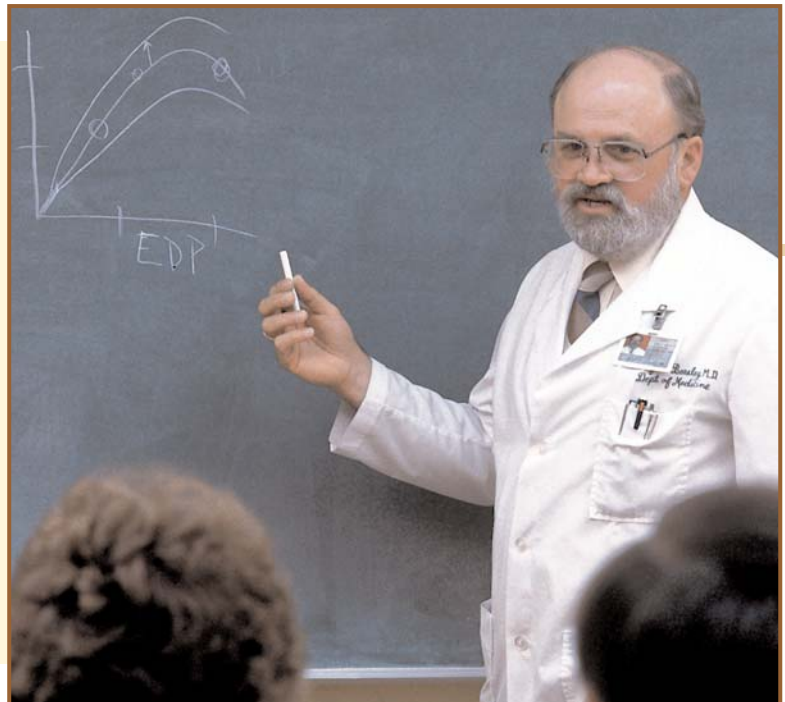
MEDICAL ADVANCEMENTS

People, Procedures and Technology

“As a teaching hospital the University of Tennessee Medical Center has trained many of the physicians who now practice in this area. Perhaps its most significant contribution has been in the review and confirmation of procedures and techniques by physician peers for the best interest of the patient.”

-Alfred Beasley, MD

Retired Chairman,
Department of Medicine,
the University of Tennessee Medical
Center & the University of Tennessee
Graduate School of Medicine.



Contributing to the health and well-being of East Tennesseans over the past 50 years, and continuing today, the University of Tennessee Medical Center is recognized as the leader in medical technology and medical techniques (advanced treatments and procedures). Physicians at the Medical Center have given themselves and their colleagues the task of bringing to the institution technologies and techniques that offer those they serve the greatest chance of a restoration to health and happiness.

Before ground was broken for the hospital, one of its most ardent supporters described it as a place where experts could capitalize on “the diagnostic and therapeutic possibilities of atomic energy in medicine.” The Medical Center’s physicians have embraced this prediction, treating it as a challenge to provide the most advanced equipment and procedures available.

Dr. Amoz I. Chernoff is named director of research.

1964

1965

New state-of-the art research center addition opens.

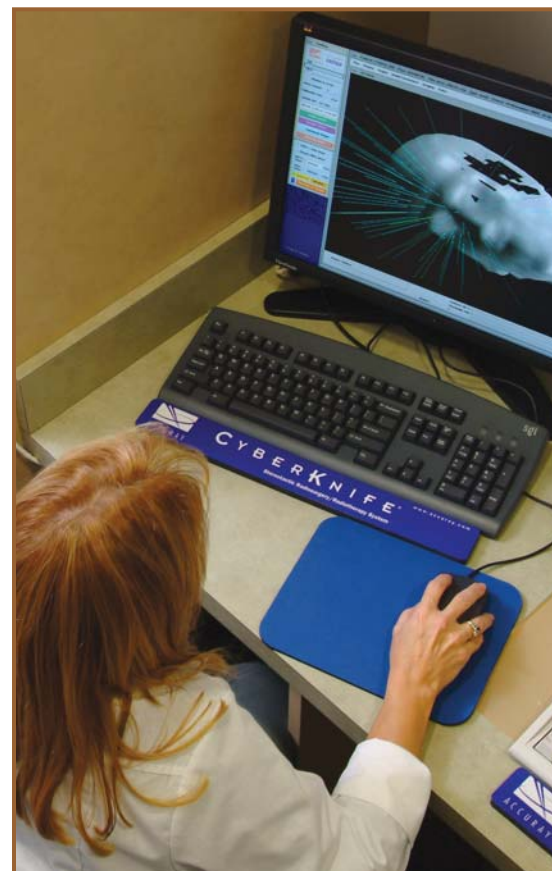
Beginning with the original building's isotope vault in 1956 and continuing with blood oxygenation equipment for open-heart surgery in the early '60s, coronary bypass surgery techniques in the mid- to late '60s, and the first clinical application of positron emission tomography (PET) in the 1970s, the University of Tennessee Medical Center has given the thousands of patients who have passed through its doors the finest of care. More recently there has been the addition of advanced radiation therapy and heart and kidney transplants, innovative equipment for transporting premature and critically ill newborns, and cutting-edge transportation by land and air for trauma patients—all of it culminating today in multi-organ transplant capabilities, as well as CyberKnife and other noninvasive surgical and interventional procedures.

Lifesaving advances in medicine have been complemented by improvements in the technology that supports healthcare infrastructure, such as computerized systems and pharmacy controls for ordering and dispensing pharmaceuticals. This and improvements in monitoring and ordering surgical supplies and managing other essential functions allow physicians, nurses, and other health professionals to concentrate on the care they give their patients.

The quest for knowledge, new equipment, and improved procedures to enhance patient care is never-ending. Sharing this knowledge and training with other health professionals forms the foundation and mission of an academic medical center.

The University of Tennessee Medical Center has been fortunate enough during its 50 years of service to have pioneering men and women in its operating rooms, patient floors, and research labs. They have challenged themselves with the question “Why?” and have been challenged by medical residents and fellows with the question “Why not?” Their response is illustrated by the continuing advances in the Medical Center's patient care and the region's health and well-being.

John J. Sheridan



The Medical Center opens the first physician office building on campus.

1966

National March of Dimes grant is awarded to research center for the study of birth defects.

1967



Original isolette for transporting newborns.



The advanced omnibed in 2006.

ADVANCES

Past & Present



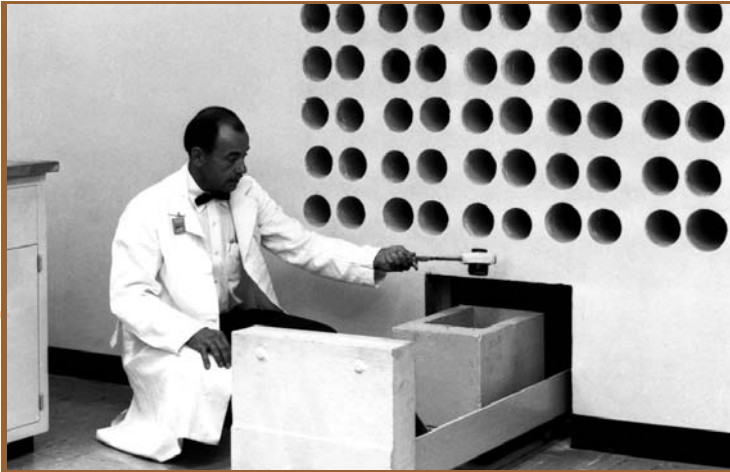
Early intensive care unit.



Modern intensive care unit with more technology directly at the bedside.

1968

The research center is one of only fifteen sites testing L-dopa to control Parkinson's disease symptoms.



Vault storing radioactive isotopes believed to be the best way to fight cancer.



CyberKnife generates and delivers radiotherapy to treat tumors in the brain and other soft tissue such as the liver and lungs.



Before UT LIFESTAR, Army, National Guard, and TVA aircraft provided transport service.



The Bell 430 is one of the most advanced transports available.



At the time, the X-ray equipment used for diagnosis was considered "new and improved".



Radiology in 2006 includes PET/CT and is used for both diagnostic and a part of the treatment protocol.

1968

Knoxville newspapers carry a series of articles highlighting the research center's excellence in researching birth defects, blood disorders, and cancer research.

1969

First neonatal transfer from an outlying facility into newborn nursery.



Mr. Harry M. Lyon (seated) participated in the opening of the family medicine clinic built through his generosity.

Thank You



The Preston Medical Library dedication included UT President Andy Holt, Senator Herbert Walters and Mr. Howard Preston (seated).

Intensive Care Nursery opens.

1970

1970

The 184-bed South patient pavilion opens with first private rooms.

Generosity

Changing Generations

DEDICATED TO OUR DONORS OF 50 YEARS

And so it has been for 50 years. Men and women, young and old, rich and not so rich, ordinary people and extraordinary people, all with one thing in common: investing in the University of Tennessee Medical Center.

Some have made investments in buildings and equipment, others in materials for research. Some have invested in physician and faculty support, and still others in furthering the education and promise of residents and other medical professionals. The common thread running through the decisions of all donors to the University of Tennessee Medical Center is the recognition that extraordinary results will not happen without the extraordinary generosity of their investments.

Gifts from the families of Howard Preston and Tom and Katherine Black and a gift from Harry Lyon established the Preston Medical Library, the Neonatal Intensive Care Unit, and the Family Medicine Clinic and set a solid foundation for the future of private fundraising at the University of Tennessee Medical Center. Received and recorded contributions made for the Medical Center's benefit between 1988 and 2005 totaled just over \$50 million. In addition, commitments of more than \$7 million were made by individual donors through bequests, trusts, and other estate plans.



“Keep in mind men and women don’t want to give money away. They want to invest in great causes and in bold and exciting dreams. They want to feel they are helping change and save lives.”

-Jerold Panas

1972

The new Emergency Department opens.

1973

State's first Clinical Education Center, predecessor to UT Graduate School of Medicine, opens in Knoxville to train physicians for rural areas.

THE IMPACT OF GIFTS

Private gifts provide a margin of excellence and allow institutions like the University of Tennessee Graduate School of Medicine and the University of Tennessee Medical Center to offer opportunities in the spheres of research, education, and patient care that would not otherwise be possible. Over the years research funds in many specialties have been established, allowing physician researchers to explore the causes of disease, illness, and trauma and to develop new therapies and treatments.

The University of Tennessee Medical Center, as an academic center of medicine, has transformed its responsibility into a source of pride and accomplishment. Through the support of generous private gifts, programs for medical residents have been enhanced, continuing education programs have flourished, and national and international clinicians and scientists have presented seminars, lectures, and grand rounds for the University of Tennessee Medical Center physicians and staff and for physicians, scientists, and other medical leaders in the region.

Around the campus, many faculty- and equipment-related needs have been met by private gifts. Such improvements as renovated spaces, new artwork and special furniture, or additions to the grounds and the Medical Center environment may result from a gift rooted in interest of a particular medical area or the desire to honor someone's memory. The hallmarks of the University of Tennessee Medical Center include grateful patients and their families, community leaders, philanthropists, and friends who share a passion for teaching, exploration, and patient care.

In the next 50 years, the Medical Center's promise will be enhanced by a continued inflow of generous private gifts. Those investments will act to distinguish the Graduate School of Medicine and the Medical Center from other academic medical institutions.

It would take pages and pages to name all the individuals, corporations, foundations, associations, physicians, nurses, health professionals, support staff, and administrators who have made gifts to the University of Tennessee Medical Center over the past 50 years.

John J. Sheridan

Receive initial funding for Medical Center's Regional Perinatal Program from the State of Tennessee.

1976





A A gift from Knoxville attorney and philanthropist Lindsey Young enabled the Graduate School of Medicine to establish a center for research and treatment of Alzheimer's disease and amyloid-related disorders.

B Bromma Pemberton, a retired banker from Oneida, Tennessee, has provided generously both during her lifetime and in her estate plans for the care of infants in the Tom and Katherine Black Neonatal Intensive Care Unit.

C Reba Absher made extraordinary commitments and gifts to help endow the pastoral care program, educate pastoral care residents, and to support the cancer research of Dr. Alan Solomon.



D The Medical Center Auxiliary has provided more than \$2 million in gifts to support a variety of projects, including scholarships, special equipment, and other programs.

E Mr. and Mrs. Harry Pease established a cancer research fund to honor their daughter, Pamela Pease, who died after a 20-year battle with Hodgkin's disease.



F The Monica M. and Robert H. Cole Foundation has long supported research, patient care, and family support for people suffering from Parkinson's disease and other neurological disorders.

1978

The Medical Center initiates the area's first cancer tumor registry

1978

Medical Center's Cancer Institute physicians begin meeting weekly to discuss cases which today has evolved into multidisciplinary conferences.

50 Million Thanks

FOR 50 YEARS OF GIFTS

BRAIN AND SPINE INSTITUTE

Cole Professorship
Cole Neuroscience Gift Fund
Reuben Mount Alzheimer's Endowment
Temple Alzheimer's Research Endowment

PATHOLOGY

Evans Radiology Technician Scholarship Endowment
Jones Medical Technology Endowment
Maner Radiology Technician Gift Fund
Patterson Gift Fund

ANESTHESIA

Beene Memorial Gift Fund
Nursing Anesthesia Gift Fund

PASTORAL CARE

Absher Pastoral Care Endowment
Bernstein Employee Education Fund
Bilbrey Employee Education Fund
Swabe Family Values Endowment

RADIOLOGY

Buonocore Radiology Endowment
CTI/PET Systems Research Endowment

WOMEN AND CHILDREN

Coffmann Pediatric Research Fund
Longmire Pediatric Endowment
McCammon Pediatric Research Fund
Striegel Pediatric Endowment

FAMILY MEDICINE

Brakebill Family Medicine Endowment
Bridges Endowment
Eddy Diabetes Endowment
Moon Resident Award
Patterson Gift Fund
Shacklett Family Practice Endowment

HEART LUNG VASCULAR

Hurlbut Cardiac/Emphysema Endowment
Long Research Fund
Schuchmann Fund
Wolfe Cardiology Fund

MEDICINE

Dynacare Professorship
Hauck Genetic Research Endowment
Obenour Medicine Lectureship Endowment

NURSING

Burge Nursing Scholarship Endowment
Hudson Nursing Education Fund
Nursing Alumni Endowment



Cancer program is accredited by the American College of Surgeons Commission on Cancer (the area's first accredited program).

1980

1981

The Medical Center receives designation as one of only five Regional Perinatal Centers in the state.

ORAL SURGERY

Alley Oral Surgery Endowment
Sullivan Visiting Professor Endowment

CANCER INSTITUTE

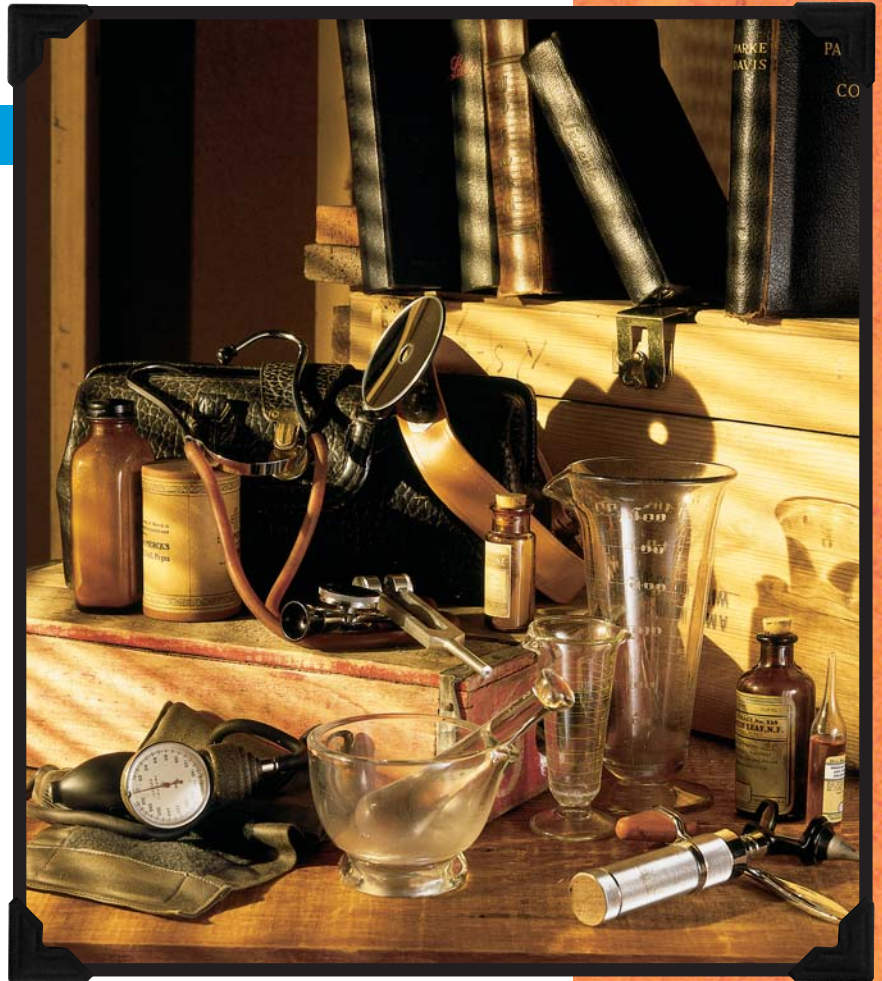
Bell Cancer Institute Fund
Blakley Cancer Research Fund
Bragg Cancer Fund
Cancer Imaging/Tracer Development Fund
Gillenwater Cancer Fund
Hemophilia Center Fund
Human Immunology and Cancer Gift Fund
Inscow Urology/Cancer Fund
Irwin Cancer Research Endowment
Lancaster Cancer Research Fund
Long Research Fund
Sam Mount Kaposi's Sarcoma Fund
Sharp Cancer Endowment
Stephens Cancer Care Endowment
Wallen Cancer Research Fund

EMERGENCY MEDICINE

Lash Emergency Medicine Endowment
LIFESTAR Gift Fund
Pipkin Research Endowment
Trauma/Critical Care Gift Fund
Shagan Medical Research Fund
Team Health Gift Fund

GRADUATE SCHOOL OF MEDICINE

Boling Visiting Professor Endowment
Collmann Med Student Education Fund
London Library Endowment
Preston Medical Library Fund



SURGERY

Crutchfield Memorial Fund
Filston Surgery Endowment
Frame Trauma Fund
Hecht Surgical Rehab Fund
Spengler Vascular Research Fund
Whittington Visiting Professor Endowment

OB/GYN

Buckley Perinatology Endowment
Diddle OB/GYN Gift Fund

Harry H. Lyon, Sr. Family Practice Center opens for family practice physician training and the Knoxville Clinical Education Center.

1982

1983

Home Health services begin. It is later named Home Care Services to reflect the expansion of clinical services provided.

Breaking Ground & Building Up

CHANGES IN THE MEDICAL CENTER CAMPUS



The 12-story Boling Pavilion named for the former University President Edward J. Boling and his wife, Carolyn, opens.

1984

LIFESTAR transports first patient.

1984

1984

A specially equipped Neonatal Intensive Care Unit ambulance begins service to transport the most critically ill babies in the region.



On August 9, 1956, hospital workers began loading patients from the well-worn Knoxville General Hospital into ambulances bound for the new University of Tennessee Memorial Research Center and Hospital.

The path to building the first structure at what is now the University of Tennessee Medical Center hadn't been easy. Doctors had clamored for a new hospital for a decade before its doors opened. The university was already setting money aside for a new student hospital when a group of Oak Ridge scientists proposed adding a research center to explore the therapeutic use of atomic energy. For years the project stalled while city, state, and university officials and physicians wrangled over its politics. Supporters argued that to explore the medical uses of atomic energy, the facility had to be close enough to Oak Ridge for a successful transfer of the short-lived radioactive isotopes. Naysayers worried that the project would benefit only Knoxvilleans; others argued for a UT Memphis medical center. At one point the *Knoxville News Sentinel* declared the Knoxville project “dead as a mackerel.”



Dr. Mitchell Goldman performs first kidney transplant at the Medical Center.

1985

1985

The Medical Center opens the second physicians' office building on campus.



Finally the city, state, and county agreed to fund the \$6 million project as a memorial to World War II veterans. Initially planners wanted a more prominent site, on a hill by the Tennessee River. But the Atomic Energy Commission felt that a 640-acre site set in a dip farther from the river would be safer in case of an atomic attack on Oak Ridge or Alcoa.

Shortly after the groundbreaking in November 1953, construction began on the 306,000-square-foot facility as UT officials and the Knoxville Academy of Medicine ironed out details like staffing and finances. In 1958, after several years of shuffling nurses about, the hospital added a new nursing facility with classrooms.

The 1960s ushered in a spate of construction. Influenced by the Cold War and the space race with Russia, Congress was quick to fund research concerning the effects of space on humans, a new direction of inquiry also embraced by the Research Center. With city, county, state, and matching federal funds, in 1965 the center added a \$1 million research facility to the main hospital.

That year university officials also announced plans to build several additions. Medical Building B, the first set of physicians' offices, went up in 1967, followed in '68 by the South Pavilion, the first wing with private rooms for patients—very different from the multi-bed wards that were common in hospitals around the country. And in 1982, 7,100 square feet was added to the Family Practice Center.

But the overall facility, renamed the University of Tennessee Center for the Health Sciences-Knoxville in 1975, had its grandest moment since 1956 with the 1984 opening of the \$44 million, 12-story East Pavilion. A wing primarily of patients' rooms, it was the biggest project ever approved by the state building commission, says Ted Bloomfield, director of facilities planning and construction services at the Medical Center. Construction presented some logistical challenges, adds Norman Majors, the Medical Center's senior vice president and chief administrative officer: "The building superintendent and the operating room each had a two-way radio. When certain surgical procedures were about to begin, the operating room would radio the superintendent to stop drilling."

The projects since the East Pavilion have been smaller but also important: the opening of Medical Building C in 1985, Medical Building A in 1990, and Medical Building D in 2003, all physicians' offices. In 2004, Medical Building E was added to house the Heart Lung Vascular Institute.

Building any part of a hospital, of course, isn't like throwing up a house or department store. "We have patients and critical infrastructure that can't be interrupted by someone pulling a switch or cutting a pipe," Bloomfield says.

The Medical Center is designated as a Level I Trauma Center.

1988

1988

First PET scanner is installed at the Medical Center.



Medical buildings A (1990), B (1967), C (1985), D (2003) and E (2004).

“Every contractor, subcontractor, and sometimes the architect goes through a training program developed by the safety department. And we have committees for infection control that make sure we’re maintaining a safe, clean environment throughout a project.”

The Medical Center also has an in-house construction crew and hires contractors experienced in the construction of medical facilities, says Majors: “They know how to work around patients and employees by walling off certain areas, for example.”

These 50 years of construction have been marked by the same kind of caution and care. The Medical Center is now more than two million square feet and 26 buildings, and growing. Up next: the neonatal intensive care unit. “This is an internal remodeling that will provide the area’s first private rooms for sick babies,” Bloomfield says, “but it’s important to maintain the latest in neonatal care. And that’s the trick: using bricks and mortar to pave the way to the future.”

Dorothy Foltz-Gray



When the Java Café opened in 2004, it provided a relaxing atmosphere for visitors and staff.

The Medical Center opens the third physicians’ office building on campus.

1988

First mobile mammography unit begins services in the region.

1990

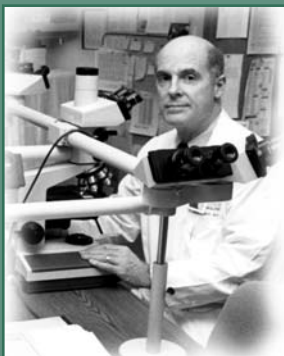


Dr. Alan Soloman

1991

UT Graduate School of Medicine researchers send an experiment to study peripheral blood leukocytes and spleen lymphocytes on the 9-day NASA Columbia shuttle mission.

Quest for Answers: UT Medical Researchers Continue to Touch Lives and the World



Dr. John Neff



UT researchers investigate chromosomal abnormalities



Dr. James P. Chen and Teresa Williams (1988)



Dr. Stanfield Rogers, first director of medical research (1958)

First research projects included the study of cancer and heart disease.

After World War II, East Tennesseans wondered what would become of Oak Ridge, the “secret city,” that had developed the atomic bomb. Leaders there promised peaceful uses for atomic technology, including medical research. Radioactive isotopes were believed to be the best way to fight cancer and other diseases. The same technology that ended a war could, in fact, save lives right here at home.

Oak Ridge leaders and Knoxville-area physicians began discussions about building a new medical research facility at which Oak Ridge isotopes could be used for cancer research. Support for this endeavor grew quickly, resulting in a waning of support for renovating and enlarging the old 1920-era Knoxville General Hospital. After years of political maneuvering, fundraising and funding adjustments, and changes in operational and architectural plans,

UT Graduate School of Medicine is formed to permit residencies, subspecialty fellowships and continuing education programs to be managed on the Medical Center's campus.

1991

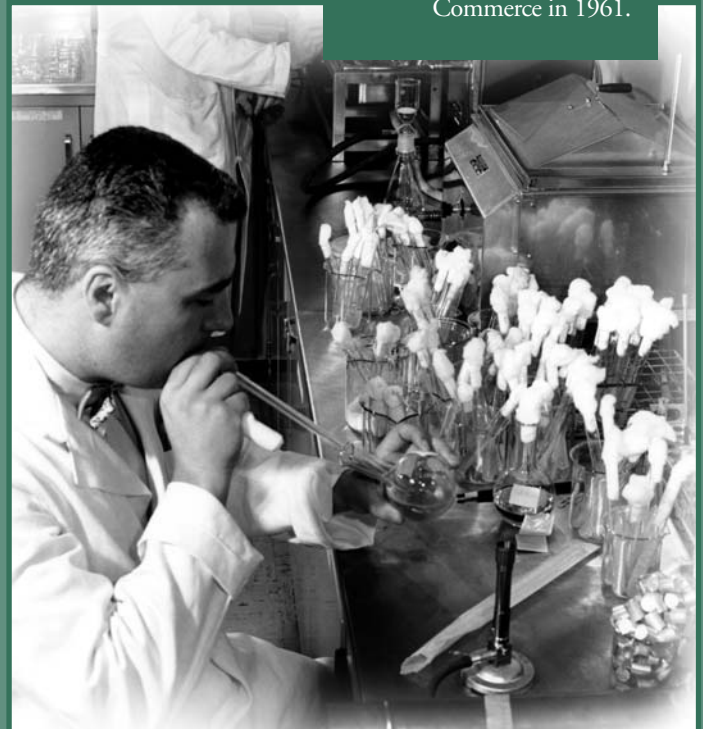
Tennessee governor Frank G. Clement declared the research hospital project necessary for Tennessee's citizens and for humanity.

Soon the University of Tennessee Memorial Research Center and Hospital gained final approval. On July 18, 1956, dignitaries, physicians, and others attended a dedication ceremony for the new facility that held so much hope for Tennesseans and ended up impacting the world.

"We feel that this is one of the most important assets not only for Knoxville but for the state..."

-James E. Bradley

President-elect of the Knoxville Chamber of Commerce in 1961.



a Strong Start

By August 1957, the research staff included four wise, established scientists and the center was off and running. Their first research projects included the study of cancer and heart disease, and they shared a four-part mission: basic research, applied research, clinical diagnosis, and treatment.

Before long, however, another newsmaker grabbed the public's interest. The space race became the focus of the nation, and UT scientists were no exception. Their research

turned to studying the effects of outer space on humans in the late 1950s and, in the early '60s, the sympathetic nervous system's response to various stresses in space flight.

The community applauded the researchers' work. "We feel that this is one of the most important assets not only for Knoxville but for the state," said James E. Bradley, president-elect of the Knoxville Chamber of Commerce, in 1961.

American Cancer Society names UT Graduate School of Medicine's Dr. Alan Solomon as clinical research professor of Clinical Medicine for integrating his laboratory research on multiple myeloma with patient care.

1992

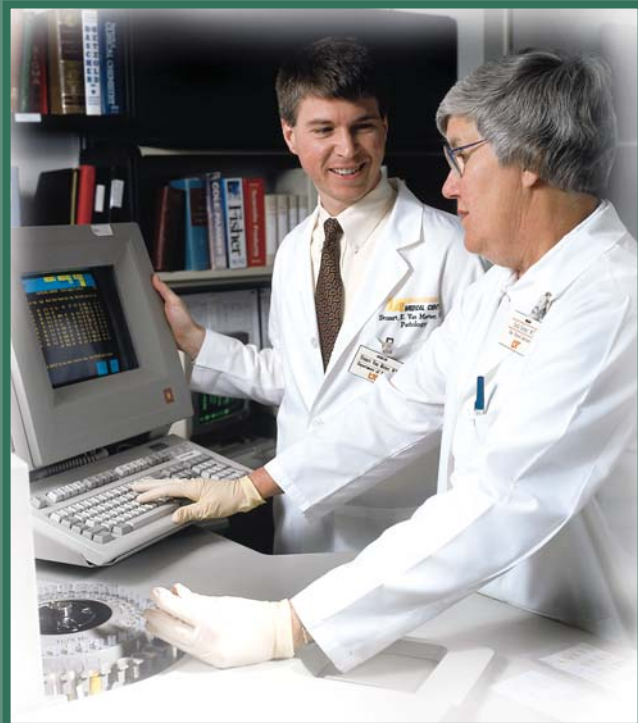
1993

George Kabalka, PhD, is recognized as the South's most distinguished chemist for his research into developing imaging agents for MRI and PET scans.

Growth from Success

Successful work in the cramped research facility resulted in a \$1 million building expansion in 1965, and very soon the distinguished UT researchers were making national and international headlines in the fields of birth defects, blood disorders and cancer. The center was one of the few to test L-dopa for Parkinson's disease, and in the late 1960s it touched the community by providing educational programs on birth defects and hematology.

When asked what had brought such a prestigious staff to Knoxville, Dr. Amoz I. Chernoff, director of the research center, replied, "One is the fact that I have been selling the center to them. Other reasons are the intellectual environment of the area, the academic atmosphere here, and some just like the countryside."



From Left to Right:

- *Dr. Amoz Chernoff, left, leads the UT Research Center as director beginning in 1965*
- *Working in the medical research lab*
- *Pathologist Stuart Van Meter discusses results with Carla Farmer, Chemistry Supervisor*
- *Neonatal Intensive Care Unit patient*

During the decade of the 1960s to 1970s, the American medical focus was on prenatal, neonatal, and children's health. Genetic research grew, and UT opened the Birth Defects Center, an intensive care nursery and high-risk center for perinatal care.

Researchers send an experiment to study anemia in astronauts aboard the NASA Columbia space shuttle.

1993

Cole Neuroscience Center opens on Medical Center campus to treat Parkinson's and other movement disorders.

1997

Appreciation of the scientists' efforts was apparent. A *Knoxville News Sentinel* article read, "Few persons who are not involved in scientific or medical work are aware of the important research being conducted by medical research workers at the UT Medical Research Center. But such studies may have a tremendous impact on the health and welfare of not only East Tennesseans, but people everywhere....It is now considered one of the finest biomedical research centers in the Southeast."

Changes in Focus

Public admiration, however, can be a fickle friend. At the end of 1970, the American love affair with research seemed to be ending. Federal financial assistance was shrinking because of inflation and because the public was more interested in dramatic medical breakthroughs, such as transplants and technology. Research on chronic illnesses was slow, and America was becoming a "want it now" society. For the first time, hospitals' own budgets had to fund their in-house research activities. The UT Research

Center's emphasis changed from biomedical to clinically applied research. More than ever, researchers were asked, "How does this affect patient care?"

UT researchers have answered that question time and again. In 1971, they announced a new test for bowel cancer that was quick and inexpensive. They studied hydronephrosis (water retention in the kidneys) to fight this fatal disease. They investigated plant extracts that might reject tumors, and they studied genetic materials involved in regulating cell growth. Their tenacity found a breakthrough in the use of antigens for immunization against cancer.

During the next 10 years, research centered on cancer, including multiple myeloma, tumors, and leukemia; anemia, including the affects of anemia on space travelers; Parkinson's and Alzheimer's diseases; cardiovascular incidents, strokes, and neurological diseases; snake and insect bites; and even man's aggressive nature.



Dr. Carmen Lozzio



Oscar Grandas, MD and vascular fellow Trent Prault, MD in the Vascular Research Lab



Preston Medical Library opens for medical education.

1997

Regional Forensic Center opens on Medical Center campus.

1998

1998

Medical Center's Cancer Institute first to offer brachytherapy (seed implants) for the treatment of prostate cancer.

Full Circle and Beyond

Coming full circle in 1988, radioactive isotopes finally found their way into the research center, as its founders had envisioned in the 1940s. A medical cyclotron was installed next to the new PET (positron emission tomography) scanner facility to produce the radioactive isotopes needed in PET scans.

Now, 40 years after stepping through the laboratory doors of UT's medical research labs for the first time, researchers continue to hope and struggle for cures and

answers. The public was right in 1970: the work is slow. Medical miracles do not happen overnight. When they come, the miracles are flashed in the headlines, but seldom do the tedious day-to-day successes or frustrations find their way into the news. Despite the odds, despite the nature of research, our UT researchers continue their quest for answers to our health problems. Perhaps in that lies the true miracle.

Amanda Johnson



Dr. George Kabalka

Medical Research Today

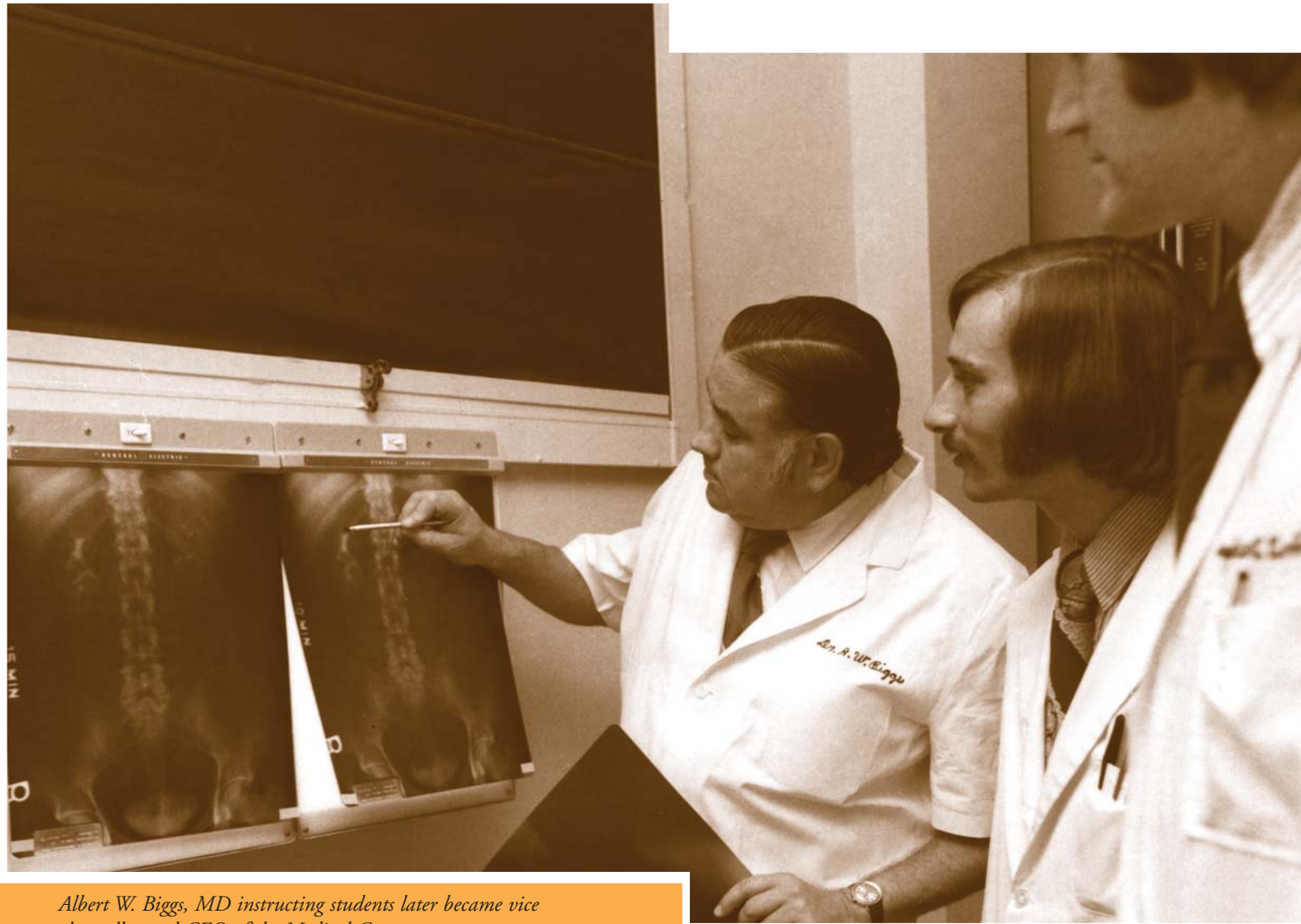
The University of Tennessee Memorial Research Center has changed the world with its research and continues to be recognized as a leader in medical investigation. Today's researchers focus on these and other areas of work:

- Amyloid and neuro-degenerative diseases
- Anesthesiology
- Cancer cell biology
- Cancer imaging and tracer development
- Coagulation and immunoassay
- Human immunology and cancer
- Molecular, structural, and functional imaging of the brain
- Surgical research
- Vascular research



1999

University Health System, Inc. (UHS), a not-for-profit entity, purchases the University of Tennessee Medical Center from the University of Tennessee. The mission of the Medical Center through its partnership with the Graduate School of Medicine remains focused on patient care, education, and research.



Albert W. Biggs, MD instructing students later became vice chancellor and CEO of the Medical Center.

Teaching the Art of Medicine

Enriching Patient Care

UT Graduate School of Medicine's Preston Medical Library and Learning Resource Center expands in Clinical Education Center.

1999

1999

The Medical Center formally designates Centers of Excellence; Heart Lung Vascular Institute, Cancer Institute, Brain and Spine Institute, Trauma/Emergency Medicine and the Center for Women and Children's Health.



Urologist Fred Klein, MD reviews image with colleague.

Roots of Physician Medical Education

In the 1700s, settlers in Tennessee blended remedies brought from their homelands with regional herb and root treatments learned from the Native Americans. This early transfer of knowledge and medical education evolved quickly. By the early 1800s an aspiring young doctor would apprentice with a physician and possibly receive formal training at Transylvania University in Kentucky, the closest organized medical program.

Efforts to expand and formalize education for physicians were championed by many, but the Civil War derailed them. Untrained civilian medical volunteers worked alongside educated doctors during the conflict, gaining on-the-ground clinical education. When peace came again, the drive to improve and organize physician education resumed.

The Medical Society of Tennessee, established in 1830, worked diligently to develop licensing procedures for physicians. Up to this time, students needed only to be 21 and of good moral character to attend medical school. Two years of training brought them a medical degree.

By 1882, a graduate had to have studied medicine for three years, including a residency program. Little more than a decade later, medical education requirements were becoming even more stringent; they now included clinical and laboratory instruction as well as courses in histology, bacteriology, chemistry, and surgery.

When Dr. L. P. Yandell addressed the Medical Society of Tennessee on the subject of medical education in 1838, he said that the state's pioneer doctors put special emphasis on three essential factors: teachers who could inspire students to self-directed study, adequate equipment, and an easily accessed group of patients.

Little could he have known that the University of Tennessee would take his points to heart and eventually establish a unique academic medical center. By adding research and public health initiatives, the state created a collaborative relationship between the UT Graduate School of Medicine and the University of Tennessee Medical Center. Now that relationship provides a dynamic and flexible environment that attracts new physicians to Tennessee.

New Emergency Department opens.

2000

2000

The Medical Center's Heart Lung Vascular Institute is established.

Medical Education at UT

The University of Tennessee was chartered in Knoxville as Blount College on September 10, 1794. In 1879, after several name changes, it officially adopted the name by which it is now known.

Some years later the Flexner Report of 1910, got the attention of Tennessee's medical educators. It argued that some medical schools were "utterly wretched establishments" and that Tennessee protected more low-grade medical schools than any other Southern state. The report also accused the six medical schools operating in Tennessee of valuing their own survival above all other considerations.

The Flexner Report's findings had an impact on the organization of medical schools throughout the state. In 1911 The University of Tennessee moved its medical education program to Memphis and began enrolling women. It was in that same year that the program became the largest medical college in America.

Physician education requirements became more structured after World War I. Between 1920 and 1940, education in medical specialties was standardized and certification in the U.S. was made more formalized.

A shortage of doctors became a concern for Tennesseans in the 1960s, especially in rural communities. The state responded to that need by founding the Clinical Education

Center in Knoxville, the predecessor of today's UT Graduate School of Medicine. The center's purpose was to help keep physicians in the state and to train senior medical students in internships or residencies.

By 1991, the role of graduate medical education had been strengthened by the UT Board of Trustees' establishment of the UT Graduate School of Medicine, with its missions of teaching and research. The larger objective was to combine the clinical focus of the University of Tennessee Medical Center and the research arms of the UT Graduate School of

Medicine into an academic teaching institution where researchers, faculty, and residents could pursue excellence in medical education and research endeavors that would improve the quality of the nation's healthcare.

Today the Graduate School of Medicine has exceeded that goal many times over. It offers a broad spectrum of medical and dental training programs, clerkships, residencies in 12



Neonatalogist Vichien Lorch, MD explains procedures to resident.

*One thing is certain; physician education has grown from rudimentary lessons...
to sophisticated biomedical research of international significance.*

Cancer Imaging and Tracer Development Research Program is established under the direction of Dr. David Townsend. The components of the program include physics, radiochemistry, and human application.

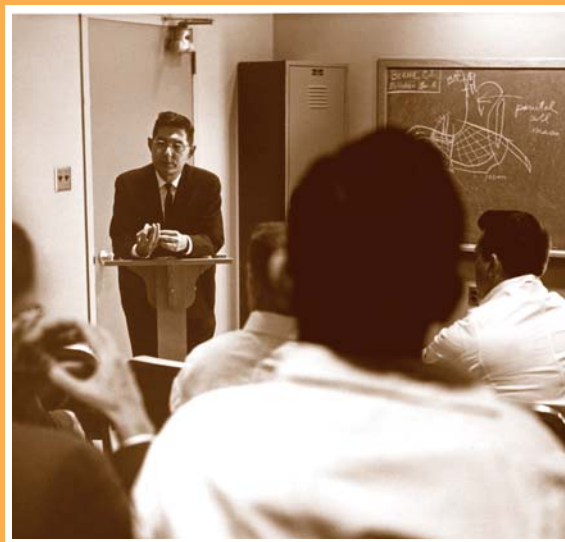
2003

training programs, fellowships in eight specialties, and scores of continuing education opportunities that prepare medical and dental professionals for practice. Its scientists and physicians conduct world-class research to promote the understanding and treatment of serious medical disorders, including Alzheimer's disease, Huntington's disease, multiple myeloma, amyloid disease, ovarian and breast cancer, and reproductive disorders. Its areas of excellence include labs that conduct research in neurodegenerative diseases, anesthesiology, cancer biology, imaging and tracer development, and immunology, plus surgical and vascular research.

This year is the 15th anniversary of the UT Graduate School of Medicine, and one thing is certain; physician education has grown from rudimentary lessons learned from the dirt to sophisticated biomedical research of international significance. And throughout the evolution, we, the public, have been the beneficiaries. No more leeches. No more elixirs. We've come a long way, and if history really does repeat itself, the next 300 years look just as exciting.



William R. High, DMD, Donald C. Chase, DDS and James Vaught, DDS (from right to left) review dental images.



John Kesserson, MD lectures residents.



Lee Wilson, DDS (far left) reviews x-rays of patient with dentistry residents.

Medical Education Across the Board

Although many people associate medical education only with physicians, other areas of specialty have intensive training programs as well. Pathology, speech therapy, occupational therapy, physical therapy, nursing, radiology, and pastoral care are just a few of the additional fields that require specialized training. Included in this section are some specialties vital to the success of any modern healthcare facility.

The Medical Center opens the fourth physicians' office building on campus.

2003

State-of-the-art biograph PET/CT scanner is installed at the Medical Center to be used for both research and clinical applications.

2003

Nursing

In 1956, three months after the Medical Center's doors opened to patients, the Tennessee Board of Nursing approved its application for a three-year diploma program in nursing. A million dollar building housing classrooms, laboratories, offices, and living quarters for 150 students was completed in 1959, bringing even more excitement to the program.

The first students transferred from Knoxville General Hospital, which had been closed by the city. When the school opened there was only one full-time faculty member but by the beginning of the next school year four more nursing instructors had been added. During the school's 18-year life, student enrollment averaged 110, with 12 faculty members, a student counselor, an activities coordinator, a librarian, a secretary, and three residence managers. The school remained open until 1974 and graduated more than 500 nurses.

Because of the growing need for baccalaureate-prepared nurses in the region, UT established a four-year program on the Knoxville campus. From the beginning of this program students came to the Medical Center for clinical laboratory training. Today nursing students from schools throughout the region continue to gain experience at the Medical Center in acute- and critical-care settings as well as surgery.



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The Medical Center opens the fifth physicians' office building on campus.

2004

First kidney-pancreas transplant is performed at the Medical Center by Drs. Mitchell Goldman and Oscar Grandas.

2005

Stereotactic Radiosurgery, CyberKnife, the only one in the area, opens for treatment of tumors.



Alla Dixon, Lorine White, Carolyn Cooper, and Shelley Bardell (front) carry their luggage to the dorm located on the Medical Center campus.

Life as a nursing student in the dormitory.



The Graduate School of Medicine preclinical imaging facility opens providing opportunities for world class translational research in cancer imaging/tracer development and amyloid investigation with Dr. Jon Wall serving as director.

2006

Mary Alice Bozeman

When Mary Alice Bozeman reflects on her years as a nurse and her time at the School of Nursing, her face brightens with a smile. Bozeman's nursing career began when she was 17 years old. Young and full of life, she joined other young women in a dormitory on the University of Tennessee Memorial Research Center and Hospital campus in 1960—just four years after the School of Nursing starting offering classes.

Society was much different in those days, and so was nursing school. Although the students were assigned plenty of book work, they got most of their education through clinical experience.

Bozeman explains, “We were thrown in with life-and-death situations and had to learn how to cope with those things together.” There were times when the nursing staff couldn't get to the hospital because of snowstorms and the students had to manage all patient care.



The requirements imposed on them were strict by today's standards. Young women attending the School of Nursing could not be married and had to follow inflexible dating and curfew policies.

One of Bozeman's most cherished items from her time as a nursing student is her cap. Nurses customarily wore the famous white starched hats, and upon graduation a nurse's cap showed her achievement with a stripe—bringing real meaning to the phrase “earning your stripes.” As the Medical Center's chief nursing officer, Mary Alice Bozeman has garnered many more accomplishments since then.



With another big smile and a brief sigh, she says, “The lifelong friendships I made as a student have definitely been one of the most rewarding experiences in my life.”

Radiography

The School of Radiography, the first two-year radiography program of its kind in the state was founded in 1957 by the late Dr. Willis F. Kraemer.

Kraemer understood the need for radiographers, or X-ray technologists, and their importance as members of the healthcare team. Today, in fact, they are even more essential than they were 50 years ago. Radiographers are responsible for accurately positioning each patient and applying only the amount of radiation necessary for a high-quality image. And as technology has vastly improved over the years, more imaging specialties have arisen.

Over the past 49 years the School of Radiography has graduated 317 students. Although many graduates have gone on to work at the Medical Center, some have used the training to further their education in other areas, such as nuclear medicine, sonography, and radiation therapy.



X-ray technologist students observe diagnostic procedure.

Radiography has evolved beyond the first X-ray machines.



UT Graduate School of Medicine accepts its 49th class of physician residents while its 1,546th resident completes requirements for board certification.

2006

2006

In conjunction with the National Institutes of Health, a four ring, 6-slice PET CT is installed on the Medical Center campus. The only one of its kind in the world.

Clinical Pastoral Care

Twenty years ago the Medical Center recognized the necessity for a clinical pastoral care program to address the spiritual needs of patients and their families. The university's vice chancellor hired the first chaplain of the Medical Center and now the pastoral care program has grown to the largest of its kind in the city.

Realizing how important it was to train pastors in clinical settings, the Medical Center began working to establish a clinical pastoral education program, complete with program training and certification components.

The program, accredited by the Association for Clinical Pastoral Education since 1989, offers students the opportunity to interact with a variety of healthcare professionals, including nurses and nurse anesthetists, medical students, radiology technicians, medical ethics students, and staff physicians. Each student functions as a chaplain in an assigned area and accumulates a broad range of pastoral experience. Students also work in emergency and trauma situations to practice ministry in the midst of crisis.

Lea Anne Law & Heather Grieve



The Pastoral Care department at the Medical Center provides support to patients, visitors and staff.

Realizing how important it was to train pastors in clinical settings, the Medical Center began working to establish a clinical pastoral education program

Look Toward the Future With Us

With Some of Our Favorite Recent Moments



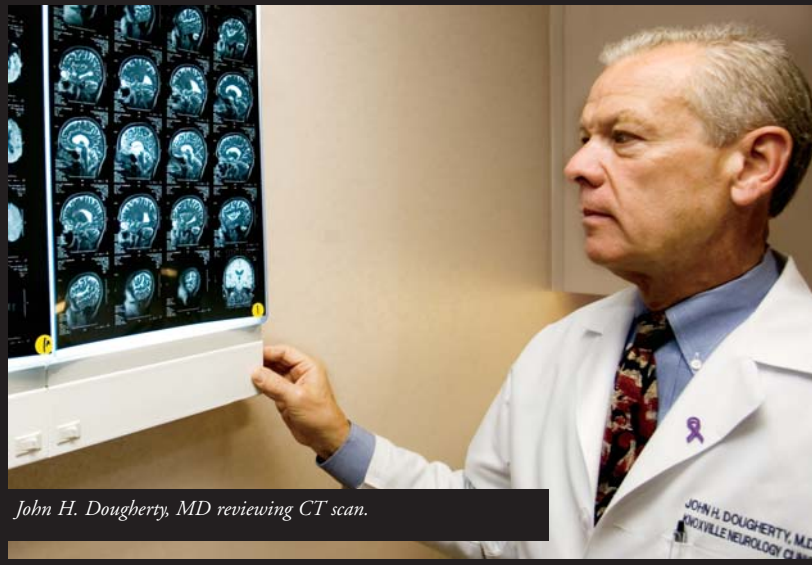
Preparing a patient for a PET/CT scan.



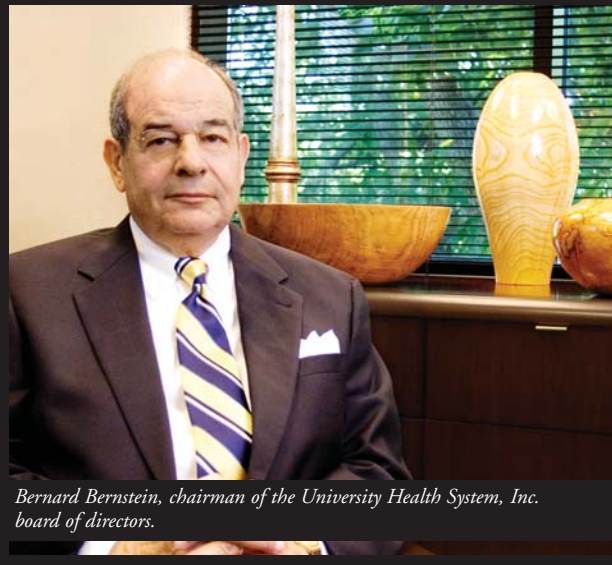
Trauma nurse busy at work.



Breast Center mammography technologists.



John H. Dougherty, MD reviewing CT scan.



Bernard Bernstein, chairman of the University Health System, Inc. board of directors.



Neonatal Intensive Care Unit nurse tending to a tiny patient.



William S. Reid, Jr., MD performs minimally invasive spinal surgery.



Pathology residents view cell samples simultaneously.





*We thank you for the
opportunity we have had to
serve our community. Our
first 50 years is merely the
beginning...*

—Bernard E. Bernstein

Chairman of the Board of Directors
University Health System, Inc.

