



2007

Frontiers (1st Quarter 2007) - Examining Primary Care

University of Tennessee Medical Center

University of Tennessee Graduate School of Medicine

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FRONTIERS

Examining Primary Care:

The Core of
Healthcare
Delivery



For Alumni and Friends



Setting Ourselves Apart

Compassionate Care
Academic Excellence
Comprehensive Research

 **THE UNIVERSITY OF TENNESSEE
MEDICAL CENTER**

EXPANDING THE FRONTIERS OF MEDICINE.®

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

1st Quarter 2007

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THE UNIVERSITY of
TENNESSEE 
GRADUATE SCHOOL
OF MEDICINE

 **THE UNIVERSITY OF TENNESSEE
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EXPANDING THE FRONTIERS OF MEDICINE.™

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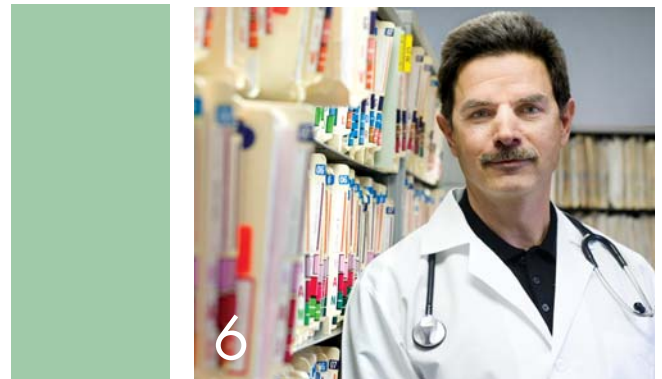
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March 2007



Dear Friends,

The focus of healthcare in this decade has been on technology and new medical discoveries, but we should always remember that outside the realms of specialists, all healthcare begins with primary care. This issue of *Frontiers* spotlights primary care and the role of the primary care physician in providing each of us with the foundation of the healthcare we need. Most of our healthcare begins with a routine checkup or an appointment for one of the most common aches, pains, or ailments. Your personal primary care physician is also your guide to illness prevention as well as more specialized care.

We are extremely blessed to have a network of primary care physicians associated with The University of Tennessee Medical Center. Whether these physicians are located on our campus or in surrounding counties, they provide the strong foundation and extensive network of healthcare that is so important to all of us.

The Medical Center's relationships with the primary care physicians in the region have been rewarding to all concerned. We hope you take full advantage of the care and compassion these physicians offer you and your family.

Sincerely,

A handwritten signature in black ink, appearing to read "Joe R.", written in a cursive style.

Joseph R. Landsman, Jr.
President and Chief Executive Officer
University Health System, Inc.

Dear Alumni and Friends,

Welcome to the new year and our first issue of *Frontiers* for 2007. As you'll see, much of what happens at the University of Tennessee Graduate School of Medicine really is at the frontier of patient care and research.

Primary care is very important to the health of all Tennesseans, as this issue's article on internal medicine reports. We have done much to encourage our residents to remain in Tennessee. It has been a highly successful effort. In the last five years alone more than 75% of completed internal-medicine residents have chosen to practice in East Tennessee. We're proud to make this contribution to improved healthcare for those we serve.

At UT Graduate School of Medicine, research is the key to expanding both knowledge and application of scientific advances. The article on research illustrates the diversity of research work that is being conducted here. It's fulfilling to know that several of our researchers are recognized internationally. This has allowed us to partner with companies in the industrial sector, including Siemens and NanoTek, and others, such as the pharmaceutical industry. While this has obvious implications for medical care, it has a strong positive impact on East Tennessee's economy as well.

The University of Tennessee Medical Center is a leader in patient care. This issue of *Frontiers* shows how we continue to provide our community with greater access to superb medical care through our training programs and the scientific progress we achieve.

Sincerely,

A handwritten signature in black ink, appearing to read "James J. Neutens", written in a cursive style.

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



Front Door to Healthcare

Why you need a primary care physician...

PRIMARY CARE DOCTORS ARE THE “front door” to the healthcare system, and establishing a partnership with a primary care practitioner is vital to your good health. Today the process of getting healthcare is complex. It is more important than ever to have someone who can open doors and serve as a guide, advocate, and anchor when you need a treatment referral, specialized care, or hospitalization. East Tennessee is fortunate enough to have an outstanding network of primary care physicians, including doctors specializing in family practice, internal medicine, and pediatric care.

Their skills and the scope of their practice range from diagnosing and treating a simple upper-respiratory or urinary-tract infection to managing diabetes, hypertension, heart disease, or arthritis over the long term. In addition, primary care practitioners are responsible for working with their patients to prevent disease.

As we age, the importance of screening for osteoporosis, heart disease, cancer, and other illnesses increases, and it is the primary care physician who organizes and guides these screenings. The nature of their relationship with their patients often allows them to provide counseling and education about healthy living and risks like drug, alcohol, and tobacco use.

Primary care physicians understand their limitations. They recognize that doctors and patients have to be partners in fostering good

health and that patients must shoulder a significant amount of the responsibility, asking their physicians about health issues, educating themselves about diseases or other conditions, and keeping their doctors informed about other medications they’re taking. If this is done, and if the patient has routine checkups and appropriate testing, the patient-physician team can be most effective in maintaining and improving health and wellness.

The Medical Center continues to support primary care in our region through the Graduate School of Medicine’s residency programs and internal medicine and family practice. More than half of our graduates remain in East Tennessee, caring for you, your family, and your neighbors. The primary care physicians at the Medical Center, whether we work at the Medical Center campus itself or with an office in your community, look forward to becoming partners with you for your good health.

John W. Lacey, MD



*John W. Lacey, MD
Chief Medical Officer
Internal Medicine Specialist*

Doctor Mom

Two Physicians Balancing Work & Home



Raye-Anne Ayo, MD

RAYE-ANNE AYO and Jennifer Brinkmann are young mothers who spend most of their time chasing toddlers, grocery-shopping, and tending to household tasks—two and a half days a week.

During the other half of the workweek, Dr. Raye-Anne Ayo and Dr. Jennifer Brinkmann are primary care physicians, seeing patients, interpreting

lab results, and tending to a myriad of tasks at The University of Tennessee Medical Center's Northshore office.

In what they describe as the perfect balance between home and professional life, Ayo and Brinkmann are pioneers in the practice's job share program. They and the administrative staff of the Medical Center agree that the arrangement works to everyone's advantage.

Dr. Shelly Durbin, who wanted to spend more time with her middle-school-age children, proposed the job-share idea and presented bottom-line numbers illustrating its advantages to Medical Center administrators. She and Brinkmann have shared a practice for two years. Ayo is teamed with Dr. Brian Bonnyman, a self-described "midcareer physician" who wanted more time with his family and more hours to donate to caring for under- or uninsured patients.

Besides splitting the workweek, the physicians cover for one another when it comes to vacation, sick leave, and other out-of-the-office time. The Medical Center and patients benefit because a doctor is always on duty.

The key to a good job share is finding the right partner. "It really is a business marriage. You have to be comfortable with each other, share the same goals, and have the same philosophy about the practice of medicine," says Ayo.

All the partners are in the office for "overlap Wednesday." They review what happened during the preceding days, talk about the status and needs of patients, and discuss what's coming up for the rest of the week. When questions arise, or "if we just want to know how Mr. Smith's office



*Jennifer Brinkmann, MD
enjoys playing with her
two children,
Molly and Emma.*



Day in the Life of Dr. Courtney George Internal medicine physician

visit went,” Ayo says, they pick up the phone and talk.

While two young physicians could do a job share, all four think the current mix works well. “I find myself asking Jennifer, ‘What do you remember about this from your residency training?’” says Durbin. And Brinkmann notes, “I often ask, ‘Shelly, have you seen this before in your practice?’”

The patients have no problem with the arrangement. “Some think it’s great having two doctors for the price of one,” says Brinkmann.

The only problem for her and Ayo is finding child care that fits their schedules. Don’t be surprised if, on their days off, they don’t come up with a solution to that dilemma.

Heather Grieve



6:30 a.m. My day begins with a buzzing alarm clock. “My husband, Wade, is a dear. He lets me snooze and extra 10 minutes and fixes the boys’ breakfast.”

7:30 a.m. Drop my three boys at school and daycare. A “must” stop at Starbucks! Then, to work at The University of Tennessee Medical Center.

8:15 a.m. See the first patient of the day. “I wish I could spend an hour with each one to understand the emotional and psycho-social things that are going on in their lives.”

8:30 a.m. See a diabetic patient and prescribe medicine.

8:45 a.m. A patient with heart problems is next. “I am in a job share practice with a senior physician and we have a lot of older patients. I see a lot of diabetes, hypertension, lymphedema, and other problems that accompany aging.”

9:00 a.m.–12:30 p.m. On-the-move through the office, seeing patients. “It’s great to spend time with those patients who hang on every word their physician says. Being involved in patient’s lives bring integrity to healthcare.”

1:00–5:30 p.m. Dictate notes from the morning’s appointments, review charts, change prescriptions and medications, and handle routine paperwork.

5:30 p.m. Out of the parking garage and back to being mom again.

6:00–8:00 p.m. Play with the kids, dinner, bath time, bedtime stories, and tuck them into bed.

8:00 p.m. “A few minutes to unwind and talk with Wade about his day—if we are lucky.”

8:15 p.m.–12:30 a.m. Finish dictation, update patient charts, complete office paperwork. Set the alarm for 6:30 a.m. “Eighteen hours after it begins, my day ends.”



STAYING HEALTHY On the Road of Life

THE FAMILY CAR IS ROLLING TOWARD 15,000 miles and its scheduled maintenance. Most of us wouldn't think of neglecting to have the oil changed, the brakes checked, and the fluid levels topped off.

Every doctor's wish is that patients felt the same urgency about their checkups.

True, cars and SUVs don't repair themselves as our bodies do. But by taking the time for a few simple, inexpensive tests, you and your doctor can catch and treat many of the health problems that come along as we age.

Scheduled visits, vaccinations, viruses, infections, and assorted bumps and bruises regularly take us to the doctor (or even the emergency room) during childhood, providing our pediatricians with an overall picture of our health. Sometime during the teenage years, though, medical visits become less frequent and attitudes may change to "I'll go to the doctor only if there's something wrong."

I'm often asked what single thing is most important to good health. If you do only one thing, have your blood pressure checked.

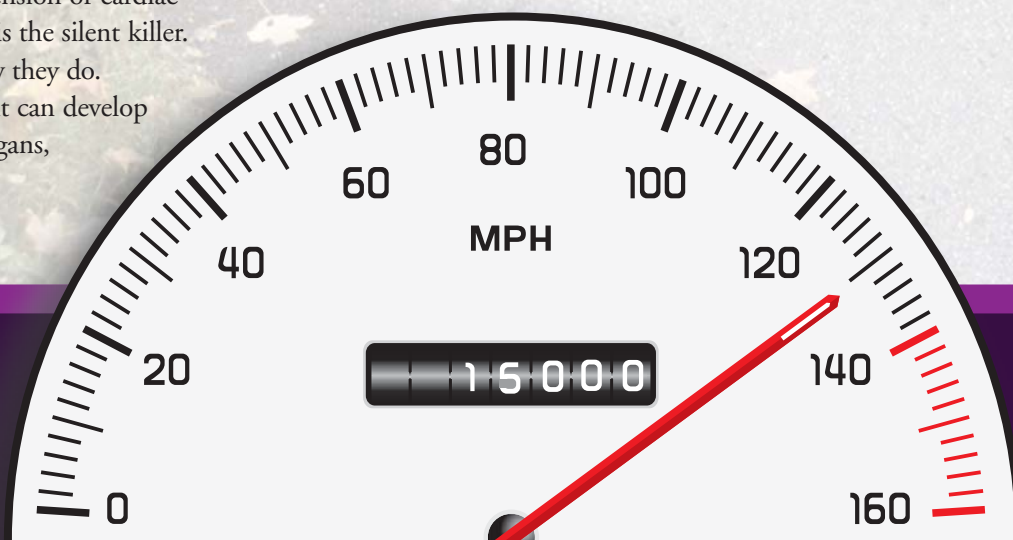
There are always other things that need attention, but at least have your blood pressure checked. And have it checked frequently, starting in your twenties—earlier if you have a family history of hypertension or cardiac problems. High blood pressure really is the silent killer. Millions have it, and many don't know they do. Hypertension has no symptoms, and it can develop early in life and affect a long list of organs,

including the heart, kidneys, and eyes, if not treated. Many effective (and often low-cost) medications can be used to control it.

Tests for high cholesterol, diabetes, glaucoma, and skin cancer should also be done in your twenties. They should be repeated every three to five years, or more frequently if dictated by family history. It is recommended that women get the new cervical-cancer vaccine in their teenage years and have a comprehensive breast exam while they're in their twenties.

A note on family history: It can be as important to good medical care as testing and checkups, because it can help determine how frequently you should see your doctor. Make sure to sit down with your primary care physician and give him or her complete information about any health problems that run in the family.

As we age, blood-pressure checks and other routine tests should be performed more often—every two to four years in the thirties and every one to two years as we reach the forties. Women should begin having regular Pap tests for cervical cancer at twenty or when they become sexually active. In addition women should have an initial mammogram at thirty five and then annual mammograms at forty. Men need to schedule regular digital prostate exams and tests for PSA (prostate-specific antigen) at fifty.





Daniel Cox, MD

Before we reach 50, it's a good idea to have a colonoscopy to look for colorectal cancer and to start scheduling yearly fecal blood tests. Colorectal cancer is the fourth-most common cancer but can be successfully treated if detected early.

Women need screening for osteoporosis in their fifties and should reduce the time between Pap smears and breast exams. Men should be having annual prostate exams.

As we age and our trips to the doctor become more frequent, other tests, such as electrocardiograms, X-rays, and CT and PET scans may become necessary. Patients are sometimes reluctant to have these done because of cost or because they believe the procedures are overprescribed. I say, "If your family history or your doctor indicates that you need a medical test, have it." And if you suspect that there is something wrong, see your doctor. Don't wait.

Always remember that you should talk with your primary care physician about anything that concerns you. With the help of open conversation and simple, inexpensive tests often requiring only a blood sample, your doctor can provide care that will improve your quality of life and your psychological well-being.

Your own routine checkup, after all, is more important than that 15,000-mile service of the family car.

Daniel Cox, MD

Keep Up with the Ups

	20s	30s	40s	50s	60s+
Blood Pressure	●	●	●	●	●
Blood Sugar	●	●	●	●	●
Cholesterol	●	●	●	●	●
Colonoscopy				●	●
Fecal Blood Test			●	●	●
Skin Cancer Scan	●	●	●	●	●
Thyroid	●	●	●	●	●
Prostate/PSA				●	●
Testicular	●	●	●	●	●
Mammogram		●	●	●	●
Pap/Pelvic	●	●	●	●	●
Breast Exam	●	●	●	●	●

● Everyone ● Men ● Women

It is just as important to keep up with your own health as it is to take your family car in for a routine 15,000-mile checkup.

Seeking Tomorrow's Treatments, Today

THE UNIVERSITY OF TENNESSEE GRADUATE

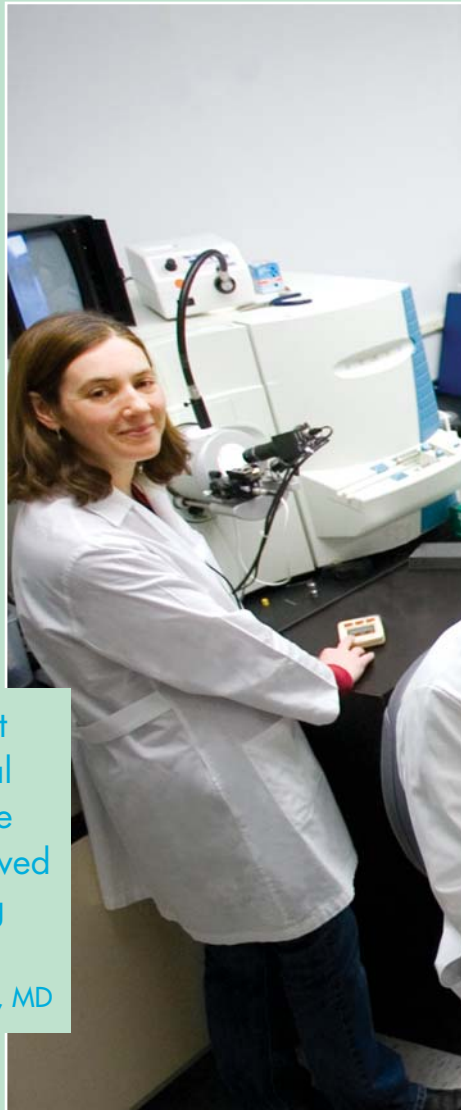
School of Medicine strives to improve the health of Tennesseans through dynamic education, world-class research, and the highest-quality patient care. The physicians who complete their residency programs in our patient rooms, hallways, and classrooms make a difference in the world, and three-fourths of them choose to stay and touch the lives of patients right here in East Tennessee. Thanks to our research efforts, patients can receive treatment here that's available in only a few places in the world, and our research is opening doors to new treatments, medications, and tools for patient care.

Without research, physicians at UT Graduate School of Medicine would be unable to grasp essential knowledge about evolving medical therapies or to evaluate future therapies. Research helps our physicians apply scientific methodologies and continue to learn throughout their decades-long medical practices.

Our research also brings hope to people suffering from diseases. Since 1957, when our first director of research was hired, research has made an impact on the worldwide understanding of diseases like Alzheimer's and Parkinson's, on cancers and blood disorders, on genetics and reproduction—on the health issues that our fellow humans struggle with every day.

To strengthen our research work further, we seek out smart partnerships with industry. For example, our long-term relationship with CTI corporation (now Siemens) resulted in our being one of the first—if not the first—clinical PET sites in the world.

Further partnerships and funding by three major pharmaceutical companies allow research discoveries made by scientists in the Human Immunology and Cancer Program to be developed into useful diagnostics and therapies for patients with life-threatening diseases.

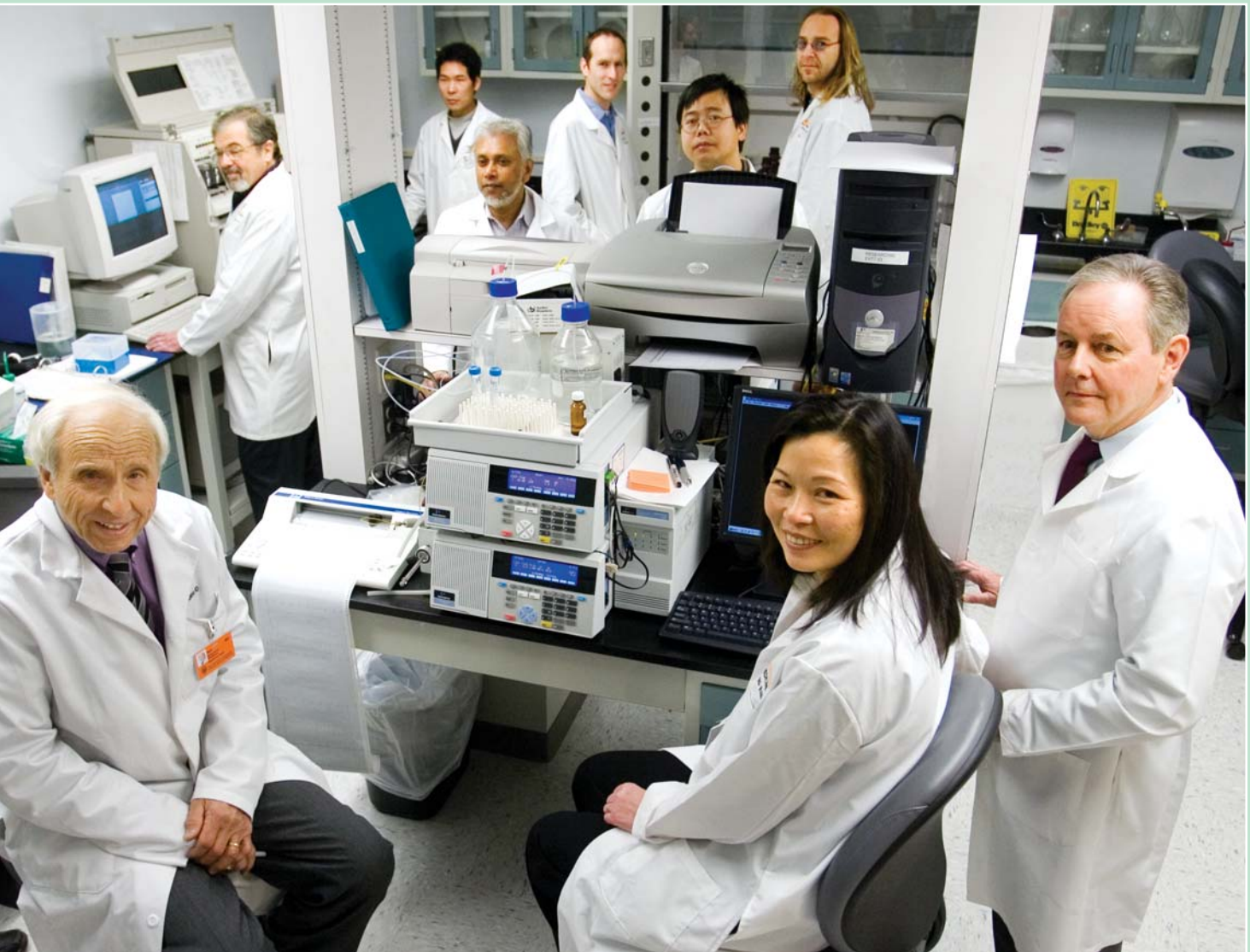


"I am convinced that only through medical research can disease prognoses be improved and patient suffering reduced."

Alan Solomon, MD

"From a practical standpoint, these interactions provide the necessary means of financial support that, due to severe governmental budget shortfalls, is not readily available from the National Institutes of Health or other funding sources," said Alan Solomon, MD, American Cancer Society Clinical Professor of Medicine and Head, Human Immunology and Cancer Program. "Safeguards are in place to ensure that there is no conflict of interest on the part of the investigators and all studies have to be approved and closely monitored by the university's Institutional Review Board."

The lab's scientists focus on amyloidosis, a disease involving normal proteins that become misfolded and deposit throughout the body, causing organ failure and



UT Graduate School of Medicine researchers, several shown here, conduct research that is nationally and internationally respected.

eventually death. Amyloid-related diseases include Alzheimer's, Parkinson's, Lou Gehrig's, Huntington's, type-2 diabetes, certain forms of cancer and inherited illnesses, and can also occur as a complication of rheumatoid arthritis.

The Human Immunology and Cancer Laboratory is Tennessee's only research resource, and one of the few nationally, for patients with a particular form of amyloidosis, called primary or AL amyloidosis. Dr. Solomon and his colleagues will soon test whether a particular treatment will benefit patients with amyloid disease affecting the heart.

"Without funding from the pharmaceutical industry, this study could not take place," commented Dr. Solomon. "I am convinced that only through medical research can

disease prognoses be improved and patient suffering reduced. The commitment of our public officials as well as public and private support is absolutely essential to achieve this goal."

Clearly our research is making a difference—not only within the walls of our laboratories but much more importantly, in your life and the lives of your neighbors too.

The treatment you receive today from your primary care physician, surgeon, oncologist, or other medical professional might have originated right here in the labs at UT Graduate School of Medicine. And tomorrow's therapies might be seen at this moment under the microscopes of our researchers.

A Salute to our Research Contributions & Milestones

OUR FACULTY, STAFF, AND STUDENTS ARE WORKING TO BUILD A HEALTHIER WORLD, BEGINNING RIGHT HERE IN TENNESSEE. AS WE LOOK BACK AT OUR PAST AND FORWARD TO OUR FUTURE, WE SEE A BRIGHT HORIZON FOR THE PEOPLE OF OUR STATE, THE NATION, AND THE WORLD.

UT Graduate School of Medicine conducts research on the brain, veins, nutrition, shock trauma, surgical oncology, transplants, colorectal surgery, renal cell carcinoma, and amazingly, the list continues. Below is a list of the research programs, a short description, and our principal scientists.

Anesthesiology Laboratory studies pain and nausea management and the monitoring of blood clotting and blood pressure.

Principal investigator: Roger Carroll, PhD

Cancer Cell Biology Laboratory researches how growth and death of breast and ovarian cancer cells are regulated by estrogens and chemotherapy.

Principal investigator: Jay Wimalasena, PhD

Molecular Imaging & Tracer Development Research Program (MITDRP) researches the application and development of biomarkers for several diseases with an emphasis on cancer.

Program directors: Claude Nahmias, PhD; David Townsend, PhD; Jonathan Wall, PhD

Conformational Diseases and Therapeutics studies inhibitors to Alzheimer's, Huntington's and other diseases.

Principal investigator: Valerie Berthelie, PhD

Human Immunology and Cancer Program

(HICP) studies Alzheimer's disease and Amyloid-related disorders, multiple myeloma and other diseases that result in organ failure and death.

Program director: Alan Solomon, MD

Investigators: Sandra Davern, PhD;

Stephen Kennel, PhD; Daniel Kestler, PhD;

Brian O'Nuallain, PhD; Jonathan Wall, PhD

Neuropathology Research Program focuses on neurodegenerative diseases such as Huntington's and Alzheimer's diseases.

Principal investigator: Alex Osmand, PhD

Shock Trauma & Nutrition Research

Laboratories investigate the effects of shock trauma and nutrition on the body.

Investigators: Michael Karlstad, PhD; Sherry Kasper, PhD

Vascular Research Laboratory is currently studying atherosclerosis and estrogen therapy in women, vascular complications of diabetes and hypertension, and the mechanism of ischemic injury.

Principal investigator: Oscar H. Grandas, MD



The 2006-07 academic year marks the University of Tennessee's 15th year of educating physicians at UT Graduate School of Medicine. Join us as we celebrate the contributions we've made and the milestones that mark our history.



*E. Stanfield Rogers
First Research Director,
UT Memorial Research Center
and Hospital; 1957-1964*

IN AUGUST 1957, UT

hired three staff scientists and the Graduate School of Medicine's first research director, E. Stanfield Rogers. Since then, researchers at the school in Knoxville have studied genetics and birth defects, the effect of L-dopa on Parkinson's disease, blood

disorders, cancer, immune response, stroke, Alzheimer's disease, imaging, and the effects of outer space on humans, among other topics.

Today UT Graduate School of Medicine continues to do major research that places UT researchers and students at the forefront of international scientific and medical developments. The school's faculty researchers and staff serve as mentors to graduate students and residents—some of the best and brightest young scientists in the country. Last year residents, students, and mentors won international recognition for their research. Some examples include:



Brian O'Nuallain, MD

The Brian D. Novis Junior Research Grant was awarded to Dr. Brian O'Nuallain by the International Myeloma Foundation to aid him in continuing his research on myeloma, a malignant tumor typically found in bone marrow.



Jonathan E. Phipps

The International Amyloid Society presented Jonathan E. Phipps, a graduate student in the UT Human Immunology and Cancer Research Program, with its Best Student Presentation award at the 11th International Symposium on Amyloidosis.



N. Faxil Erdem, BDS

Intern N. Faxil Erdem, BDS, was named one of two recipients of the Straumann Resident Scientific Presentation Award at the 88th annual meeting of the American Association of Oral and Maxillofacial Surgeons.

Faculty researchers and staff serve as mentors to graduate students and residents—some of the country's best & brightest young scientists.

Internal Medicine Residents



Internal Medicine

Residents

A Plus for East Tennessee

THEY'RE PROVIDING AN EXTRA LEVEL OF care to patients at The University of Tennessee Medical Center and are our doctors of the future. These young doctors are completing medical residency training in the Medical Center under the watchful eye of senior physician faculty of UT Graduate School of Medicine.

The collaborative nature of UT's academic medical center provides a place where senior physicians are allowed to continue practicing medicine and also assume the role of instructor. These teaching physicians integrate the latest developments in medical education with their practice experience.

Currently there are 56 resident-physicians in the internal and family medicine program. Three-fourths of these physicians who complete internal medicine programs at The University of Tennessee Medical Center find they love it and decide to practice here. Many residents stay in the Knoxville area, but others choose to practice in smaller towns like Dandridge, LaFollette, or Huntsville, Tennessee.

"In the past five years, more than 75% of the internal medicine residents completing their programs at UT have chosen to continue practicing in East Tennessee," says Timothy J. Panella, MD, chairman of the department of medicine at UT Graduate School of Medicine. "That means the quality of healthcare in our state remains high."

Having graduate medical education programs and the research that accompanies the academic Medical Center greatly enhance the level of care patients receive, explains James J. Neutens, PhD, and interim dean of the graduate school of medicine.

"What we do each day touches the lives of Tennesseans. Our research projects, academic endeavors, and contributions to quality patient care are apparent every day," Neutens says.

"Patient care is greatly enhanced by the medical school and its programs," says Panella. "Some of our patients come here to benefit from our research, such as clinical trials, imaging technology, and advancements in surgery. Some of these procedures are available in only a few places in the world."

The combination of medical education, research, and practice also attracts outstanding young physicians, notes Kimberly Morris, MD, a faculty member and head of curriculum development at the graduate school. Faculty mentors, using the latest teaching methods and state-of-the-art equipment, provide a dynamic learning environment, Dr. Morris says.

A Focus on

Marlo Hodnett, MD



THE GRADUATE SCHOOL'S FACULTY AND THE reputation of its internal medicine program attract a diverse student body from all parts of the nation and world. One of these physicians is Dr. Marlo Hodnett, who grew up in Colorado, earned her doctor of medicine degree in California, and has done mission work around the world.

After receiving her medical degree from Loma Linda University in California in 2004, Dr. Hodnett considered internal medicine and general surgery for her medical specialty. Internal medicine won out and brought her to Tennessee. Internal medicine, she says, allows time to get to know patients well and treat them over a long period of time.

"I really like puzzles. Internal medicine is like a puzzle because you are investigating how to solve a case in a very focused way. I like the mental process that takes place," she said.

She also enjoys the rewards that come with seeing patients do well with their treatments and disease management. Dr. Hodnett cites a case of a newly diagnosed patient with diabetes.

"We worked together to increase her water intake, increase her exercise and shape her diet. She did a terrific job, and we could see the results in the diagnostic testing. That was very rewarding."



"I love helping people outside the clinical setting."

Marlo has been involved in mission work and it has taken her to many parts of the world.

Physicians are constantly learning new ways to help patients reduce the need for drug intervention and manage their illnesses and disease, Dr. Hodnett says.

"I love learning. That's what is special about medicine. It's that constant learning that can make a difference in the lives of our patients." She also loves helping people outside the clinical setting of a doctor's office or hospital. Since her undergraduate days at Oakwood College in Huntsville, Alabama, she has been involved in mission work and it has taken her to many parts of the world.



Rather than heading to her parents' home in Colorado during a college Christmas break, she worked in a refugee camp in Sudan during the genocide. The camp had more than 500 children whose parents had been killed. "It was an orphanage in the middle of nowhere," Dr. Hodnett recalled.



In four trips to Haiti, she helped build a much-needed school and start a church. She traveled through the dirt roads of the Amazon River basin and then crossed the river to get to Guyana. Mission work also has taken her to Mexico and the Dominican Republic. Another trip took Dr. Hodnett to Zambia where she worked with a surgeon at Mwami Hospital, treating patients in the morning and conducting children's programs in the afternoon.

But her time and talents and those of her husband, Mark, also are given freely to local causes. Both are involved in youth outreach programs at Trinity Seventh Day Adventist Church, where she serves as community service director.

Dr. Hodnett says she is praying about the path chosen for her after she completes her residency. But quickly volunteers, "I love East Tennessee."



Marlo Hodnett, MD with children from her mission work.

Managing Diabetes

The Importance of the Big Three: Diet, Exercise, & Weight Control

THE MOST IMPORTANT ELEMENT IN YOUR good health is that reflection in the mirror. And no, it isn't your doctor. The decision to watch your weight, eat sensibly, stop smoking, and exercise regularly helps you avoid illness and speeds your recovery if you do get sick.

There is no more striking example of the need to take responsibility for your own health than diabetes, an insidious disease that is growing by leaps and bounds in both adults and children.

It now affects approximately 21 million people in the United States—7% of the population. A third of those do not even know they have it.

“Early diagnosis can make a big difference. Patients will do much better and won't suffer some of the most serious complications if it is diagnosed early and they follow their family doctor's advice.”

-Andrew Sexton, MD

“People with this disease must manage and control it,” says Larry Smith, DO, an internist at The University of Tennessee Medical Center. “There is no other medical condition where patient involvement is more important. Nobody is looking over a diabetic's shoulder.”

Dr. Smith and Andrew Sexton, MD, also an internal medicine specialist at the Medical Center, say they see no signs that the incidence of the disease is declining. “Diabetes is a huge problem, and it is not getting any better,” Sexton says. “Early diagnosis can make a big difference. Patients will do much better and won't suffer some of the most serious complications if it is diagnosed early and they follow their family doctor's advice.”

After the illness is detected, monitoring blood-sugar levels and controlling weight with exercise and a healthy diet are crucial. But make no mistake, the doctors say: diabetes is a serious, incurable disease.

“Most people think it's just about monitoring blood sugar,” says Smith. “Diabetes is a metabolic disease that can have major effects on the body.”



The two physicians see the disease at its worst. “We do see the acute cases,” Smith says. “We don’t see those who take care of themselves and regularly see their internist or their family doctor. We see those who don’t manage their diets, don’t control their weight, and don’t exercise. They often have serious coronary, vision, renal, and neuropathy problems.”

Uncontrolled levels of blood sugar, which fuels the body’s cells, cause these difficulties. Insulin, a hormone produced in the pancreas, regulates the absorption of blood sugar, or glucose, by the body’s muscle and fat cells. After a meal or snack, the level of blood sugar rises and more insulin is released to keep it in check. When too little insulin is produced, or not enough is produced in relation to the body’s state of insulin resistance, blood sugar rises in a poorly regulated way. If the balance of insulin and the body’s resistance to its effects gets too badly regulated, diabetes develops.

Excessive thirst or hunger, frequent urination, fatigue, weight loss, and blurred vision are symptoms of high blood sugar. If you have more than one of these symptoms or notice and unusual change in just one, Sexton recommends that you see your internist or family doctor immediately. Everyone should have their blood sugar checked each year, starting in their twenties—earlier and more frequently if there’s a family history of diabetes.

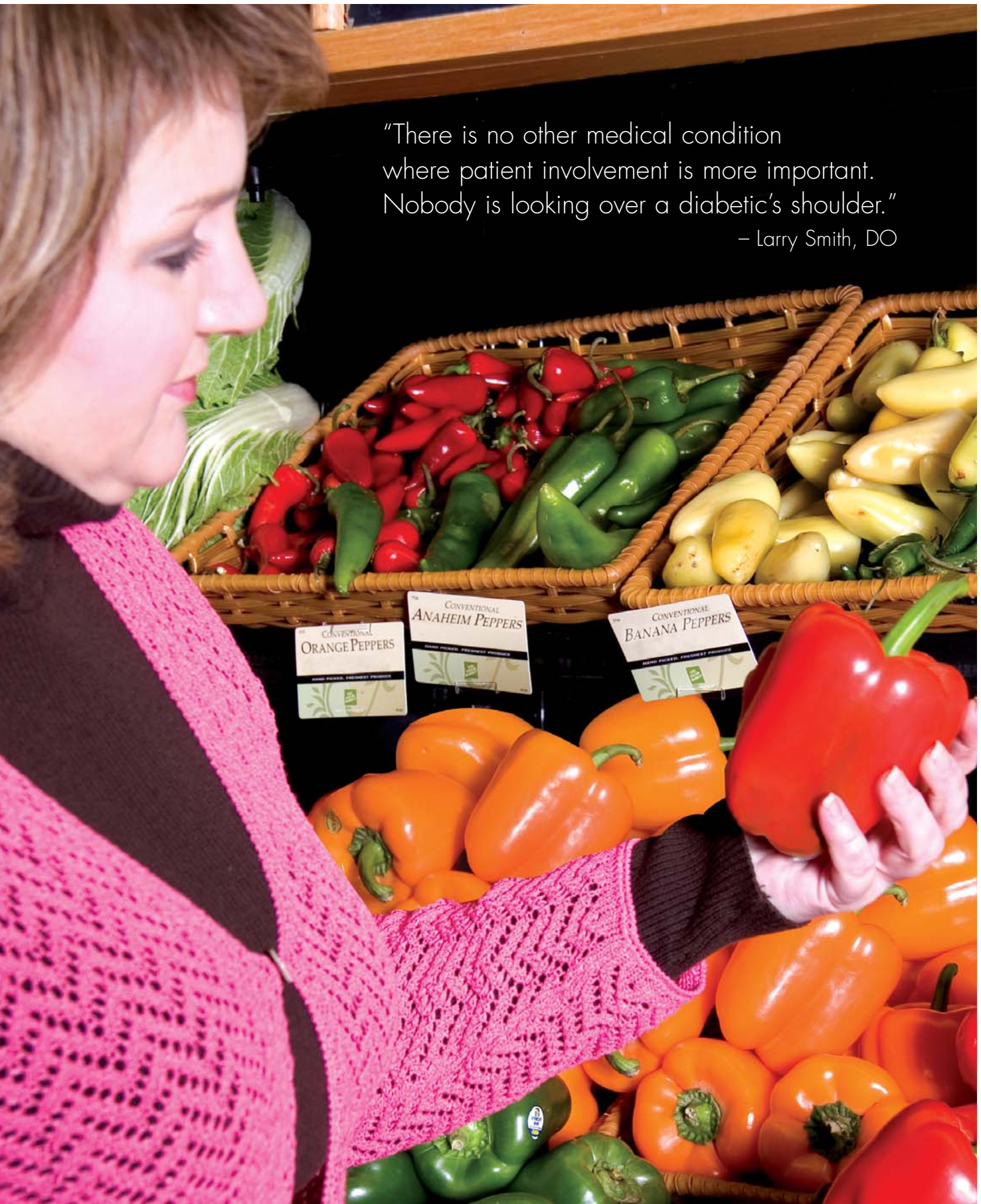
If the test indicates that the disease is present, it will most likely be type 2, previously called adult-onset or obesity-related diabetes. Type 1, once known as childhood-onset diabetes, usually shows itself in childhood and develops when the body’s immune system destroys the beta cells that produce insulin. A third type, called gestational diabetes and associated with pregnancy, may improve or disappear after delivery but predisposes the woman to type 2 diabetes in later life. But type 2, growing in proportion with America’s ever-expanding waistlines, is of most concern and is the focus of prevention and educational efforts.



Larry Smith, DO
Andrew Sexton, MD



Leading an active lifestyle will help in managing diabetes.



"There is no other medical condition where patient involvement is more important. Nobody is looking over a diabetic's shoulder."

– Larry Smith, DO

Healthy food decisions are very important in managing diabetes.

Obesity, particularly fat around the waist, is thought to be a major factor in the development of type 2 diabetes. Belly fat apparently restricts the body's ability to use insulin efficiently. Losing weight, exercising, cutting back on carbohydrates (sugars and starches), and eating more healthfully can stimulate insulin sensitivity and can mean that you need less insulin to overcome your body's resistance to it at the cellular level. The key is that in type 2 diabetes the pancreas makes much more insulin than normal to overcome the body's resistance or impaired sensitivity. If people with type 2 diabetes can improve or regain their sensitivity to their own insulin, they'll need less insulin produced by the pancreas or given in shots.

Losing just 10 to 15 pounds can make a big difference in the body's sensitivity to insulin, but diabetics must be ever mindful of what their bodies and blood-glucose-levels tell them. "If you develop diabetes and do everything right, you may still eventually have to take insulin," says Smith. "But through lifestyle changes and proper management of the disease, it's possible to push back the time when you'll need it."

Sexton adds that it's important for a diabetic to follow the diet provided by his or her internist or family practitioner. Clinical nutritionists and educational programs offered by hospitals make dietary information much easier to get. There's also a wealth of information on the Internet, but the most important source of dietary information should be the primary care doctor, both physicians say.

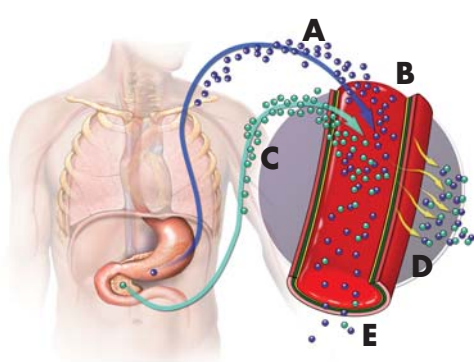
The same is true of starting an exercise program: always check with your doctor. Walking is good exercise because you can start at any level that's comfortable and work up, if you want, to longer distances and faster speeds.

In managing diabetes, say Smith and Sexton, the importance of the big three—diet, exercise, and weight control—can't be overstated. They're also a good rule of thumb for managing other medical problems, like high cholesterol, high blood pressure, and coronary disease.

An ounce of prevention is worth a pound of cure, and living healthfully is much less expensive than dealing with the costs and consequences of failing to.

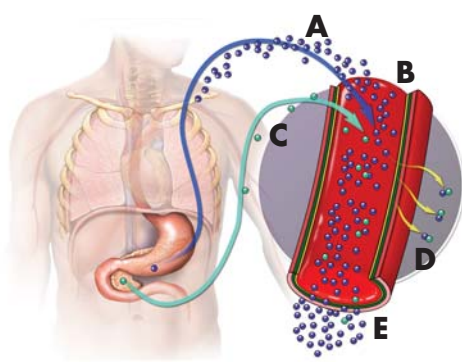
Andrew Sexton, MD / Larry Smith, DO

Type 1 & 2 Diabetes



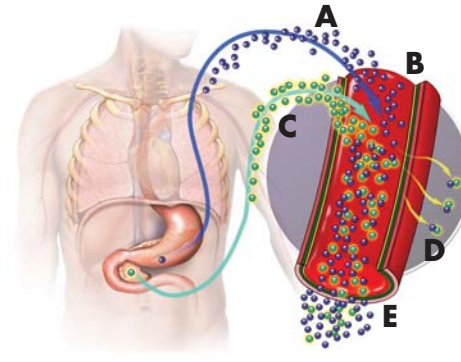
Normal Process

- A. Stomach converts food to glucose
- B. Glucose enters bloodstream
- C. Pancreas produces insulin
- D. Glucose enters body effectively
- E. Glucose levels in balance



Type 1 Diabetes

- A. Stomach converts food to glucose
- B. Glucose enters bloodstream
- C. Pancreas produces little or no insulin
- D. Glucose unable to enter body effectively
- E. Glucose levels increase



Type 2 Diabetes

- A. Stomach converts food to glucose
- B. Glucose enters bloodstream
- C. Pancreas produces sufficient insulin but it is resistant to effective use
- D. Glucose unable to enter body effectively
- E. Glucose levels increase



Hospitalists:

Connecting Your Care

THE DELIVERY OF PRIMARY CARE SERVICES to patients has undergone a dramatic shift in the last 15 years. To serve their patients more effectively, most primary care physicians now specialize in either outpatient or inpatient medicine. An inpatient primary care physician specialist is called a hospitalist.

Hospitalists (the term is only 10 years old) are usually trained in internal medicine. They direct overall care while a patient is in the hospital, and support a safe transfer of care back to the primary care doctor, their partner in the outpatient setting. Knoxville Inpatient Physicians provides these services to patients from more than 20 East Tennessee counties who are cared for at The University of Tennessee Medical Center every day.

The hospitalist's special skills aren't limited to one organ system like the heart or the lungs. Their special skills come from an understanding of how smaller systems function within the overall healthcare delivery system—for instance, how much support a family can provide to a patient at home, what home health services like physical

therapy can accomplish in the home, which new technologies bolster outpatient care, how palliative and end-of-life care can best be used, and much more, all in addition to the more familiar role of referring patients to single-system specialists.

WHO AND WHAT WE ARE

The University of Tennessee Medical Center considers easy, open access to its services paramount to the well-being of East Tennesseans. It established a 24-hours-a-day, seven-days-a-week in-house, hospital-supported adult-medicine hospitalist practice more than five years ago. The practice, Knoxville Inpatient Physicians (KIP), has grown from four physicians with some 30 patients per day to about 14 physicians and approximately 130 patient encounters per day. KIP cares for patients hailing from Kentucky, the Carolinas, Georgia—even a Gator or Tide fan or two during football season. KIP is the private, nonteaching inpatient arm of the primary care network of physicians employed by University Health System, Inc. It plays an essential part in the surgical-



*From left to right:
Christopher Szyarto, DO
Jano Janoyan, DO
Alexander Gaitanis, DO
Mebarban Singh, MD
Julia Van Zyl, MD
Srilatha Chilukuri, MD
Murad Salaita, MD
Anthony Cabrera, MD
Lawrence Smith, DO
John Beuerlein, MD*

medical co-management of most orthopedic patients and many patients undergoing cardiac or chest surgery, neurosurgery, or trauma surgery, plus some gynecology, vascular, and oncologic surgery patients. KIP provides

Hospitalists

direct overall care while a patient is in the hospital, and support a safe transfer of care back to the primary care doctor, their partner in the outpatient setting.

primary care support for the internal medicine specialties of cardiology, neurology, gastroenterology, and pulmonary medicine. And it offers round-the-clock service at the Select Specialty Hospital on the Medical Center campus.

Like its patients, the KIP staff is from a variety of places and backgrounds. We have medical doctors and osteopathic physicians. We have physicians from Middle and East Tennessee, Kentucky, New Jersey, Michigan, Pennsylvania, Puerto Rico, Greece, Jordan, Philippines, and India. This diversity helps make us an open-minded, socially and ethnically conscious group.

FUTURE GOALS

We are continually on the lookout for bright, caring physicians whose skills will enhance our practice. Knoxville Inpatient Physicians is continuing to grow with The University of Tennessee Medical Center, to support the Medical Center's expanding primary care network, and to meet the needs of patients in East Tennessee and elsewhere. We are rolling out new physician-order entry and other technological systems designed to increase patient safety and improve the quality of care. And we will continue to support the Medical Center's training programs, to further the education and advancement of hospitalists at institutions throughout the region, and to partner with others who also seek to improve care for all patients.

John Beurlein, MD

University Family Physicians

1924 Alcoa Highway
Knoxville, TN 37920
(865) 544-9350

Ruth Baldrige, MD

Board Certification: American Board of Family Practice
Med. School: Marshall University School of Medicine
Residency: UT Medical Center

Ken Bielak, MD

Board Certification: American Board of Family Practice
Med. School: Michigan State University

Gregory Blake, MD

Board Certification: American Board of Family Practice
Med. School: University of Texas
Residency: Dwight David Eisenhower Army Medical Center

Daniel Brewer, MD

Board Certification: American Board of Family Practice
Med. School: Bowman Gray School of Medicine

Larry Davis, MD

Board Certification: American Board of Family Practice
Med. School: Michigan State University
Residency: Medical University of South Carolina

John Eaddy, MD

Board Certification: American Board of Family Practice
Med. School: University of Maryland
Residency: South Baltimore General Hospital; UT Medical Center

Amy Keenum, DO

Board Certification: American Board of Family Practice
Med. School: Michigan State University
Residency: Mountain Area Health Education Center

Matthew Mihelic, MD

Board Certification: American Board of Family Practice
Med. School: Loyola University of Chicago
Residency: University of Alabama

Jon Parham, DO, MPH

Board Certification: American Board of Preventive Medicine; American Board of Family Practice
Med. School: College of Osteopathic Medicine
Residency: University of South Carolina

Cynthia Pearman, MD

Board Certification: American Board of Family Practice
Med. School: University of Tennessee College of Medicine
Residency: Greenville Memorial Hospital

Steven Roskos, MD

Board Certification: American Board of Family Practice
Med. School: Temple University
Residency: Lancaster General Hospital

Steven Spalding, MD

Med. School: University of Kentucky
Residency: University of Louisville

Amy Stevens, MD

Board Certification: American Board of Family Practice
Med. School: University of Tennessee College of Medicine
Residency: Baptist Memorial Hospital

M. David Stockton, MD, MPH

Board Certification: American Board of Preventive Medicine; American Board of Family Practice
Med. School: University of Tennessee College of Medicine
Residency: UT Medical Center

Rocky Hill Family Physicians

7503 Northshore Drive
Knoxville, TN 37915
(865) 531-1300

Anthony Florian, MD

Board Certification: American Board of Family Practice
Med. School: University of South Carolina
Residency: UT Medical Center

Amy Forsee, MD

Board Certification: American Board of Family Practice
Med. School: University of South Alabama
Residency: UT Medical Center

Valley View Family Physicians

4410 Valley View Drive
Knoxville, TN 37917
(865) 523-5235

William Broome, MD

Board Certification: American Board of Family Practice
Med. School: University of Tennessee College of Medicine
Residency: UT Medical Center

Robert Shutt, MD

Board Certification: American Board of Family Practice
Med. School: F. Edward Hebert School of Medicine
Residency: University of Nebraska Medical Center

Lakemoor Family Physicians

3114 Alcoa Highway
Knoxville, TN 37920
(865) 577-0320

Ann Bevelhimer, MD

Board Certification: American Board of Family Practice
Med. School: Wright State University
Residency: UT Medical Center

Daniel Cox, MD

Board Certification: American Board of Family Practice
Med. School: East Tennessee State University
Residency: North Carolina Baptist Hospital

UT Family Physicians Alcoa

281 Cusick Road
Alcoa, TN 37701
(865) 970-0025

Diana Cobb, MD

Board Certification: American Board of Family Practice
Med. School: University of Tennessee College of Medicine
Residency: UT Medical Center

Family Physicians West

9625 Kroger Park Drive
Knoxville, TN 37922
(865) 531-8100

Raye-Anne Ayo, MD

Board Certification: American Board of Family Practice
Med. School: Louisiana State University
Residency: UT Medical Center

Brian Bonnyman, MD

Board Certification: American Board of Family Practice
Med. School: Emory University School of Medicine
Residency: University of Virginia Hospitals

Jennifer Brinkmann, MD

Board Certification: American Board of Internal Medicine; American Board of Pediatrics
Med. School: University of Tennessee College of Medicine

Shelly Durbin, MD

Board Certification: American Board of Family Practice
Med. School: University of Arizona College of Medicine
Residency: University of Virginia

Cheri Johnston, MD

Board Certification: American Board of Family Practice
Med. School: University of Louisville
Residency: UT Medical Center



Internal Medicine

UT Internal Medicine Lenoir City

1559 Highland Park Drive
Lenoir City, TN 37772
(865) 988-6330

Ramani Reddy, MD

Board Certification: *American Board of Internal Medicine*
Med. School: *Stanley Medical College, Madras, India*
Residency: UT Medical Center

Milan Sheth, MD

Board Certification: *American Board of Internal Medicine*
Med. School: *B.J. Medical College, India*
Residency: New York Methodist Hospital

UT Internal Medicine LaFollette

109 Independence Lane
LaFollette, TN 37766
(423) 562-4968

Charles Baker, MD

Med. School: *University of Tennessee College of Medicine*
Residency: UT Medical Center

James Farris, MD

Board Certification: *American Board of Internal Medicine*
Med. School: *University of Tennessee College of Medicine*
Residency: UT Medical Center

Adele Oculam, MD

Board Certification: *American Board of Internal Medicine*
Med. School: *University of Pune, India*
Residency: Our Lady of Mercy Medical Center; King Edward Memorial Hospital, India

UT Health and Wellness Center

281 Cusick Road
Alcoa, TN 37701
(865) 980-9721

Rocio Huet, MD

Board Certification: *American Board of Internal Medicine*
Med. School: *University of Michigan*

Eduardo Mendez, MD

Med. School: *Universidad Autonoma de Guadalajara*
Residency: UT Medical Center

University Internal Medicine

1932 Alcoa Highway
Knoxville, TN 37920
(865) 544-6500

Monte Biggs, MD

Board Certification: *American Board of Internal Medicine*
Med. School: *University of Tennessee College of Medicine*
Residency: UT Medical Center

John Cooper, MD

Med. School: *University of Tennessee College of Medicine*
Residency: UT Medical Center

Courtney George, MD

Board Certification: *American Board of Internal Medicine*
Med. School: *Bowman Gray School of Medicine*
Residency: UT Medical Center

Douglas Hembree, MD

Med. School: *University of Tennessee College of Medicine*
Residency: UT Medical Center

John Lacey, MD

Med. School: *University of Tennessee College of Medicine*
Residency: UT Medical Center

UT Internal Medicine Pellissippi

9625 Kroger Park Drive
Knoxville, TN 37922
(865) 690-2992

Douglas Davis, MD

Board Certification: *American Board of Internal Medicine*
Med. School: *East Tennessee State University*
Residency: University of Tennessee Memphis

Wm. Neal Harmon, MD

Board Certification: *American Board of Internal Medicine*
Med. School: *West Virginia University*
Residency: Pitt County Memorial Hospital

Faculty Internal Medicine

11440 Parkside Drive
Knoxville, TN 37934
(865) 544-3740

Calvin Bard, MD

Board Certification: *American Board of Internal Medicine*
Med. School: *University of Texas*
Residency: Baylor University Medical Center

Kim Emmett, MD

Board Certification: *American Board of Internal Medicine*
Med. School: *University of Kentucky College of Medicine*
Residency: University of Kentucky Department of Internal Medicine

Dan Ely, MD

Board Certification: *American Board of Internal Medicine*
Med. School: *University of Utah*
Residency: UT Medical Center

Janet Purkey, MD

Board Certification: *American Board of Internal Medicine*
Med. School: *University of Tennessee College of Medicine*
Residency: UT Medical Center

Juli Williams, MD

Board Certification: *American Board of Internal Medicine*
Med. School: *University of Alabama School of Medicine*
Residency: Carraway Methodist Medical Center

UT Internal Medicine Northshore

281 Cusick Road
Alcoa, TN 37701
(865) 980-9721

Becky Jackson, MD

Board Certification: *American Board of Internal Medicine*
Med. School: *Ohio State University College of Medicine*
Residency: Allegheny General Hospital

Faculty Internal Medicine

4005 Fountain Valley Drive
Knoxville, TN 37918
(865) 925-9020

Crystal Gue, MD

Board Certification: *American Board of Internal Medicine*
Med. School: *Marshall University*
Residency: UT Medical Center

Wes Hayes, MD

Board Certification: *American Board of Internal Medicine*
Med. School: *University of Tennessee College of Medicine*
Residency: UT Medical Center

Judy Kinzy, MD

Board Certification: *American Board of Internal Medicine*
Med. School: *Eastern Virginia Medical School*
Residency: UT Medical Center

Daphne Norwood, MD, MPH

Board Certification: *American Board of Internal Medicine*
Med. School: *University of Medicine and Dentistry of New Jersey-Robert Wood Johnson Medical School*
Residency: Hennepin County Medical Center

UT Internal Medicine Hardin Valley

10299 Hardin Valley Rd.
Knoxville, TN 37923
(865) 694-9998

John Carroll, MD

Board Certification: *American Board of Internal Medicine*
Med. School: *American University of the Caribbean*
Residency: UT Medical Center

Sameh Naguib, MD

Med. School: *Ain Shams University*
Residency: El Badar General Hospital; UT Medical Center

UT CME Course Calendar

Spring 2007

<p>Third Annual Diabetes Regional Conference</p> <p>Managing & Motivating for Diabetes Survival</p>	<p>March 10, 2007 UT Conference Center, Knoxville</p>	<p>This annual conference provides every healthcare team member with diabetes management and patient motivation skills to improve outcomes for hospitalized diabetics, properly prescribe new medications, increase the chance of long-term survival for patients, advise patients about “natural” remedies, and empower patients. Featured speaker is George King, MD, Professor of Medicine at Harvard Medical School.</p>
<p>2007 John E. Sullivan Endowed Lecture:</p> <p>Surgical and Restorative Strategies for Dental Implant Techniques</p>	<p>April 25, 2007 Wood Auditorium, The University of Tennessee Medical Center</p>	<p>The John E. Sullivan, DDS, Memorial Lecture features Michael Block, DMD, and Gary Morris, DDS. Dr. Block is a Professor with the department of Oral and Maxillofacial Surgery at the Louisiana State University School of Dentistry. Dr. Morris specializes in the field of implant prosthodontics and has a private practice in Buffalo Grove, Illinois. The lecture will feature the surgical and restorative protocols of dental implant procedures.</p>
<p>2007 Patterson Lecture:</p> <p>Overcoming Barriers: Your Role in Recognizing, Reporting and Preventing Child Abuse</p>	<p>May 18, 2007 Wood Auditorium, The University of Tennessee Medical Center</p>	<p>The annual Patterson Lecture helps healthcare professionals better understand the destructive forces that target the most vulnerable elements of society. This year’s featured lecturer, Emalee Flaherty, MD, Associate Professor of Pediatrics at Northwestern University Feinberg School of Medicine in Chicago, will help participants understand how to decide whether an injury is suspicious for abuse, handle some of the challenges encountered with abuse, manage the child patient, and assess past experience that can affect patient care.</p>



To register or for more information call 865-544-9190
or visit our website www.tennessee.edu/cme

An Evening in Orange

Saturday, October 13, 2007

An Evening in Orange

Cherokee Country Club

6:30 p.m.

Cocktails & Silent Auction

8:00 p.m.

Dinner

9:00 p.m.

Live Auction

9:30 until Midnight

Dancing

Tickets: \$250 per person

AS 2007 BEGINS,

The University of Tennessee Medical Center and the Graduate School of Medicine eagerly look forward to continuing our quest to expand the frontiers of medicine. In that spirit, we are pleased to announce An Evening in Orange. We are fortunate to have Beverly Bell and Leslie Klein as co-chairs of what promises to be an extremely successful event. Proceeds from this year's Evening in Orange will support the establishment and maintenance of the Simulation Center.

This state-of-the-art facility, the first of its kind in the region, and will provide medical staff, physicians, students, and faculty with unique training opportunities that will enable them to practice medical procedures in lifelike circumstances, using full-size patient mannequins and virtual-reality simulators.

For more information about how to participate in this exciting event, please contact the Development Office at 865-544-6611.



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