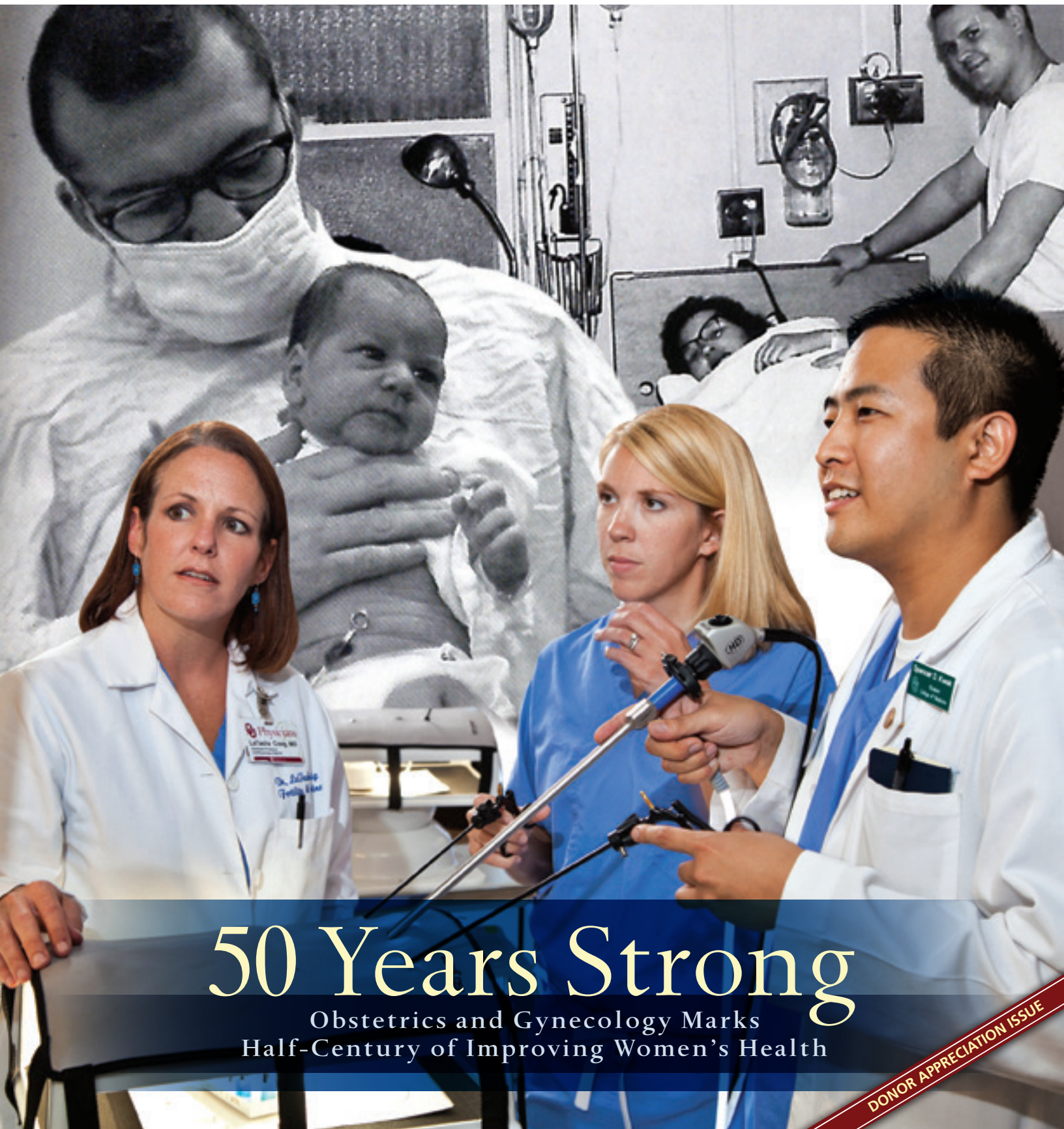


OU Medicine

Fall 2012

A Publication for Alumni and Friends of the University of Oklahoma College of Medicine



50 Years Strong

Obstetrics and Gynecology Marks
Half-Century of Improving Women's Health

DONOR APPRECIATION ISSUE

Dean's Message

Dear Alumni and Friends,

In July, I completed my 10th year as executive dean of the College of Medicine – the years seemed to pass more quickly than I would have imagined. As I look back over that decade, I am profoundly grateful for the opportunity and privilege to lead this institution during one of its greatest growth periods, and I am inspired by the tremendous achievements and advancements brought about by our dedicated team of faculty, department leaders, staff and college administration.

I am also deeply grateful for the many contributions of our invaluable partners in creating a growing and vibrant academic medical center in Oklahoma City: the University Hospitals Authority and Trust, OU Medical Center including the Children's Hospital, the VA Medical Center, Dean McGee Eye Institute, Presbyterian Health Foundation, Children's Hospital Foundation, Oklahoma Health Center Foundation, Oklahoma Health Care Authority, Oklahoma Medical Research Foundation, Oklahoma City Urban Renewal Authority, the City of Oklahoma City, and of course the other six colleges in the Health Sciences Center (Allied Health, Dentistry, Nursing, Pharmacy, Public Health and the Graduate College) for their collaborative and inter-professional efforts.

At our Tulsa campus, dedicated individuals have worked diligently to transform the College of Medicine-Tulsa into the School of Community Medicine with a new vision and new goals. They have been joined in their efforts by several wonderful community foundation partners, without whom the vision could not be realized, and by the three large Tulsa hospital systems (Hillcrest, Saint Francis and St. John).

Periodic turnover in department leadership positions is a natural part of medical school life. Currently, we are in the process of seeking and appointing new leadership in several departments, including Urology, Radiological Sciences, and Psychiatry and Behavioral Sciences. This summer we successfully completed our search for a new chairman of the Department of Dermatology and are delighted that Dr. Thomas Stasko, currently at the Vanderbilt University School of Medicine, will be joining us in January 2013.

This fall we started a new cooperative program between the Health Sciences Center and the university's Fred Jones Jr. Museum of Art in Norman, with a medical photographic art exhibit, donated by Dr. Kevin Cahill of New York City. Our hope is that this will be the first of a series of art exhibits (displayed in the Bird Library) that enhances our Humanities and Medicine Program.

I hope you will enjoy this issue of *OU Medicine*, which highlights some of the special programs and people in the College of Medicine and also reflects our appreciation to our many donors who have chosen to help us during the past year. Best wishes for the coming holiday season!



M. Dewayne Andrews, M.D., MACP

M. Dewayne Andrews, M.D., MACP
David Ross Boyd Professor of Medicine
Senior Vice President and Provost, OUHSC
Executive Dean, College of Medicine

OU MEDICINE

University of Oklahoma College of Medicine

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OU Medicine

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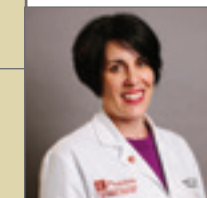
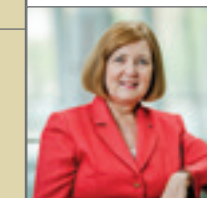
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COVER PHOTO: In 1962, the Departments of Obstetrics and Gynecology joined forces to care for women's health. In the five decades since, much about health care has changed. In the foreground, LaTasha Craig, M.D., left, director of the OB-GYN clerkship program, helps medical students practice their laparoscopic skills in the Clinical Skills Education and Testing Center. With her are Brooke Storer, M.D., a resident, and Spencer D. Kwak, a third-year student.



Web Extras:

Visit www.oumedicine.com/magazine for additional stories and photos about the OU College of Medicine.





Harold Hamm, chairman and CEO of Continental Resources, talks about the new International Prize for Biomedical Research established by the Harold Hamm Diabetes Center. Joining him for the announcement are David Boren, president of the University of Oklahoma; Kenneth Copeland, M.D., professor of pediatric diabetes and endocrinology and director of pediatric programs for the HHDC; and Timothy Lyons, M.D., professor of medicine and director of research and scientific affairs for the HHDC.



Kenneth Copeland, M.D., professor of pediatric diabetes and endocrinology and director of pediatric programs for the HHDC, talks about the new international prize established at the center.

HHDC Announces International Prize for Biomedical Research in Diabetes

With a goal of stimulating innovative scientific research to find a cure for diabetes, the Harold Hamm Diabetes Center has established the Harold Hamm International Prize for Biomedical Research in Diabetes.

HHDC, a comprehensive center of excellence integrating research, patient care and prevention programs, will award and administer the \$250,000 prize, one of the largest of its kind in the world, to recognize and promote lasting achievements in diabetes research.

The prize announcement was made in Philadelphia in June during the American Diabetes Association's scientific sessions.

"We can no longer ignore the growing global epidemic that is having a devastating impact on young and old alike and costing health systems worldwide billions of dollars each year," said David L. Boren, president

of the University of Oklahoma. "At the Harold Hamm Diabetes Center, we are on a mission to find a cure for diabetes and provide those suffering from the disease with dramatically improved clinical care. Our doctors are dedicated and focused on this mission, and the establishment of the Harold Hamm International Prize for Biomedical Research in Diabetes will help us extend our reach to support and recognize others who share our passion. I would like to thank Harold Hamm, whose generosity and personal commitment to improving the lives of those with diabetes has led to the establishment of this important prize."

Hamm is chairman and chief executive officer of Continental Resources, Inc. Both he and Boren have Type 2 diabetes and are passionate about diabetes research and care.

"My hope is that by launching this major new international research prize, we will light a worldwide fire of scientific

innovation toward finding a cure for diabetes within this generation," Hamm said. "I'm excited to be part of this next chapter in the fight against diabetes and to see the outstanding new research the prize search will encourage and recognize."

The prize will be awarded biennially to a laureate selected by a rotating jury of national and international leaders in the field of diabetes. The prize will be awarded solely on the basis of scientific merit, recognizing scientific breakthroughs in the field of diabetes, either Type 1 or Type 2 (or both), with special emphasis on progress toward a cure. Individual researchers, teams of researchers and research institutions are eligible for nomination by the jury.

New statistics show that one out of every three children born in 2000 will be affected by diabetes, said Kenneth Copeland, M.D., professor of pediatric diabetes and endocrinology and director of pediatric programs for the HHDC. One

of the intentions of the prize is to make diabetes a health care priority so that statistic can change.

"We are so excited to see what type of impact the prize will have on diabetes research," Copeland said. "We believe this can be a game changer in the progress toward a cure."

Timothy Lyons, M.D., professor of medicine and director of research and scientific affairs for the HHDC, said Hamm's challenge to diabetes researchers and his generosity to fund the award leaves a legacy for generations of people struggling with the disease.

"With advances in medical technology, we feel that finding a cure for diabetes is not out of the realm of possibility," Lyons said. "We hope the prize promotes scientific and medical innovation and brings us one step closer to challenging this disease."



William F. Kern III, M.D., center, is pictured with Stanton L. Young, left, and son Lee Young during the 2012 Master Teacher Award ceremony.

Kern Wins Trio of Teaching Awards

William F. Kern III, M.D., won a triumvirate of awards during the 2011-12 academic year that speak to his teaching skills and the respect he has earned from his students. Kern, associate professor in the Department of Pathology, received the prestigious Stanton L. Young Master Teacher Award for 2012.

Stanton L. and Barbara Young created the award “to single out and reward the truly inspiring teacher; one who goes beyond excellence in the classroom or on clinical rounds to touch lives and change attitudes. They inspire by the example of their commitment as physicians or scientists, often both, and by their quality as human beings.”

The award carries a \$15,000 prize, one of the largest in the nation for excellence in teaching medicine.

Kern also won the Edgar W. Young Lifetime Achievement Award. The honor, given for long-term dedication

to medical education, is presented annually by the OU College of Medicine Student Council.

In addition, Kern earned an Aesculapian Award, one of several he has received throughout his career. The Aesculapians are given by medical students to faculty and residents for their excellence in teaching medicine.

Kern began his career at the OU College of Medicine after serving as a clinical assistant professor at the University of Arizona Health Sciences Center in Tucson from 1992-93. From 1994 to 2003, he served as assistant professor in the Department of Pathology at the OU College of Medicine, and in 2003, he was named associate professor.

He also serves as director of clinical hematology and medical director of the Flow Cytometry Laboratory for both the OU Medical Center and the VA Medical Center. He is co-director of Medical School Pathology Education.

Inaugural Class Inducted Into New Academy of Teaching Scholars

Members of the newly created Academy of Teaching Scholars were inducted into the group this spring.

M. Dewayne Andrews, M.D., executive dean of the College of Medicine, conceived of the idea for the academy as a means to foster, recognize, celebrate and encourage excellence in teaching and scholarly pursuits.

“The purpose is to highlight the achievements and contributions of individuals who are particularly skilled in teaching, and to create for them a society that would give them an identity – a special group that could cluster together to enhance their teaching skills and foster their careers,” Andrews said during the induction.

The initial inductees into the Academy of Teaching Scholars consist of two groups: All previous Stanton L. Young Master Teacher Award winners who are still active members of the faculty, and a group selected from the faculty after careful consideration by a task force.

At right are the inductees; an asterisk identifies those who are Stanton L. Young Master Teacher Award winners.



Molly Hill, Ph.D., Department of Microbiology and Immunology, receives her Academy of Teaching Scholars certificate from Dewayne Andrews, M.D., executive dean of the College of Medicine.

- M. Dewayne Andrews, M.D., Executive Dean
- Sinya Benyajati, Ph.D., Department of Physiology *
- Robert Blair, Ph.D., Department of Physiology *
- Michael Bronze, M.D., Department of Medicine
- Chris Candler, M.D., Ed.D., Department of Medicine and Associate Dean for the Office of Academic Affairs
- Kyung Chung, Ph.D., Department of Cell Biology *
- LaTasha Craig, M.D., Department of Obstetrics and Gynecology
- Alix Darden, Ph.D., Department of Pediatrics
- F. Daniel Duffy, M.D., Department of Internal Medicine and Dean of the OU School of Community Medicine in Tulsa *
- Rachel Franklin, M.D., Department of Family Medicine
- David Lee Gordon, M.D., Department of Neurology *
- Molly Hill, Ph.D., Department of Microbiology and Immunology
- M. Alex Jacocks, M.D., Department of Surgery *
- Rhett Jackson, M.D., Department of Medicine
- Herman Jones, Ph.D., Department of Neurology and Associate Dean for Student Affairs *
- William Kern III, M.D., Department of Pathology *
- Jason Lees, M.D., Department of Surgery
- Daniel O'Donoghue, Ph.D., PA-C, Department of Cell Biology *
- Jacqueline O'Herrin, M.D., Department of Surgery
- Russell Postier, M.D., Department of Surgery *
- Ronald Saizow, M.D., Department of Internal Medicine, Tulsa *
- C.A. Sivaram, M.D., Department of Medicine *
- Rhonda Sparks, M.D., Department of Family Medicine *
- Britta Thompson, Ph.D., Department of Pediatrics, Assistant Dean for Medical Education
- James Tomasek, Ph.D., Department of Cell Biology, Dean of the Graduate College *
- Jerry Vannatta, M.D., Department of Medicine *
- Jill Stewart Warren, M.D., Department of Pediatrics *
- Michael A. Weisz, M.D., Department of Internal Medicine, Tulsa *
- Peggy Wisdom, M.D., Department of Neurology *

Cancer Center Among First to Offer New FDA-approved Proton Therapy System

Next year, the Peggy and Charles Stephenson Cancer Center will be among the first in the world to offer proton therapy with a smaller, first-of-its-kind system newly approved by the Food and Drug Administration.

The MEVION S250 Proton Therapy System is unique in that it was developed to provide the same precise, non-invasive treatment advantages and capabilities of complex, large and more costly proton therapy systems but with higher patient volume, improved reliability, and lower implementation and operational costs. It is scheduled for installation in the Stephenson Cancer Center this fall.

“Being on the cutting edge of medical technology is exciting and a hallmark of top academic-based, comprehensive cancer centers. It means Oklahomans with cancer will soon have access to the absolute newest proton therapy technology at the Peggy and Charles Stephenson Cancer Center in Oklahoma City,” said Robert Mannel, M.D., director of the Cancer Center.

The MEVION S250 Proton Therapy System is designed to deliver precise and intense proton beams that physicians can use to treat cancerous tumors and lesions while sparing healthy tissue. The proton accelerator is only 6 feet in diameter, a fraction of the size of existing proton systems around the country.

Terence Herman, M.D., professor and chair of the Department of Radiation Oncology, said the system represents a radically different solution for providing proton therapy to cancer patients who can benefit from the

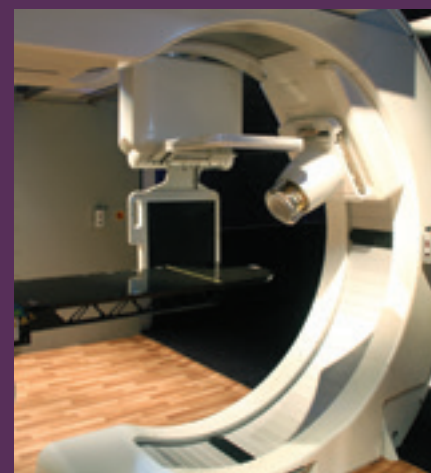
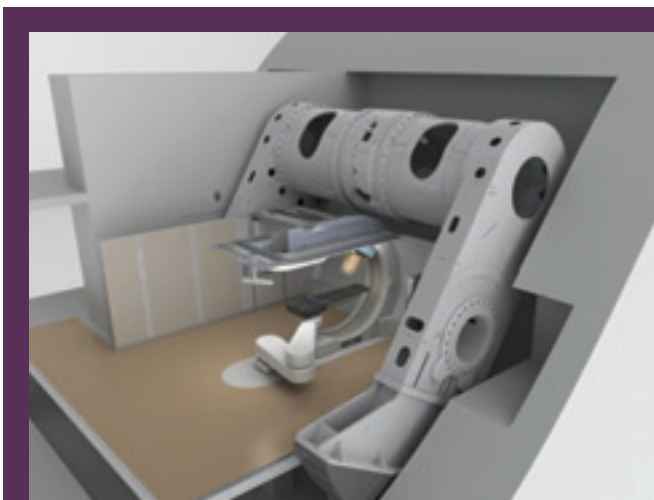
greatest degree of dose distribution precision possible today.

“Going forward, this technology will provide the central focus for the physical, biological and clinical research within our department, and we think we can make very significant contributions to its impact on ultimate patient outcomes,” Herman said.

The broad adoption of proton therapy has been greatly limited by the enormous cost, large footprint and technical complexity of traditional proton therapy systems. Powered by a patented TriNiobium Core™, the MEVION S250 proton therapy system redefines the economics, availability and the future direction of proton therapy, by bringing the management and operation of proton therapy to levels similar to modern X-ray radiation therapy devices.

“This is an important milestone. It is wonderful to know that the Stephenson Cancer Center will very soon be home to this revolutionary device,” said M. Dewayne Andrews, M.D., MACP, senior vice president and provost of the University of Oklahoma Health Sciences Center and executive dean of the OU College of Medicine.

The Peggy and Charles Stephenson Cancer Center plans to open its proton therapy unit in 2013. The center is one of only 35 primary sites nationally in the Radiation Therapy Oncology Group and already conducts many trials with traditional radiation therapy. The addition of the Proton Therapy System will provide new opportunities to conduct research aimed at determining how and in what cancers proton therapy can be most effective.



Left: This rendering shows the treatment room and outer gantry of the new Proton Therapy System being installed soon at the Stephenson Cancer Center.

Right: A side view of the Proton Therapy System arriving at the Stephenson Cancer Center this year.

Fitch to Become President of American Society of Anesthesiologists

Jane C.K. Fitch, M.D., John L. Plewes professor and chair of the Department of Anesthesiology, has been elected to a national position with the American Society of Anesthesiologists, a 48,000-member organization.

Fitch was elected first vice president of the ASA in October 2011. In 2013, she will be only the second female president in the 102-year history of the society. She was prompted to seek the office because of her desire to help lead the field into the future of health care reform, particularly in areas relating to scope of practice, as well as legislative and regulatory issues.

Fitch has been active with the ASA since 1993. Her national advocacy activities include a White House meeting in 2001 concerning scope-of-practice issues, national press conferences and videos. She has served on a variety of caucuses, committees, the House of Delegates and the Board of Directors for the ASA.

In Oklahoma, Fitch is former director and past president of the Oklahoma Society of Anesthesiologists. She is a member of many other anesthesiology and medical associations in Oklahoma and across the nation. She has served two years as president-elect of the national academic anesthesiology organization and will be president of it from 2012-2014. She also is a diplomate of the American Board of Anesthesiology.

At the OU College of Medicine, the Department of An-

remodeling and building of new operating rooms, including the new Surgery Center on campus. The department also is responsible for all sedation services on campus, partnering with other disciplines to provide coverage.

Anesthesiology has seen significant education growth. Resident positions have increased from 24 to 48, and a fellowship in pediatric anesthesiology was added to the existing pain medicine fellowship in 2008. A new fellowship in obstetrical anesthesiology is being added next year, with plans for a critical care fellowship in the next two to three years.

Research, too, has developed. In 2001, there was no clinical or basic research in the department. Today, a research division of three works on clinical projects. Next, the department hopes to incorporate its first basic science researcher.

Fitch has held several leadership positions with the College of Medicine, most recently serving four years as chair of the faculty board. She said she looks forward to lending her skills nationally to the field of anesthesiology while continuing to bolster its work within the College of Medicine.



Jane C.K. Fitch, M.D.

“Anesthesiology as a medical specialty has much to offer. We are patient safety advocates.”

- Jane C.K. Fitch, M.D.

esthesiology has seen significant clinical growth since Fitch’s arrival in 2001. The number of anesthetizing locations has increased from 22 to 77; the number of faculty has increased from 22 to 64; the number of nurse anesthetists has increased from 10 to 40; the number of PAs/NPs has increased from zero to five; and the staff has grown from 15 to 36.

The department has established divisions representing all subspecialties in anesthesiology, including critical care anesthesiology. Both adult and pediatric preoperative assessment units have been opened. Pain medicine clinics have doubled from one to two, and Fitch helped oversee the consolidation,

“Anesthesiology as a medical specialty has much to offer,” Fitch said. “We are patient safety advocates. As a specialty, we cover the best of both worlds of medicine and surgery, including the entire life cycle. Nationally and locally, we are striving to advance our practice and secure our future by educating and training for the next generation of perioperative consultants.

“It is a great honor to serve our specialty and to represent Oklahoma in the process. Many thanks to everyone in our department, college, OU Medical Center and my husband, John, for their support in allowing me to fulfill this opportunity.”

Keyhole Technique Benefits Brain Surgery Patients

For decades, brain surgery for tumors and other brain diseases has involved long scalp incisions, large invasive openings, long hospital stays and a significant effect on the patient's quality of life. Now, Oklahoma patients are benefiting from a new, less invasive surgical technique at the OU Medical Center.

"Recent advances in anesthesia, imaging technology and surgical techniques have provided us with the ability to remove brain tumors through much smaller openings. For many tumors, we can now remove them through openings as small

as an inch and a half to 2 inches, without compromising safety or effectiveness," said Michael Sughrue, M.D., a neurosurgeon at OU Medical Center. Sughrue also is director of the Oklahoma Comprehensive Brain Tumor Center and an assistant professor in the Department of Neurological Surgery at the OU College of Medicine.

The new technique is called keyhole surgery. The name refers to the ability to see an entire room through the keyhole of a door by simply changing the angle of viewing frequently. It works much the same way with the surgical approach.

"It does not differ much from traditional brain surgery except that it aims to open the head as little as necessary – no more and no less – to achieve the surgical goals," Sughrue said. "With keyhole strategies, we use computer software to help keep the openings small and well-targeted



Michael Sughrue, M.D.

to the needs of the specific surgery."

Michael Cotton, 59, of Harrah never thought much about brain surgery until he learned the headaches he'd been experiencing were caused by a tumor in his brain.

In surgery, Sughrue utilized keyhole techniques to locate and then carefully remove Cotton's tumor through an opening about as wide as a silver dollar. He said the benefits of this new approach are evident to anyone who witnesses the techniques firsthand. There is less pain, fewer complications and a more rapid recovery.

"Most patients are able to go home a day or two after surgery, often with only minimal pain medication," Sughrue said. "Some patients are able to return to work within a few days of their surgery and most resume normal activities within days."

Cotton said he felt good enough to be up and around even before his doctors wanted him to be so active.

"They had to keep me down," he said. "I kept getting up and kept getting in trouble because I wasn't supposed to walk by myself and I would get up and go wandering sometimes."

Sughrue said an additional benefit is that cancer therapies like radiation, which are typically delayed for a month following traditional surgery, can be started much sooner with the small incisions utilized with the keyhole approach.

"The bottom line is that the minimally invasive techniques we employ aim to get patients back to their normal lives as fast as possible given their diagnosis," he said.

Researchers Find Home-Based Intervention Prevents Abuse

Researchers at the University of Oklahoma Health Sciences Center found that a home-based intervention program aimed at preventing recurrence of child abuse and neglect is working in Oklahoma.

A statewide trial evaluated the effectiveness of SafeCare. The SafeCare model is designed to directly address home safety and cleanliness, nutrition, child medical care and parent-child interactions, said researcher Mark Chaffin, Ph.D., of the OU Center on Child Abuse and Neglect. Chaffin also is a professor of pediatrics with the OU College of Medicine.

Chaffin said the research found the SafeCare model reduced recidivism of child abuse and neglect among families in the child welfare system. "Often, parents are completely overwhelmed. The SafeCare program gives them the knowledge, skills and resources to care for their children," he said.

With the SafeCare Model, home visitors work in the home with each family for one to two hours a week over a period of about six months. Researchers estimate that implementation of the SafeCare model in Oklahoma prevents up to 104 first-year maltreatment recurrences per 1,000 cases. Recidivism over four years fell from 70 percent to about 50 percent among study participants.



Mark Chaffin, Ph.D.

The model targets physical abuse and neglect, particularly child neglect. Child neglect cases comprise 78 percent of child protective services cases, researchers said.

The OU study was the largest ever to test the SafeCare model. The trial involved 219 home visitors who served 2,175 parents between 2003 and 2006. Half of Oklahoma's home-based programs adopted SafeCare and the other half continued to deliver standard services. The project was funded by a \$3.4 million National Institutes

of Health grant, with additional support from the U.S. Centers for Disease Control and Prevention. The program is being replicated in several other states, and Chaffin and colleagues are researching its effectiveness in a multi-county project in California.

Since the trial ended, all of Oklahoma's child welfare home-based programs have converted to the SafeCare model.

"Oklahoma has now become the first state to fully scale up an evidence-based home visiting model for families in the child welfare system," Chaffin said. The statewide Oklahoma trial was published in the journal *Pediatrics*.

College of Medicine Researchers Receive OCAST Health Grants

Several OU College of Medicine faculty members were among the recipients of nearly \$4 million from OCAST, the Oklahoma Center for the Advancement of Science and Technology.

The grants were made through OCAST's Oklahoma Health Research program, which was the first program implemented by the state's science agency when it was created 26 years ago.

A total of 30 projects across the state were given

awards from a field of 154, one of the largest application pools in the program's history.

"The growing number of applicants indicates the level of demand for basic health research," said C. Michael Carolina, executive director of OCAST. "Many of the successful applicants will attract private and federal research dollars to Oklahoma – a major factor in Oklahoma's growing reputation as a supporter of health research. Improved health and high-wage and high-skill jobs are follow-ons to this investment."

OU College of Medicine recipients are:

Madeleine Cunningham, Ph.D., Professor, Department of Microbiology and Immunology; **Jody Summers**, Ph.D., Professor, Department of Cell Biology; **Ping Song**, Ph.D., Assistant Professor of Research, Molecular Medicine; **Zhonglin Xie**, Ph.D., Assistant Professor, Molecular Medicine; **H. Anne Pereira**, Ph.D., professor in the Departments of Cell Biology and Pathology; and professor and associate dean of research, Department of Pharmaceutical Sciences,

College of Pharmacy; **Allan Wiechmann**, Ph.D., Associate Professor, Department of Cell Biology; **Stephen Gillaspay**, Ph.D., Assistant Professor, Pediatric Psychology; **James Tomasek**, Ph.D., Professor of Cell Biology and Dean of the Graduate College; **Yusuke Takahashi**, Ph.D., Assistant Professor of Research, Medicine Endocrinology; **Blaine Mooers**, Ph.D., Assistant Professor, Department of Biochemistry and Molecular Biology.

Biomarker Generator Boosts Research, Collaborations at OUHSC

Collaboration among researchers at the University of Oklahoma Health Sciences Center has been taken to a new level with installation of the world's first Biomarker Generator in the College of Pharmacy.

Biomarkers are often noted as one of the most important links in making progress against diseases like cancer, diabetes and neurological problems. Currently, biomarkers are used with radioactivity and positron emission tomography (PET) to pinpoint disease in the body. The new Biomarker Generator vastly improves the radioactivity step of the process.

The Biomarker Generator was installed earlier this year. The equipment's hallmark is that it can produce radioactivity at the push of the button, with results in 30 minutes. Previously, researchers had to purchase radioactive biomarkers from commercial cyclotron facilities, and the product sometimes spent hours in transit to the campus. Because radioactive biomarkers have a short half-life, the timing for their use was critical. Other times, they were not available when needed.

The Biomarker Generator eliminates those problems, plus it takes up one-fifth the space of a commercial cyclotron.

"It is an amazing change," said M. Dewayne Andrews, M.D., senior vice president and provost of OUHSC and executive dean of the College of Medicine. "It is similar to the time when computers were so large that they filled a room; today, that same work can be done on a laptop."

Andrews said the Biomarker Generator will benefit a number of research initiatives in progress on campus. Basic and clinical researchers in the Stephenson Cancer Center, the Harold Hamm Diabetes Center and the Department of Neurology have projects that are dependent on model imaging. Other research projects, whether they originate in the College of Pharmacy, College of Medicine or other institutions across the state, will be greatly enhanced by the new equipment. The Biomarker Generator also will serve an important role in health care education and recruitment.

"This new capability brings to us some wonderful opportunities for investigation and, more importantly, for collaboration among our scientists in various



Vibhudutta Awasthi, Ph.D., associate professor in the Department of Pharmaceutical Sciences in the College of Pharmacy, explains how the Biomarker Generator works.

fields," Andrews said.

The Biomarker Generator was manufactured by Advanced Biomarker Technologies in Knoxville, Tenn., which chose OUHSC for its first installation of the equipment.

The equipment is part of the College of Pharmacy's Research Imaging Facility, which provides a complementary infrastructure in imaging and nuclear medicine. Vibhudutta Awasthi, Ph.D., director of the facility and associate professor in the Department of Pharmaceutical Sciences, is the authority on the Biomarker Generator and has spearheaded a multi-year strategic plan for its use.

Currently, the Biomarker Generator has been approved by the Food and Drug Administration for research doses; the next step will be approval for clinical doses. Awasthi said the equipment not only completes the College of Pharmacy's Research Imaging Facility, but it should serve as a catalyst for collaboration between researchers and private industry, as well as researchers from different colleges and geographical locations.

"The users of this machine will be the ones who present problems they need to solve, and we will provide the solutions for finding answers," Awasthi said.

Faculty Members Honored With Variety of Awards

OU College of Medicine faculty members received a variety of awards this spring in recognition of their excellence in academic medicine.

The David Ross Boyd Professorship was presented to Russell Adams, Ph.D., Department of Psychiatry and Behavioral Sciences. Adams serves as director of internship and post-doctoral training in clinical psychology.

Receiving the George Lynn Cross Research Professorship was Jian-Xing Ma, M.D., Ph.D., and James Mold, M.D. Ma is chair of the Department of Physiology and director of research and associate chief of the Section of Endocrinology and Diabetes in the Department of Medicine. Mold is a professor and director of the research division in the Department of Family and Preventive Medicine.

Presidential Professorships were presented to Paul DeAngelis, Ph.D., and Ann Olson, Ph.D., both in the Department of Biochemistry and Molecular Biology.

The Provost's Research Award for Senior Faculty was presented to Zhongjie Sun, M.D., professor in the Department of Physiology.

The Regents' Professorship was presented to Gary Kinasewitz, M.D., professor and chief of the Section of Pulmonary and Critical Care in the Department of Medicine.

Regents' Awards for Superior Teaching were given to Mark Allee, M.D., Department of Medicine; Kennon Garrett, Ph.D., Department of Physiology; and R. Michael Siatkowski, M.D., Department of Ophthalmology.

The Regents' Award for Superior Research and Creative Activity was presented to Beverley Greenwood-Van Meerveld, Ph.D., Department of Physiology.

Numerous College of Medicine faculty members received recognition for earning one or more U.S. or foreign patents for technologies developed on campus. They are: Martin-Paul Agbaga, Ph.D., Departments of Ophthalmology and Cell Biology; Robert E. "Gene" Anderson, M.D., Ph.D., Departments of Ophthalmology and Cell Biology; Richard S. "Steve" Brush, Departments of Ophthalmology and Cell Biology; Junping Chen, M.D., Ph.D., Department of Medicine; Paul DeAngelis, Ph.D., Department of Biochemistry and Molecular Biology; Richard Harty, Department of Medicine; Courtney Houchen, M.D., Department of Medicine; Robert Hurst, Ph.D., Department of Urology; James McGinnis, Ph.D., Department of Ophthalmology; Hiroshi Nakagawa, Department of Medicine; Sripathi Sureban, Ph.D., Department of Medicine; Rodney Tweten, Ph.D., Department

of Microbiology and Immunology; Paul Weigel, Ph.D., Department of Biochemistry and Molecular Biology; and Lily Wong, Ph.D., Department of Ophthalmology.

Innovator Awards are presented annually to recognize outstanding research, whether or not patented, that has recently found commercial success. Awards this year were given to Dan Brackett, Department of Surgery, for a biomarker licensed for diagnostic use; and David Dyer, Ph.D., Department of Microbiology and Immunology, whose *Haemophilus influenzae* work was licensed for vaccine development.

Other faculty honors this spring include the Board of Regents' approval of professor emeritus status to: Richard Trautman, M.D., Department of Psychiatry and Behavioral Sciences; Elliott Schechter, M.D., Department of Medicine; John Holliman, M.D., Department of Pathology; Leon Unger, Ph.D., Department of Biochemistry; and Howard Stein, Ph.D., Department of Family Medicine.

In addition, the Leonard Tow Humanism in Medicine Award was presented to Doug Drevets, M.D., professor and chief of the Section of Infectious Diseases and vice chair for Faculty Affairs, Department of Medicine.



Doug Drevets, M.D., left, accepts the Leonard Tow Humanism in Medicine Award from M. Dewayne Andrews, M.D.

Academic Technology Honored for Assistive Device

The Department of Academic Technology at the University of Oklahoma Health Sciences Center has been recognized by the magazine *Computerworld* as a 2012 Computerworld Honors Laureate.

The annual award honors visionary applications of information technology promoting positive social, economic and educational change.

OUHSC's winning application was the design and use of a Bluetooth transmitter that is paired with a Bluetooth receiver for assisting a hearing-impaired student in the College of Allied Health. The student can control the audio being sent to her hearing aid by turning the volume up or down to a comfortable level. The application was designed by Randy Bishop, multimedia education support specialist for Academic Technology.

Academic Technology previously was honored by *Computerworld* for the design and implementation of the Telemedical Diabetic Retinopathy screening solution.

"We are so honored to have received such a wonderful recognition through the *Computerworld* magazine," said Candace Shaw, assistant vice provost for academic technology and telemedicine. "At OUHSC, and in Academic Technology especially, we strive that innovation and excellence shine through our work for the campus and community. We work hard to facilitate the use of technology to enhance the learning experience for our students and faculty. We appreciate this opportunity to be acknowledged."



Randy Bishop, left, multimedia education support specialist for Academic Technology, explains an application to Katie Basler, a senior radiography student in the College of Allied Health. Katie is able to hear lectures and audio through a technology application that Bishop designed.

Bishop said working with technology in the academic setting is rewarding. "I especially enjoy using technology to enhance the learning process in the classroom," he said. "If I can help deliver the message by using technology in a way that improves student understanding or retention, then I've done my job."

Computerworld honors those who demonstrate technology's role in moving society forward, said John Amato, vice president and publisher of the magazine.

"There is no question technology plays a vital role in driving business forward," he said. "It ensures an organization's ability to compete, innovate, communicate and to thrive."

Harold Hamm Diabetes Center Researchers Uncover Important Trigger

Researchers at the Harold Hamm Diabetes Center have uncovered an important trigger in the process that leads to cardiovascular disease.

Doctors have long believed that a condition known as oxidative stress causes dysfunction in the small, thin cells that line the human heart and blood vessels. Such dysfunction is, in turn, linked to hypertension, high cholesterol levels in the blood and even diabetes.

Oxidative stress occurs when the body's ability to handle free radicals is overwhelmed. Free radicals are highly reactive molecules that occur naturally in the body as humans breathe in oxygen and cells create energy. They are also produced by external factors such as pollution, sunlight and smoking.

The exact mechanism linking oxidative stress to cardiovascular disease is not completely understood.

Now, research by a team at the Harold Hamm Diabetes Center offers some new insights. The researchers have uncovered the pathway by which oxidative stress targets cells, thereby heightening the risk for cardiovascular disease.

"The idea was to try to understand the mechanism, and then people can find out how to better treat cardiovascular diseases," said researcher Jian Xu, Ph.D.

Xu, who also is an assistant professor of endocrinology and diabetes at the OU College of Medicine, said the team set out to produce cardiovascular risk factors, including diabetes, hypertension and high blood cholesterol, by using a high-fat

diet in laboratory models. Cultures from aortic cells revealed that proteasome had been activated. Xu explained that proteasome's main function is to help eliminate unneeded or damaged proteins by breaking them down. He called it the body's "protein chopping machine."

In their work, researchers found the activation of proteasome reduced the stability of a number of proteins critical for maintaining vascular health. They also discovered this activation was triggered by a reactive and oxidative chemical known as peroxynitrite.

"This is kind of the trigger, or culprit, of many malfunctions of the biological system. It is one of the mechanisms explaining why vascular proteins lost stability," Xu said.

Xu said further research is still needed to better understand why some proteins retained stability while others lost it. However, by determining how the chain reaction of these events is set off inside the body, researchers hope to be able to target those mechanisms and open the door to new treatments that could improve medical interventions for cardiovascular disorders.

The research was published online by *PLoS ONE*.

Grants and funds from the National Institutes of Health, the American Diabetes Association, the Oklahoma Center for Advancement of Science and Technology and the Warren Chair in Diabetes Research at the OU Health Sciences Center helped support the project.

Research Shows Obese Males at Risk of Coronary Condition

Researchers at the University of Oklahoma are shedding new light on a little-known condition affecting cardiovascular health.

They have discovered that male gender and obesity are associated with slow blood flow through unobstructed coronary arteries.

The condition is known as coronary slow flow phenomenon (CSFP), but little is known about it. CSFP causes chest pain and, when severe, is linked to heart attack, abnormal heart rhythm and sudden cardiac death.

"It is a rather rare cause of chest pain, compared to

the more common coronary disease," said Stavros Stavrakis, M.D., a cardiology fellow in the OU College of Medicine and a study author. "However, in people with no coronary blockages, it may represent a more common cause of chest pain than previously thought."

The study, published in the Japanese publication *Circulation Journal*, looked at 158 patients with normal coronary arteries and normal heart function admitted to the Oklahoma City Veteran's Affairs Medical Center from August 2007 to August 2009. All 158 of the patients had normal coronary arteries and normal heart function when admitted, but 96 of

them were diagnosed with CSFP after angiography.

Compared to previous studies, researchers found this condition was disproportionately more common in the veteran population. About 5.5 percent of patients referred to the hospital's catheterization laboratory had CSFP. Another study had found it in only 1 percent of all patients referred for angiography.

OUHSC researchers said the veteran population is largely male and has higher risk factors for heart disease such as diabetes and high blood pressure. The study also found that if more than one vessel had slow blood flow, cholesterol was higher.

"We do not know exactly why male sex and obesity are independent predictors of CSFP," Stavrakis said, adding that further study is needed to understand coronary slow blood flow and how to treat it.

Weight loss, exercise and some drugs can treat symptoms and sometimes reverse the resistance to blood flow in the vessels supplying the heart, said co-author Mazen Abu-Fadel, M.D., an assistant professor of interventional cardiology in the OU College of Medicine.

Young Patients Find Getaway at New Children's Village



Children and families enjoy the grand opening of the Children's Village play area, located on rooftop space between the Children's Atrium and The Children's Hospital.

To whisk youngsters away from the realities of the hospital or doctor's office, a vibrant new outdoor play area called Children's Village has opened.

The Children's Village is on the rooftop space between the Children's Atrium and The Children's Hospital at OU Medical Center. The 10,000-square-foot area features whimsical landscaping and a stylized cityscape with shops and stands for pretend play. The village also includes an open area with a stage for small gatherings and is ideally suited for storytelling.

It is adjacent to The Zone, the hospital's indoor interactive educational play area, and creates a re-

spite for patients and their families.

The area was inspired by illustrations from children's books. It was designed for the University Hospitals Authority & Trust by Miles Associates, with help from Zahl-Ford Structural Engineers, Flintco and Seattle-based Dillon Works, which specializes in interactive props, including those at Disney properties.

At the grand opening of the Children's Village in early September, children descended upon the area.

"Today we open this up to the kids; this is their house," said Dean Gandy, executive director of the University Hospital Authority & Trust. "We dedicate this to the children of Oklahoma, as well as to those who care for them. This is a special place."

\$10 Million Grant Advances Fight Against Cancer

A \$10 million grant from the National Institutes of Health will enable researchers at the Peggy and Charles Stephenson Cancer Center at the University of Oklahoma to look for answers to a critical problem in cancer therapy – why some cancer cells become resistant to chemo and radiation therapy, and what can be done to overcome that resistance.

The Center of Biomedical Research Excellence grant will augment and strengthen research at the Stephenson Cancer Center by establishing a mentoring program for promising new cancer researchers and enhancing the research infrastructure at the cancer center.

"This important grant is evidence that the Stephenson Cancer Center at OU is rapidly becoming recognized as a center of excellence in cancer research and treatment," said OU President David L. Boren.

"This is a substantial and important grant that further enhances our mission to defeat cancer through research and advanced care," said Robert Mannel, M.D., director of the Stephenson Cancer

Center. "The CoBRE grant creates a powerful synergy of effort. It pairs experienced senior researchers as mentors and talented junior researchers with promising new ideas. Together, they will work to advance research aimed at the development of new treatments and technologies, and ultimately a cure for cancer."

The grant's principal investigator is Danny Dhanasekaran, Ph.D., deputy director for basic research at the Stephenson Cancer Center and professor of cell biology at the OU College of Medicine. He will lead the team of investigators as they aim to develop novel treatment strategies for cancer resistance. Cancer resistance often becomes acute after an initially successful cancer treatment.

"All too often, the cancer comes back, and when it does, it is usually in a more resistant form. If you have a thousand cancer cells, every 10 cells will become resistant. The 10 cells become hundreds. Hundreds become thousands

and thousands become ten thousands," said Dhanasekaran, who holds the Samuel Roberts Noble Foundation Endowed Chair in Cancer Research.

When the returning cancer becomes resistant, treatment options are limited. The CoBRE grant will fund research at the Cancer Center aimed at determining why cancer cells become resistant.

"If we understand the mechanisms of the resistance, then we can develop strategies to prevent it," Dhanasekaran said.

Through the CoBRE grant, experienced researchers will mentor Junior Promising Investigators at the Cancer Center as together

they focus on projects designed to discover the resistance mechanisms in four types of cancer: breast, lung, prostate and brain.

CoBRE grants are awarded by the NIH in an effort to augment and strengthen research. The grants allow bright, new researchers to advance their work under the guidance and mentorship of experienced, senior

researchers in the field.

In addition to overseeing the success of the overall CoBRE grant, Dhanasekaran will serve as mentor on the project that targets drug resistance in prostate cancer treatment. Dhanasekaran likens the problem to a driver traveling to the airport.

"When you go to the airport, and there is a roadblock, what do you do? You take the side road," he said.

Similarly, the returning, resistant cancer cells look for "the alternate route" to spread. The researchers will look for strategies to block the "side roads" or multiple pathways so that cancer cells cannot escape.

Initially, Cancer Center researchers will analyze mechanisms of resistance using samples obtained from human cancer tissues. However, Dhanasekaran hopes the work will lead to additional laboratory research and clinical trials in the future.



Shown at the announcement of a \$10 million grant for cancer research are, from left, Natarajan Aravindan, Ph.D.; Anupama Munshi, Ph.D.; Robert Mannel, M.D.; OU President David Boren; Sukyung Woo, Ph.D.; and Franklin Hays, Ph.D.

CoBRE Grant Renewed for Diabetes Researchers

A multi-million-dollar federal grant first awarded to OU College of Medicine researchers in 2007 has been renewed for another \$10.8 million.

The Center of Biomedical Research Excellence grant allows diabetes researchers, led by Jian-Xing “Jay” Ma, M.D., Ph.D., to mentor a group of junior investigators in finding answers to a disease that especially plagues Oklahomans. The renewal of a CoBRE grant is difficult to attain and allows researchers to continue their work at the same level of funding.

CoBRE grants are awarded by the National Institutes for Health to bolster research. As principal investigator, Ma will oversee five promising junior investigators in several diverse projects ranging from basic bench research to population-based and intervention studies.

The PjIs for the next phase of the program are: Kenneth Humphries, Ph.D., assistant member, Oklahoma Medical Research Foundation; Jian Xu, Ph.D., assistant professor, Department of Medicine; Franklin A. Hays, Ph.D., assistant professor, Department of Biochemistry; and Yun Le, Ph.D., associate professor, Department of Medicine.

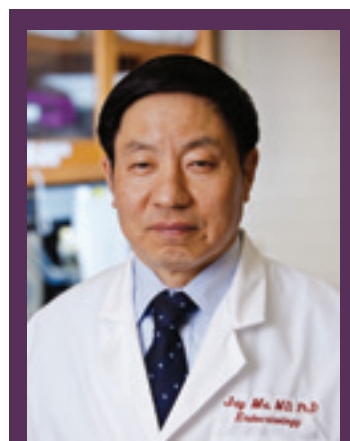
Joining Ma as co-principal investigator is Timothy J. Lyons, M.D., director of research and scientific affairs at the Harold Hamm Diabetes Center. Other faculty members serving as mentors are: Luke Szweda, Ph.D., member and chairman of the Free Radical Biology and Aging Research Program, OMRF; Scott Plafker, Ph.D., associate member of the Free Radical Biology and Aging Research Program, OMRF; Leonidas Tsiokas, Ph.D., as-

sociate professor, Department of Cell Biology; Paul Weigel, Ph.D., professor and chairman, Department of Biochemistry; and Sarah Zhang, M.D., associate professor, Department of Medicine.

Other goals of the CoBRE program are for PjIs to become independent NIH-funded investigators and to provide core facilities to enable diabetes research in Oklahoma. Core research directors are James Tomasek, Ph.D., professor in the Department of Cell Biology and dean of the Graduate College; Ying Chen, M.D., Ph.D., instructor, Department of Physiology; and Chris Aston, Ph.D., associate professor of research, Department of Pediatrics.

The project also aims to improve diabetes research and interventions among American Indians. Diabetes is particularly prevalent among Indian communities, where it affects up to 40 percent of people in some tribes. Oklahoma is home to nearly 400,000 American Indians.

“We are very grateful for the extension of the CoBRE grant,” said Ma, who also serves as chairman of the Department of Physiology. “The first five years of the grant yielded important answers, and we are glad to continue this groundbreaking research. Our PjIs are dedicated to finding clues that will help prevent and fight this serious disease.”



Jian-Xing “Jay” Ma, M.D., Ph.D.

\$2.6 Million Research Grant to Further Study of Autism

A new \$2.6 million grant will further research by the University of Oklahoma Health Sciences Center focused on how to achieve the best outcomes for children with autism.

The National Center for Special Education Research, a division of the Institute for Education Sciences, awarded the grant to Bonnie McBride, Ph.D., an associate professor of pediatrics at the OU College of Medicine, to study a classroom-based treatment intervention.

“The prevalence of autism is increasing,” McBride said. “There is consensus that early intervention is critical. Children who receive specialized services early have better outcomes.”

McBride and colleagues, including researchers at the University of Washington, will evaluate the effectiveness of a specific model in preschoolers with autism. The study will involve 60 children in 12 public school classrooms in the Oklahoma City area, as well as in the Seattle area. Results in those children will be compared with 60 children in standard preschool care.

The four-year project will look at whether 3- and 4-year-olds with autism participating in the project show improvement in cognitive functioning, language, social relatedness and adaptive behavior.

The project model blends practices from the fields of applied behavior analysis, early childhood education and early



Bonnie McBride, Ph.D., gives the microphone to Remy, a 5-year-old who participated in a toddler program for children with autism.

childhood special education.

Applied behavior analysis is intensive and is not one-size-fits-all. It is based on the concept that people are more likely to repeat behaviors that are rewarded than behaviors that are not recognized or are ignored. A therapist spends up to 40 hours per week working one-to-one with a child, tailoring the program to each child’s individual needs. Goals often relate to academic development, communication skills, social skills and overall interaction with the environment.

Studies have shown applied behavior analysis to be effective, but this intensive method is difficult to deliver because of the need for a lot of one-to-one intervention with a certified provider each week. Because of that, experts have recognized the need for a more cost-effective program that could be offered in a classroom setting.

Titled the Project DATA model, it provides about 20 hours of school-based services and five hours a week of additional intervention provided by families at home with support from teaching staff.

Although Project DATA uses applied behavior analysis techniques, McBride said it arranges them in a way that makes them more practical in a school or classroom setting.

Students Honor Faculty With Aesculapian Awards

Eight faculty members received Aesculapian Awards during the 2012 awards ceremony in April.

The Aesculapian Award is given by medical students to faculty and residents for their excellence in teaching medicine. It is named for Aesculapius, identified in Greek myth as the son of Apollo and an ideal physician.

Presenting and receiving 2012 Aesculapian Awards were:

- Class of 2015 – Basic Sciences: Nancy Halliday, Ph.D., Department of Cell Biology
- Class of 2014 – Basic Sciences: William F. Kern III, M.D., Department of Pathology
- Class of 2013, Oklahoma City – Resident: A.J. Vaughn, M.D., Department of Neurology
- Class of 2013, Tulsa – Resident: Jason Beaman, D.O., Departments of Family Practice and Psychiatry
- Class of 2012 – Clinical Sciences: David Lee Gordon, M.D.,

- Department of Neurology
- Class of 2012, Tulsa – Clinical Sciences: F. Daniel Duffy, M.D., MACP, Department of Internal Medicine and dean, School of Community Medicine
- Class of 2012, Oklahoma City – Volunteer: Jahangir Ghaznavi, M.D., Department of Psychiatry
- Class of 2012, Tulsa – Volunteer: Melville Mercer Jr., M.D., Department of Anesthesiology
- Beaman, Kern and Vaughn all won Aesculapian Awards

- last year as well.
- Medical students recognized with Podalirian Awards from their classmates were:
- Class of 2012: James Zach Porterfield, Ph.D., Oklahoma City, and Mary Caroline Nally, Tulsa
- Class of 2013: Jason A. Brown, Oklahoma City, and Daniel R. Freno, Tulsa
- Class of 2014: Connor L. Woodland
- Class of 2015: Jordan E. Stone

In the foreground: Tony Puckett, M.D., looks at today's technology that was not available when he was an OB-GYN resident at the OU College of Medicine in 1963. In the middle: LaTasha Craig, M.D., left, and Lydia Nightingale, M.D., direct the clerkship program for the Department of OB-GYN in addition to their own patient care and research duties. Middle right: James Merrill, M.D., was the first chairman of the Department of OB-GYN. In the background: Technology at the bedside has changed dramatically since the 1960s.



Ongoing Mission

The field of obstetrics and gynecology has changed dramatically over the past five decades, thanks to new technologies, therapeutics and discoveries. The Department of Obstetrics and Gynecology has been a leader every step of the way, and it continues to leverage the academic medical setting to improve women's lives.

In the 50 years that obstetrics and gynecology have joined departmental forces to improve women's health in Oklahoma, the field could not have seen more advances.

Research into cancer therapies that help women live longer, fuller lives.

The advent of fetal monitoring and procedures that have revolutionized the ability of babies to stay alive.

The introduction and widespread use of birth control.

Minimally invasive surgeries that allow women to recover faster, with less pain.

The rise of successful treatments for infertility.

New subspecialties with treatments that respect women's pain and give them answers and hope.

And the list goes on.

As the Department of Obstetrics and Gynecology celebrates 50 years in 2012, colleagues have realized anew that the OU College of Medicine has been at the forefront, both state and nationally, in caring for women. And the department is poised to do that well into the future.

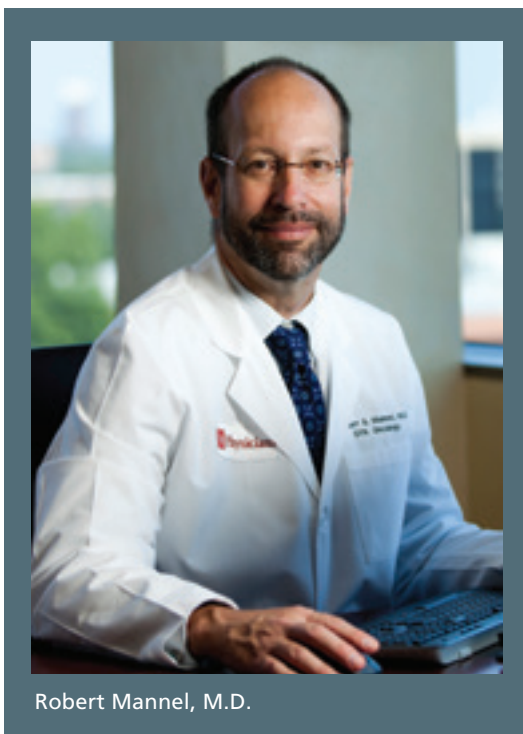
"Our mission is simple: 'To provide excellence in women's health care, in an environment of research and education, regardless of ability to pay,'" said Robert Mannel, M.D., chairman of the department. "To be at a place that not only allows that to occur, but demands that it occur and supports it, is the only way you can fulfill that mission. We have a long way to go toward improving women's health, and a strong OB-GYN department is necessary to lead the fight."

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OB-GYN beginnings

The fields of obstetrics and gynecology at OU have their roots – as separate departments – with the beginning of the medical school. In 1911, obstetrics and gynecology were two of five subdivisions in the Department of Surgery. In 1913, they combined for one OB-GYN department, but in 1916, they split again and remained so until the 1962 merger that continues today. Historically, however, the pattern of medical colleges around the country was that physicians were trained to be either obstetricians or gynecologists with little communication between the two.



Robert Mannel, M.D.

But in the 1960s, the virtue of a permanent union was realized, and the leadership of that vision has been remarkably stable. Since 1962, only three chairmen have led OB-GYN: James Merrill, M.D., John Fishburne, M.D., and Mannel. Each has diligently pursued the academic medicine triad.

“We have grown tremendously, but it comes from a solid foundation of the program being dedicated to patient care, research and education,” Mannel said. “That approach translates into an improvement of women’s health.”

As the first department chairman for OB-GYN, Merrill was known as a superb educator and researcher who advocated for early screening and detection of cancer. He spoke often at lectures and addressed public topics, advocating for women on issues like access to birth control.

His arrival coincided with a societal shift of husbands beginning to stay with their wives in the delivery room. In a 1967 newspaper article, Merrill said a doctor must rely on his knowledge of the couple and their relationship to decide whether to allow the husband in the delivery room. He went on to say that “if a woman insists her husband attend the delivery, she probably wants to punish him. And if a husband insists on watching over the doctor’s objections, he may feel guilty and want to punish himself.”

Not long after he arrived, Merrill recruited another legend in OB-GYN history, Warren Crosby, M.D. Crosby further established the OU College of

Medicine as a leader in OB-GYN treatment and research. His work led to national recommendations that the fetus of a pregnant woman was indeed safer during a car accident if she were wearing a lap belt and shoulder harness.

Crosby also was a pioneer in decreasing infant mortality. He traveled to rural hospitals to give physicians a better understanding of how to help women who were potentially going to bleed or have major problems during delivery. His research into treatment for babies with Rh negative blood was groundbreaking. In 1965, Crosby and other physicians performed Oklahoma’s first blood transfusion to a baby in the womb who had Rh factor difficulties. The procedure, done on a Tulsa woman

who soon gave birth to a healthy baby girl, put Oklahoma in the forefront of the treatment, as it was only the 61st such case in the world. Today’s treatment for Rh disease routinely has good outcomes.

Elisa Crouse, M.D., residency program director and the Warren M. Crosby Chair in Obstetrics and Gynecology, considered Crosby a mentor, though he never supervised her during training. During her own residency, Crouse became interested in trauma during pregnancy, after she cared for a patient who, at 34 weeks’ gestation, jumped from a second-story window to avoid the flames of a house fire. Crouse read everything she could find on pregnancy trauma research, including many of Crosby’s seat belt safety articles.

Later, when she became a faculty member for the OU College of Medicine, Crouse was able to spend time with Crosby before he died in 2011.

“It’s always been meaningful for me to have the endowed chair for someone who was so instrumental not only in women’s health care, but in education,” Crouse said. “He had medical students with him all the time he was doing his work, and they learned from him the mission of continually striving to improve women’s health care. Dr. Crosby taught them to do whatever they could to make it better, and when they have questions, to go find the answers.”

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Researcher Evaluates Best Treatment Approach for Uterine Cancer



Gynecologist oncologist Joan Walker, M.D., talks about the benefits of minimally invasive surgery for uterine cancer along with one of her patients, Carolyn Zachritz.

The benefits of minimally invasive treatment of uterine cancer is the subject of a study co-authored by Joan Walker, M.D., a gynecologic oncologist with the Peggy and Charles Stephenson Cancer Center, and published in this year in the *Journal of Clinical Oncology*.

Researchers at the University of Oklahoma Health Sciences Center enrolled a substantial number of the patients in this important clinical trial funded by the National Cancer Institute.

The study evaluated the long-term effectiveness of both laparoscopy and laparotomy in the treatment of uterine cancer. Laparoscopy is a surgical technique that allows a surgeon to operate through small incisions as opposed to

the larger incisions required for laparotomy or open surgery.

Uterine cancer affects more than 47,000 women and claims the lives of about 8,000 women in the United States each year.

Research previously had shown clear advantages for uterine cancer patients who undergo laparoscopy versus laparotomy for the removal and staging of their cancer.

“We knew there were benefits of minimally invasive surgery to the patient in terms of less time in the hospital and a faster recovery, but we did not yet know

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if the long-term outcomes would be as good in terms of recurrence of the cancer and survival. That is where this study comes in,” Walker said.

The study followed 2,616 patients diagnosed with uterine cancer. Two-thirds of the patients were treated with laparoscopy and the remaining underwent open surgery. Researchers assessed the patients’ progress five years after surgery and quantified the potential for increased risk of cancer recurrence and death with laparoscopy versus laparotomy.

“The most important outcome – the survival – was virtually the same whether a woman was treated with the laparoscopic approach or through open surgery,” Walker said.

In addition, the anticipated recurrence rates with laparoscopy were substantially lower than anticipated with a three-year recurrence rate of 11.4 percent for laparoscopy compared to 10.2 percent for laparotomy.

Carolyn Zachritz was one of the thousands of women to participate in the clinical trial. She was thrilled to learn that the Cancer Center at OU was offering laparoscopic surgery for uterine cancer through the clinical trial.

“I knew the recovery would be much simpler, faster and less painful. So I jumped at the chance and it’s worked out perfectly. But this study is very reassuring because now I have even more confidence that the long-term results will be the same,” Zachritz said.

Walker, who also holds the James A. Merrill Chair in Gynecologic Oncology at the OU College of Medicine, said the findings provide important information for both patients and their doctors when making decisions about how to best treat uterine cancer.

“Based upon these findings laparoscopic surgical management of uterine cancer is the preferred treatment. It’s a win-win. Patients have less pain, go home so much faster, recover faster and it actually costs less,” she said.

However, Walker cautioned that laparoscopy may not be appropriate for all patients. She said for some, open surgery is still the only feasible procedure. †



In this 1969 photograph, a hematocrit test is conducted in the OB-GYN laboratory.

OB-GYN *continued from page 19***Linking past and present**

Tony Puckett, M.D., was an OB-GYN resident at the OU College of Medicine in 1963. After time spent in private practice, Puckett returned to campus in 1996, and he continues to teach and see patients. Puckett has lived the changes in obstetrics and gynecology. As a resident in the early 1960s, Puckett spent plenty of time on the fourth floor of the old University Hospital, where labor and delivery rooms were air conditioned, but post-partum rooms were not. In August, even with every window open, rooms reached 100 degrees and new mothers required extra fluids.

Puckett has experienced the shift from a time when anesthesia was hard to obtain and was often toxic, to today’s availability of safe anesthetics. Blood, too, was harder to acquire, and physicians had to plan ahead to ask family members for donations, sometimes doing transfusions directly from donor to patient.

He has seen the growth of the laparoscope as a tool once used only to exam the pelvic area, to today’s minimally invasive laparoscopic surgeries. He watched the switch from the use of forceps during birth, and residents’ knowledge of turning the baby, to Caesarean sections becoming more common.

The conversation around feeding a newborn has come full circle during Puckett’s career, from breast-feeding to a recommendation of formula and now back to breast-feeding. Today, a lactation program is an integral part of the OB-GYN department, as are midwives.

The stimulation of academic medicine, and the opportunity to teach bright young minds through compassionate clinical care, brought Puckett back.

“It’s nice to be on the cutting edge of what’s happening,” he said. “And it’s nice to take care of patients regardless of what they can pay. That gets translated here into taking care of a lot of people with significant co-morbidities.”

Sub-specialization and growth

As the backbone of the Department of OB-GYN, generalists participate in a broad range of outpatient and inpatient care. In 2011, the generalist section delivered more than 4,000 babies and completed 22,000 clinic visits. The section has 14 physician faculty, five nurse midwives, a nurse practitioner and more than 30 staff members. They bring one out of every 13 Oklahoma babies into the world and are immersed in medical education activities.

Fifty years ago, few people would have predicted the sub-specialization of obstetrics and gynecology and the fellowships that would be developed, beginning in the 1970s.

Within the department, fellowships have been established in Maternal Fetal Medicine, Female Pelvic Medicine and Reconstructive Surgery (Urogynecology), and Gynecologic Oncology. The department will be applying for a fellowship in Reproductive Endocrinology and Infertility next year. If successful, it will be one of fewer than 10 departments nationwide with all four fellowships active.

The OB-GYN department’s sections are growing in every aspect. In providing care for women with high-risk pregnancies, the Section of Maternal Fetal Medicine uses numerous diagnostic and therapeutic tools to create better outcomes, such as 4-D ultrasound, genetic counseling and fetal stents. Maternal Fetal Medicine specialists see about 20,000 patients annually. The section’s perinatal lab and efforts through the Neonatal Intensive Care Unit link it to the health and vitality of the Children’s Hospital.

The Section of Reproductive Endocrinology and Infertility is a rapidly advancing field. Providers offer a full range of infertility diagnostic testing and treatments, including intrauterine inseminations and in-vitro fertilization. In 2011, the section performed more than 412 IUI treatments, 150 IVF cycles and had 7,000 patient visits. Research in the reproductive sciences is extensive, and the section is one of the largest recruiters in the nation for a Reproductive Medicine Network trial on unexplained infertility to determine which medications are most likely to result in a pregnancy.

Female Pelvic Medicine and Reconstructive Surgery is another section that has come into its own. Since it began 10 years ago, patient volume has increased significantly, as women find a place that specializes in the pelvic floor disorders that formerly received little attention in medicine. A robust research program continues finding new answers for conditions like incontinence and prolapse. (See separate story on the Section of Urogynecology on Page 23.)

In the Section of Gynecologic Oncology, providers treat women for a wide range of malignancies, performing 1,200 surgeries annually in addition to a large outpatient practice. The group administers more than 4,000 cycles of chemotherapy, and gynecologic oncologists have helped to pioneer the use of minimally invasive procedures in cancer patients. Faculty members have served as authors on virtually every large clinical trial for the past 10 years concerning gynecologic malignancies, and the section leads the nation in accrual of patients participating in clinical trials within the National Cancer Institute’s Gynecology Oncology Group for the last 15 years.

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Urogynecology Section Grows Significantly in Its Ability
to Treat Women, Uncover New Answers

Dignity and Hope

Prior to 10 years ago in Oklahoma, women with pelvic floor disorders had few options at hand.

Today, the Section of Female Pelvic Medicine and Reconstructive Surgery (Urogynecology) in the Department of Obstetrics and Gynecology is a robust program whose clinical care, research and fellowships are not only helping women in Oklahoma, but are having a ripple effect around the world.

Abbas Shobeiri, M.D., section chief and associate professor, has been a driving force behind a decade's worth of change. Before he arrived, the urogynecology discipline did not exist in Oklahoma or nearby states, and women with incontinence and vaginal prolapse had no one who specialized in their issues, which were already difficult to talk about.

Shobeiri, along with Lea Phillips, BSN, and other members of the urogynecology team, have changed that, creating a place where women are treated with dignity, and significant advances have been made toward better diagnostic tools and treatments.

"Every year, we have grown 6 to 10 percent," Shobeiri said. "Right now, we see about 8,000 patients a year, and in five years we'll be seeing many more in our new state-of-the-art facility. This kind of growth is very important for us because it bolsters our education and research."

Shobeiri came to the College of Medicine with three five-year plans to grow the urogynecology section, beginning with patient and community development, followed by fellowship and education and, now, further development of the research program to obtain higher-level funding from the National Institutes of Health and other sources.

A signature element of the section's success is the development of a novel technique to examine pelvic floor muscles using three-dimensional ultrasound. The method results in more than 300 pictures every 0.2 millimeters. Specially developed software allows physicians to view the images as a 3-D volume.

"Traditionally, an MRI has been done to look at a

patient's pelvic floor muscles, but an MRI takes a long time and it's expensive," Shobeiri said. "We were looking for an easier way to screen a large number of patients, and to do it quickly. We have been investigating the 3-D ultrasound technique, and its definition seems to be much higher than the MRI. You would think the MRI would be the best."

The urogynecology team began the ultrasound research in 2005, and published its seminal article in 2009. Since then, they have been giving presentations on the technique to gatherings like the International Continence Society and the International Urogynecological Association, and they are mentoring medical groups across the nation and world on the method. Shobeiri has been named editor for a forthcoming book on pelvic floor ultrasonography.

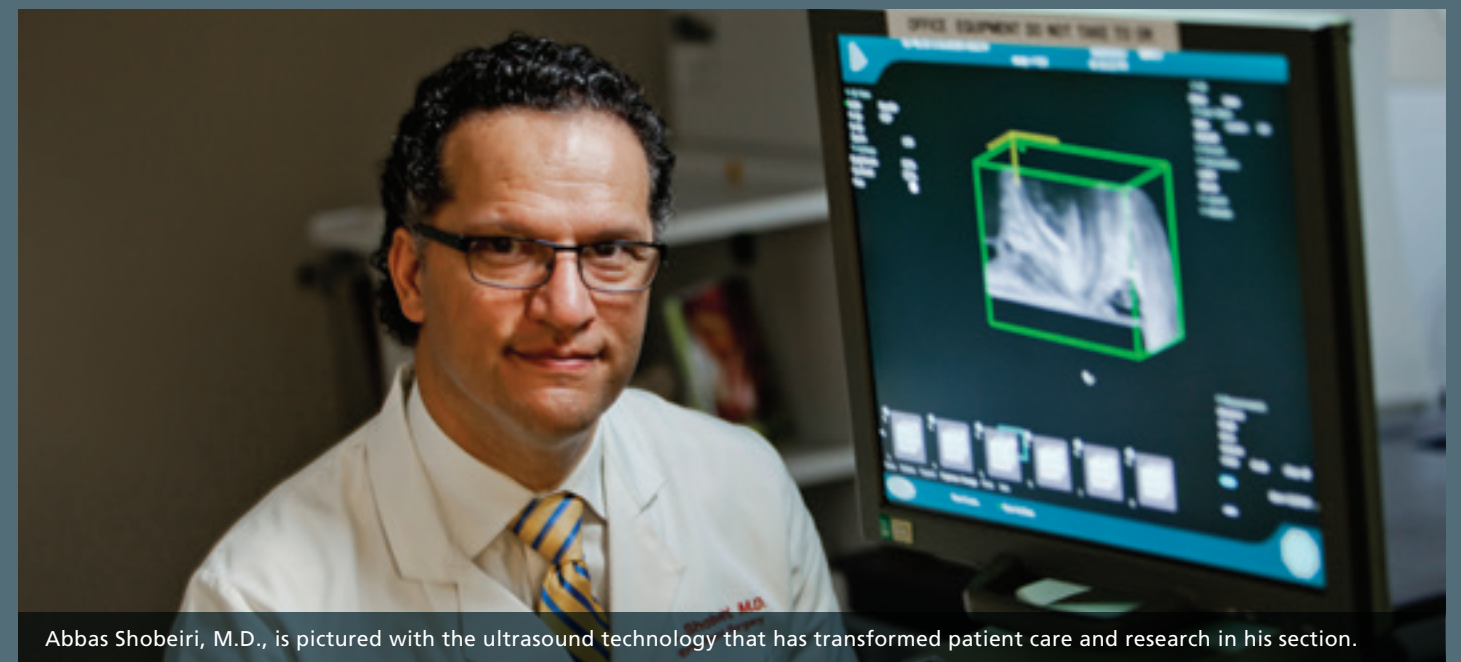
Lieschen Quiroz, M.D., the section's research director, leads a funded project on ultrasound research in which women are scanned before and after delivering a baby in an effort to determine the incidence of injury to pelvic floor muscles. Quiroz has received multiple research awards from OU alumni funds, the American Urogynecology Society and the American College of Obstetricians and Gynecologists.

The hypothesis of that project extends to the section's basic science research in which a transgenic mouse model is used to simulate pelvic floor injury during childbirth. That research is performed by Randy Gallucci, Ph.D., and Dena White, M.D.

"Imagine that you have two women with similar body sizes and shapes," Shobeiri said. "They are pregnant and go through similar delivery experiences. One of them will develop pelvic floor disorders and the other won't, and you wonder why. They may have had the same type of pelvic floor injury. One is able to repair the muscles and the other is not able. That's our theory, and we are looking at inflammatory markers to determine which genes help them heal."

In total, the Section of Urogynecology is part of nearly 50 research projects. It also is the site for research fellowships for the International Continence Society and the International Urogynecology Association.

The section's accredited fellowship program has distinguished itself as well. Each year, 20 to 30 applicants go



Abbas Shobeiri, M.D., is pictured with the ultrasound technology that has transformed patient care and research in his section.

through a competitive match process for a single slot.

Mikio Nihira, M.D., associate professor and director of the fellowship training program, is leading an educational research effort to develop technology to assess performance of medical students, residents and fellows. That effort includes collaboration with education professionals at the OU campus in Norman. The fellows and their mentors in the section have been awarded research grants from the American Urogynecology Society, as well as educational research awards.

The varied activities all point to the reason the urogynecology group has been so devoted to growing the section: to help women with issues that are either hard to talk about or have been brushed aside. The incidence of pelvic floor disorders is about 25 percent in a woman's lifetime, Shobeiri said, and women don't deserve to live in shame and silence.

"When a patient comes to see us, I go into the room and I feel the tension. You look at the patient's body language — her shoulders and face are tense," Shobeiri said. "Then I tell her that this type of medicine is all we do, day in and day out, and that we will listen to her and take care of her. Then you see her body language change and she starts smiling. Once she knows she is in the right place, she starts talking about her issues that she couldn't tell anyone else about."

The urogynecology section also is committed to a multidisciplinary approach. In addition to three physicians, a physical therapy staff of two is embedded in the section. Emily Swafford, director of the Pelvic Floor Rehabilitation Unit, said such an integrated approach creates the high-quality of care a patient can receive. The arrival of the

electronic medical record, too, has been a boon for her specialty. It allows her to see the details of a patient's visit with a physician so she can tailor a physical therapy session to enhance the treatment. In turn, the physician knows about Swafford's work.

About 75 percent of the patients Swafford sees suffer from some kind of pelvic pain. Like back pain, whose diagnoses can range from muscle spasms to bulging discs, pelvic pain may have different causes but is a legitimate condition and agonizing to endure, she said. About 20 percent of her patients suffer from incontinence, prolapse and pelvic floor weakness, and about 5 percent have pain in addition to incontinence, prolapse and pelvic floor weakness.

Swafford and her fellow physical therapist, Lora Smith, carry out a range of exercises aimed at neuromuscular re-education. For patients with pain, the goal is to train their muscles to relax again. For patients with pelvic floor weakness, the aim is to strengthen their pelvic floor and their core. For those with both issues, the first focus is the pain, followed by strengthening. Home exercise programs are important in each.

"Pelvic floor disorders and pelvic pain affect your relationships, your work life and your home life," Swafford said. "Validation is huge. Sometimes women have been to a lot of different doctors over several years and have been offered little help with no clear diagnosis. I am passionate about helping these women obtain earlier diagnoses and treatment and become educated about their pelvic floor, as it can make such a difference."

Well-Rounded Journey

Lynn Mitchell, M.D., took flight as a physician from the OU College of Medicine. In the three decades before she returned, she gathered experiences and perspectives that are helping health care providers enter the future of their field.

When Lynn Mitchell, M.D., visualizes the path of her career in medicine, she sees a full circle.

Mitchell, chief medical officer for OU Physicians and associate dean for clinical affairs of the College of Medicine, earned her medical degree here in 1984. The college grounded her in the complexities of medicine and nurtured her passion for helping people, and she was ready to leave her mark on health care.

What Mitchell didn't foresee was that in the nearly 30 years since, her journey would lead her right back to where she started. And when she returned, her experience meant she was particularly well equipped to lead quality improvement efforts and help guide OU Physicians into the future.

"I owe a lot to this institution," she said.

"This is an amazing place. I love the academic environment because I was raised by a couple of teachers, but it's also a challenging environment because health care is always changing. And when you have an idea about how to do something differently, there are people here to help you move it forward."

Mitchell's stops along her "circle" paved the way for her current roles at OU. Just before she entered medical school, she earned a master's degree in epidemiology from the OU College of Public Health. After medical school and residency, she worked in occupational medicine for Conoco Oil Co.

Then the College of Medicine lured her back with a faculty appointment from 1989 to 1995, when she also held an adjunct appointment in

Lynn Mitchell, M.D., is helping to guide OU Medicine into the future with her experience in administrative medicine and quality improvement.

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Journey *continued from page 26*

the College of Public Health. During that time, she worked part time at OSEEGIB, the Oklahoma State and Education Employees Group Insurance Board. That role presented her first taste of administrative medicine and the insurance vantage point.

Mitchell spent the next 15 years at the Oklahoma Health Care Authority, the first five as chief medical officer and the last 10 as Medicaid director. That growing program – which covers about 1 million Oklahoma lives today – provided Mitchell an ideal place to create better policies for the patients who desperately need and deserve quality health care.

“There are some great people at OHCA who have a keen interest in health care in a little different way, like the patient-centered medical home and some of the risk-based contracts that we were really on the forefront with,” she said. “At the OHCA, you’re a governmental

community. She had standards, and she expected them to meet those standards, but she was also extremely supportive and knowledgeable about what they needed to do the job.”

Just before she came back to OU, Mitchell did a stint at the Oklahoma State Department of Health, further leveraging her interest in public health. With her return to OU in 2011, she hit the ground running with her unique blend of experience in administrative medicine, patient care, health care policy and public health.

As chief medical officer for OU Physicians, much of Mitchell’s efforts focus on measuring and ensuring quality in health care, improving the patient experience, collaborating and communicating with physicians, and being part of a team that is responsive to changes in the health care environment.

A theme running through all those efforts is the technology that makes much of it possible: the Electronic Medical Record. The EMR not only provides evidence of quality that

“(OU) is a place where people go above and beyond to take care of folks, and we’re always asking, ‘How can we do it better?’”

- Lynn Mitchell, M.D.

regulatory body to some degree, and you’re involved in making and enforcing health policy. Now that I’m back on the delivery side of health policy, I find myself having to comply with things I wrote or participated in. Sometimes it’s surreal. But hopefully it makes me a more well-rounded administrator who can view things from both sides and craft good decisions out of that.”

Indeed, her time at OHCA resulted in a better program, said CEO Mike Fogarty. She always referred to SoonerCare members as “my people,” he said.

“She was so conscientious about the delivery of those services,” he said. “And because of her appreciation for what it’s like to be on the other side of that physician-purchaser equation, she led our success in recruiting good physicians, and not doing business with the ones who weren’t doing the job. She could talk to them in language they understood. You wouldn’t find anybody more supportive than she would be to that provider

payers want to see, but it is a tool that academic medicine can leverage in many ways.

“Everyone wants to deliver high-quality health care; we just haven’t had all the tools at our disposal to measure that and then be able to provide feedback,” Mitchell said. “That’s important to us as providers and certainly important to our patients.”

Mitchell, along with Dale Bratzler, D.O., chief quality officer for OU Physicians and professor and associate dean in the College of Public Health, lead a quality assurance staff whose efforts have increased over the past year as federal Meaningful Use requirements loom and clinics become increasingly familiar with their EMRs.

In the past, a clinical quality project would have consisted of flipping through patients’ charts for information, a tedious effort that took up precious time. Today, the EMR allows for data to be extracted much more efficiently.

“We’ve been doing clinical quality projects for years, but having everyone on the EMR allows us to take that next

step of pulling out the data, evaluating and understanding it, and using it to move the needle in a positive direction,” she said. “Of course it comes with a little pain because the technology is relatively foreign to those who are my age, but people are excited about where we’re going with some of the new technology.”

Old-fashioned communication with providers hasn’t gone by the wayside, however. In the tradition of academic medicine, Mitchell “rounds” with clinical department chairs and core medical directors – representing adults, children and primary care networks – to determine what is and isn’t working well, what resources they need and who needs to be recognized.

Championing patient satisfaction is another major element of the quality continuum. Doug Folger, M.D., Mitchell’s predecessor, has returned in the role of physician coach, working with doctors on patient satisfaction topics and effective communication tools. Mitchell, too, serves as a liaison to physicians, helping them work through the

“Students today have a more global perspective about what could happen and what should happen with health.”

- Lynn Mitchell, M.D.

myriad of issues they face daily.

The timing of Mitchell’s return to OU Physicians was fortuitous as the health care landscape shifts from payment by volume to payment according to outcomes, said Brian Maddy, CEO of OU Physicians. OU Physicians overall has established a solid foundation over the last several years to make that transition.

“During the past five to eight years, we have focused on the patient experience from the perspective of what we as a staff can do,” Maddy said. “Now that we have established that organizational foundation, the next iteration of the patient experience is going to be improving outcomes. Lynn brings a tremendous amount of knowledge and experience to bear on taking us to that next level.”

Mitchell’s passion for quality in health care is a theme throughout all her activities. Wearing her associate dean hat, she has taught a class on “why quality matters” to incoming medical students, and she has participated in student interest groups about health policy, which gives her a good feeling

about the future practitioners of medicine.

“We recently had a dialogue about the Affordable Care Act, what is in it and what they see happening to the practice of medicine,” she said. “Students today have a more global perspective about what could happen and what should happen with health.”

Tackling Oklahoma’s sobering health issues will take a closer collaboration between medicine and public health, Mitchell said, and she’s versed in both worlds. OU Physicians has partnered with the Oklahoma City-County Health Department to provide support for community clinics, notably the Northeast Regional Health and Wellness Center under construction near Remington Park. She also has worked with employer groups on ways to improve the health of their employees.

All specialties of medicine are crucial to better understanding the continuum of health and disease, Mitchell said. “We really need to push back the needle so that indi-

viduals enter the health care system earlier, before they have an acute or chronic illness,” she said. “It’s hard to do because we don’t have enough physicians, but we need to take steps so that people can access health care in a preventive mode too. At the same time, payers must pay for health care in a preventive mode. That’s been my platform – we must embrace prevention and empowerment of individuals to take control of their health.”

Mitchell’s return to OU is meaningful to her in a final way, one that’s much closer to home. Twenty-eight years ago, on the fourth floor of the hospital where she was on call for an obstetrics rotation, she was smitten with a medical student one year her junior named Barry. The man who became her husband is now a family practice physician in Edmond.

“OU has always held a special place in my heart for many reasons,” she said. “This is a place where people go above and beyond to take care of folks, and because we’re in a learning environment, we’re always asking, ‘How can we do it better?’” ‡

Muna Naash, Ph.D., right, and Shannon Conley, Ph.D., discuss their nanotechnology research.

Healing With Nanotechnology

Does the use of nanoparticles in research hold the answer to some of medicine's most vexing diseases? Several College of Medicine researchers think so, and have made significant progress with their miniscule materials.

The medical application of nanotechnology appears to carry big answers in its very small packages: better targeting of conditions and diseases, fewer side effects and superior outcomes than what today's standard therapies can offer.

Several College of Medicine researchers are dedicated to using nanomedicine to improve patients' lives, and their efforts embody the concept of translational research. Their journeys from the lab to the clinic may be long, but each is driven to find new answers to tough issues that decrease people's quality of life.

Muna Naash, Ph.D.: Nano-delivery to the eye

Around 2005, Naash, a professor of cell biology, had drawn attention from the scientific community for her research into retinal diseases. She was considering viral delivery of genes to the eye to treat the diseases, but the limitations associated with viral delivery – the spread of the therapeutic beyond the targeted cells, for example – shifted her approach to non-viral delivery. That's when she came across literature on compacted DNA nanoparticles as a way to deliver genes to the lung for cystic fibrosis. She began experimenting with that concept for eye diseases, and her successful niche soon became evident.

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Kenneth Dormer, Ph.D., right, discusses a new nanoparticle treatment for atrial fibrillation with his OU Heart Rhythm Institute colleagues, Benjamin Scherlag, Ph.D., left, and Sunny Po, M.D., Ph.D.

Nanotechnology *continued from page 30*

For years, researchers have tried to get naked DNA into the cell, which either wouldn't accept it or the DNA would degrade before it reached the nucleus. Compacted DNA nanoparticles seem to do something different.

"It made sense to me early on – that's why I put so much effort into it," Naash said. "These particles are very small in size – 8 to 10 nanometers in diameter, which is less than the size of the virus or the naked DNA. And they have a specific shape that we can formulate in different ways."

In preclinical trials, Naash's hypothesis was correct: The nanoparticles indeed shuttled the DNA through the membrane, inside the cell and to the nucleus, where gene expression occurred. But the nanoparticles gave Naash even more than she expected: Not only did they make it to the nucleus, they bypassed all the degradation machinery in the cytosol of the cell.

"It's like something precious and breakable that you put a lot of packaging around when you ship it somewhere," she said, "and it has the words 'fragile' and 'be careful' around it. It also happens very quickly – within 15 minutes, the nanoparticles have arrived in the nucleus and the material starts expressing."

Compacted DNA nanoparticles also have an advan-

tage over viral delivery in that there are no side effects and the nano delivery stays local to the area it is treating. Nano delivery also appears able to handle larger genes specific to some conditions, like Stargardt Disease, something traditional viral delivery has not accomplished.

Naash anticipates moving her work to clinical trials in three years. In animal models, she has been able to rescue the eye from retinitis pigmentosa up to 50 percent in the rod and 90 percent in the cone. But she is demanding 100 percent.

And Naash has attracted significant funding to spur her work. She has two R01 grants from the National Institutes for Health, along with several Oklahoma grants. She also has drawn support from the Foundation Fighting Blindness, which is helping to fund the next three years of her work.

The gravity of her discovery was evident during a Foundation Fighting Blindness event for which Naash was an invited speaker. During one evening of the conference, everyone gathered for "Dining in the Dark." They sat around dinner tables in pitch-black darkness, and were served by people who are blind. Then the diners had to eat, pour wine and refill water glasses with the same sense of feel and attention to detail that their waiters must rely on.

"It was such a touching evening," Naash said. "We take vision for granted – the person in front of you, what they look like, their body language, the expression on their faces

when they hear something sad or happy. These are the things that drive me every day to work harder, keep pushing and not take 'no' for an answer."

Kenneth Dormer, Ph.D.: Magnets and nanoparticles

Two conditions that especially afflict Oklahomans – diabetic foot ulcers and atrial fibrillation – will see a novel new nanoparticle treatment if Kenneth Dormer, Ph.D., continues his research success.

Dormer, a professor of physiology, has been involved with nanotechnology for about two decades. He has researched nano tools to advance anti-cancer therapies, as well as for ear conditions. More recently, his interest has centered on magnetic nanoparticles for targeted delivery of therapeutics.

His team's first research focus has been using magnetic nanoparticles to pull a therapeutic into the heart to stop the arrhythmia. The current treatment for atrial fibrillation – radio frequency ablation – means the cardiologist, working through a catheter, makes burns on the inside of the heart to stop the arrhythmia. However, radio frequency ablation is expensive, risky and doesn't always produce the desired outcomes, Dormer said. In addition, an aging population means more cases of atrial fibrillation and not enough providers to perform the technique.

Dormer's research uses a catheter to take magnetized nanoparticles to the "little bundles of nerves" called ganglionated plexi in the atrial muscles that determine the rate, rhythm and force of contraction of the heart. Because these "GP" are off kilter in atrial fibrillation, the nanoparticles will carry a neuro-suppressant that reduces their activity but doesn't kill them. His team's theory is that once the heart goes back to normal and the GP are suppressed, the organ may return to a normal rhythm.

"The plasticity of the nervous system is something that people marvel at. It does incredible things," he said.

Dormer's nanoparticle configuration is novel as well, like Matryoshka dolls stacked one inside the other. The outer nanoparticle, about 230 nanometers in diameter, is a common medical polymer. Inside of it are many more magnetic nanoparticles, about 12-15 nanometers in size and composed of iron oxide. Inside of that is the therapeutic. A magnet outside the patient's body pulls the magnetized nanoparticles into the tissue, and the drug payload is released. The therapeutic is attached to the outside as well for immediate release.

"So we have an instant drug delivery and a constant drug delivery over the next two months after the particles

are in place," he said. "We would be treating the patient as he is walking around. Meanwhile, the nanoparticle is dissolving and it's safe."

Dormer's atrial fibrillation work is in the preclinical stage, where he and his colleagues are refining the concept before taking it to the Food and Drug Administration.

Their other focus is using nanoparticles to treat diabetic foot ulcers, a leading cause of amputations. Good antibiotics like vancomycin are available to treat foot ulcers, but taken systemically, they come with bad side effects and may not sufficiently treat the depth of the wound. The team's idea is to use a newly created magnetic configuration to "push" the antibiotics, via nanoparticles, into the wound.

"It's targeted delivery; that is the key to this," he said.

Both of Dormer's projects are a significant interdisciplinary effort. The foot infection team includes: James Lane, M.D., professor of medicine and director of adult clinical programs, Harold Hamm Diabetes Center; Isaac Rutel, Ph.D., Department of Radiological Sciences; Felicia Qi, Ph.D., Department of Microbiology; Cindy McCloskey, M.D., Department of Surgical Pathology; and Kytai Nguyen, Ph.D., Department of Bioengineering at the University of Texas-Arlington.

The atrial fibrillation team is similarly well-rounded. It includes Benjamin Scherlag, Ph.D., and Sunny Po, M.D., Ph.D., from the Heart Rhythm Institute; Kar-Ming Fung, M.D., Ph.D., Department of Pathology; Carey Pope, Ph.D., Department of Pharmacology and Toxicology at Oklahoma State University; and Kytai Nguyen, Ph.D., Department of Bioengineering at the University of Texas-Arlington.

James McGinnis, Ph.D.: Nanoparticles as a therapeutic

In the clinic just above McGinnis' lab at the Dean McGee Eye Institute, many people arrive for monthly injections directly into their eyes – today's standard therapy for several eye diseases.

The importance of the gift of sight, as well as the anxiety that sets in when people are in danger of not having it, isn't lost on McGinnis. The longtime vision researcher is harnessing nanotechnology for a therapy that would be more effective and mean far fewer injections for eye conditions like macular degeneration and diabetic retinopathy.

When nanotechnology moved onto his research

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radar, McGinnis was cloning photoreceptor-specific genes in hopes of identifying the defects that were causing blindness. Around 2004, he came across an article about a materials engineer at the University of Central Florida who synthesized nanoparticles, made of cerium oxide, that conferred high heat resistance to metals.

Such nanoparticles continue to be used for coating the inside of self-cleaning ovens and the inside of catalytic converters in automobile exhaust systems. But McGinnis saw a correlation with his eye research. The materials engineer measured the nanoparticles' ability to destroy hydrogen peroxide. In his work, McGinnis used hydrogen peroxide to kill cells in order to find out what might prevent them from being killed. If the nanoparticles could protect against hydrogen peroxide inside cells, McGinnis was on his way.

Within six months, he had secured a materials transfer agreement to begin testing the nanoparticles in his animal models.

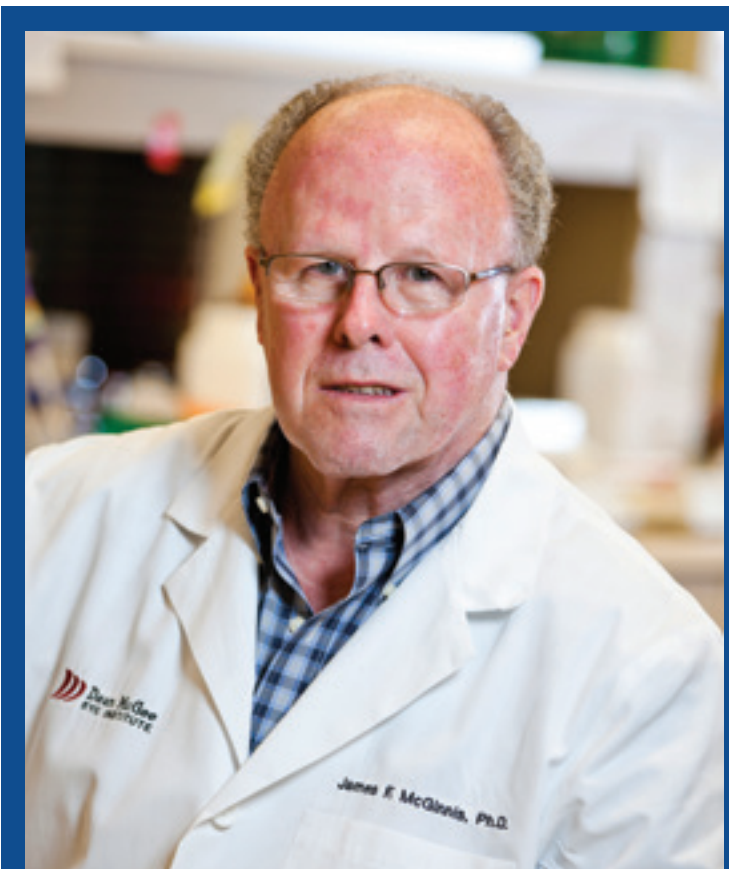
"It was exciting," McGinnis said. "People who have diabetes for a long time have a high chance of getting diabetic retinopathy. I think people are very sensitive to losing their sight as opposed to any other sense they have. We have great hopes for this."

In McGinnis' research, nanoparticles are the therapeutic instead of serving as a carrier of medicine. The nanoparticles fight back against reactive oxygen species, which are controlled in a normal metabolism. But when something like retinal or macular degeneration causes reactive oxygen species to rise, they damage other molecules in short order.

"Any molecule they bump into, they'll damage. And when a cell gets enough damage, it will commit suicide," he said.

Reactive oxygen species are considered a connection to many underlying diseases. McGinnis' idea was the nanoparticles could control the reactive oxygen species, in turn retarding or preventing the development of downstream effects. In all five of the disease models he's studied thus far, that has been true. The cerium oxide nanoparticles – which he calls Nanoceria – act like Pac-Man and 'eat' the reactive oxygen species, spurring the pathological blood vessels to be reabsorbed by normal apoptosis.

McGinnis has proved that the Nanoceria have a preventive effect against eye disease, but also cause regres-



James McGinnis, Ph.D., is researching the use of nanoparticles to treat eye diseases.

sion of established eye disease in a mouse, which is much more analogous to a human patient.

The nanoparticles also tend to stick around in the eye, as opposed to drugs that may have a half-life as short as hours.

"That matters because it means patients may not need to get a needle in the eye every month, but perhaps every four months or once a year," he said.

McGinnis would like to move his research from the lab to clinical trials in two years. In February, the National Institutes of Health awarded him \$2.3 million. Although the path is long and commercialization is fraught with obstacles, particularly the critical need for funding, McGinnis has strong faith in his research.

"When I started out, I thought, as most people do, that perhaps we could cure one person or everyone with one disease," he said. "But now, because of how we can affect reactive oxygen species, we think we can prolong vision, and perhaps completely save vision, in people with many different diseases." ¶

OB-GYN *continued from page 22*

The section also figures significantly in the Peggy and Charles Stephenson Cancer Center and the Phase 1 clinical trials established within it. Of the first 150 patients treated in the Phase 1 Center, 114 were gynecologic oncology patients. More than 7,000 outpatient visits for gynecologic cancer occurred on campus last year.

"Although the sections all have different roles, we are connected to the same vision and mission," Mannel said. "It's a complex department that runs the spectrum from primary care to reproductive care to the state's go-to resource for high-risk pregnancies and cancer. That's one of the strengths of the department – the communal sense of our mission even though we're not all doing the same thing."

Over the past five decades, OB-GYN has been a leader in the concept of patient-centered care, a philosophical shift in medicine in which a multidisciplinary group of providers assesses patients, as well as navigates and advocates for them during their journey through the health care system.

Another shift has been a greater collaboration with community partners, Mannel said. Oklahoma's national rankings for women's health have not been high, but community partners like Variety Care, Edmond's Hope Center, Community Health Centers, Inc. (also known as Mary Mahoney) and the Oklahoma State and City-County Departments of Health help the OB-GYN department make a difference.

"Without those resources, our ability as a department to reach the women of Oklahoma would be much diminished," Mannel said.

The next generation of academic medicine

Quality education of medical students and residents has been a theme since the department's beginning.

In 1919, residency education on campus began, and in 1952, accreditation for OB-GYN residency programs started. As residency director, Crouse oversees a consistently high-quality program: It has kept its accreditation every year since 1952, and it has achieved five years of accreditation (the maximum length of time for one cycle) with no citations.

Crouse cites a strong departmental philosophy behind that success.

"Every faculty member in this department understands and participates in our missions of excellence in patient care, education and research," she said. "When we recruit residents, we share those missions with them. The people who get excited and put us higher on the list are people who share our passion for those three things and understand why they matter."

In the last few years, medical student education has been greatly enhanced within the OB-GYN department. The new organ systems-based curriculum that began in 2010 means OB-GYN faculty have more involvement with first- and second-year students, who in turn receive a better picture of the specialty before they begin their third-year clerkship.

"The new curriculum is great because instead of learning every bug that causes every disease, they're learning it in the context of a single organ," said LaTasha Craig, M.D., director of the clerkship program. "They learn everything affecting reproduction from an infectious standpoint at the same time they're learning all the cancers that also can affect it. It gives students a better framework with which to learn things so that when they see a patient, they can already put it all together."

As an added benefit, Craig and other faculty members serve as mentors for first- and second-year medical students. They also started the "Deliver a Baby" program in which those younger students can sign up to work in labor and delivery.

"I joke with them and say, 'You don't write home and tell someone you put a central line in; they don't get that,'" Craig said. "But everyone calls home when they assist us in delivering a baby. It's cool."

Working with medical students is gratifying because they're excited and soak up new information, said Lydia Nightingale, M.D., who directs the clerkship program with Craig. Strong support from department leadership makes a difference as well. Both Nightingale and Craig have become national experts on OB-GYN teaching methods.

"I love my patients and being able to care for them throughout their pregnancy and delivery," Nightingale said. "But I get the added enjoyment of being able to explain to a student why you do things. To see students' eyes light up or to see them have an 'a-ha' moment is meaningful. You never know what those students will go on to become or discover."

It's that philosophy that is taking the OB-GYN department into the future. An organization is rarely static; it must be growing, shrinking or reorganizing. The Department of OB-GYN has a sustained growth curve.

"That growth is bringing in new individuals and new resources to continue to develop new research and new education, which only fuels more growth and opportunity," Mannel said. "The department has matured to a point that all the major subspecialties are recognized, have established fellowships and are increasing their research and educational opportunities. The department as a whole is becoming more complex, a much more diverse mosaic." ¶



Jacqueline Maxwell of Oklahoma City has seen her cancer significantly shrink, thanks to treatments through the Phase 1 clinical trial program at the Stephenson Cancer Center.

Providing Hope, Revealing Answers

Phase 1 clinical trial program nears ranking as one of top 5 in the nation.

The process of determining a patient's eligibility for a Phase 1 clinical trial isn't taken lightly.

Patients who make their way to the program are usually out of options because standard therapy hasn't sufficiently pushed back against their cancer. They know an investigational new drug isn't going to cure them, but they have a sense of urgency to try something else, to keep fighting.

It is in that moment that Toni Davis and Kimberly Benjamin establish a place of hope. The two nurse navigators are the faces of the Phase 1 program, the ones who conduct exhaustive tests to ensure a patient meets all safety requirements for enrollment. Once they do, something remarkable happens.

In some cases, the drugs give patients extended, better-quality lives. In other cases, the

patients hang on, fueled by the hope that study of the drugs and their diseases will yield answers for someone else in the future. Surrounding them are researchers who continually analyze their tests, looking for actions of the drug, whether a cancer's pathway has been turned off, or if it has found an escape route.

"It is really an honor to be part of this program," Davis said. "We are instituting the triad of academic medicine – research, patient care and education – with almost every patient who walks through the door."

The Phase 1 program, named for the Oklahoma Tobacco Settlement Endowment Trust, has grown exponentially since it enrolled its first patient in February 2010. Total enrollment since the beginning is 216 people. The program is the

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Tackling Tough Questions

Researcher devotes career to stopping cancer in its tracks.

It is the game-changing question in cancer research: Can we discover a way to diagnose pancreatic cancer earlier, before its toll on the human body is unstoppable?

C.V. Rao, Ph.D., tackles questions of this gravity every day. Rao, a George Lynn Cross Professor of Medicine, is internationally known for his cancer prevention research. He also is director of the Center for Cancer Prevention and Drug Development, a research program within the Peggy and Charles Stephenson Cancer Center.

Its mission, and what drives Rao, is that the best way to fight cancer is to prevent it from developing.

“This is a big, upcoming field of cancer research,”

said Rao, who holds the Kerley-Cade Chair in Cancer Research in the Section of Hematology-Oncology. “The question is, ‘Why do we have to wait until the last stage to diagnose diseases like pancreatic cancer?’ If you interfere before then, and you can block or reverse the process of the biologic tumor cell, then you can prevent the end-stage malignant tumor.”

Rao didn’t always want to work in cancer research. In his native India, he earned degrees in microbiology. But when his aunt was diagnosed with breast cancer, and his uncle with prostate cancer – both were in advanced stages when they were discovered – Rao was motivated to shift gears.

While doing his post-doctoral fellowship at the

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C.V. Rao, Ph.D., a George Lynn Cross Professor of Medicine, is dedicated to finding ways to discover cancer earlier.

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only of its kind in Oklahoma and gives physicians access to new drugs that hold promise.

Associate Professor Scott McMeekin, M.D., director of the Phase 1 program, said that when enrollment reached 100, the OU program was among the top 10 centers in the nation. At 300 people, the Phase 1 program will be among the top 5. The program's partnership with the Sarah Cannon Research Institute in Nashville, which provides business expertise and access to the new drugs, is proving to be a fruitful one, he said.

"It would be difficult to get access to these drugs otherwise," McMeekin said. "But we are able to marshal forces, and we bring to the table some unique things, such as our strong gynecology-oncology section and our ability to enroll patients in high numbers. Partnering with an academic institution was desirable for them."

The ability to house the program in a state-of-the-science facility like the Peggy and Charles Stephenson Cancer Center has been beneficial as well. Patients in Phase 1 studies commit to following a lengthier regimen than most standard therapies. Daylong visits include multiple blood tests, EKGs, and ongoing checks for safety and side effects to paint a picture of what the drugs are doing to a patient's cancer.

Today's cancer research is less about matching a patient to a drug based on the tumor and more focused on determining the way cancers behave, McMeekin said. For that reason, one drug might make sense for someone with ovarian cancer but not for someone with lung cancer.

"Each cancer has unique pathways, and our Phase 1 studies cover the spectrum of pathways that are out there," he said. "For the first time, we're really starting to match specific drugs to patients with specific things going on with their cancers. It's an individualized, tailored sort of therapy."

Also gone are the days when patients in a Phase 1 program were considered "guinea pigs." Today's targeted therapies are helping a solid number of patients live longer and better, McMeekin said, and researchers are doing a better job of understanding what is happening with cancer.

That has been the case with Jacqueline Maxwell, one of McMeekin's patients. In 1999, she underwent surgery for a rare form of cancer. However, her cancer returned last

year and spread to her lung and spine. Through a molecular profile of her cancer, McMeekin determined Maxwell would be a fit for an investigational new drug. Today, she has been through several cycles of the Phase 1 program, and her tumor has significantly shrunk.

"I honestly don't know what I would have done if I didn't have this facility available to me," said Maxwell, who lives in Oklahoma City. "I don't know that we could have gone out of state. This is where my support system is – my family, my friends, my church. Many studies require a lot of time spent in the facility and you are here for long days. It means so much to me to be able to have my husband and friends sit with me during treatment."

That's what fuels Davis and Benjamin in their work of enrolling patients. The process is lengthy for each patient – sometimes up to two weeks – because of rigid safety requirements. In addition to assessing the patient's cancer type, they must look at co-morbidities such as diabetes and hypertension and scrutinize every lab test and blood test. Some people are simply too sick and must be turned away.

"We dig, dig, dig," Davis said. "We have to look at the whole body."

That includes a patient's emotional state and personal situation. Because many patients are driving from far corners of the state, the nurse navigators determine if a portion of a study's budget can be allotted for travel and lodging.

They also handle a patient's outlook with great care. Many are anxious to get started. Davis said she explains the amount of time and stages a drug must travel to reach approval from the Food and Drug Administration, and that many of today's standard therapies were once in a Phase 1 trial.

"The initial conversation can be pretty emotional," Davis said. "When patients come to us, it's their last resort, but many of them also still have fight left in them. Once we give them both objective and subjective information, they're more at ease and they know it may help somebody like them in the future."

But, as in Maxwell's case, the drugs are already improving people's lives. A Phase 1 program provides hope for today and tomorrow.

"We have had some pretty good success stories," Benjamin said. "People have been on Phase 1 trials for almost two years now and are doing well. That's very rewarding." ‡



Scott McMeekin, M.D.

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American Health Foundation Cancer Center in New York, Rao was mentored by the center's founder, Ernest L. Wynder, M.D., known for his early work on the link between tobacco use and lung cancer and a strong believer in preventive efforts. That relationship inspired Rao's interest in cancer prevention and the manipulation of nutrients and environmental risk factors to affect disease. After his fellowship, Rao continued his career at the American Health Foundation Cancer Center, working his way up to division chief and program leader of chemoprevention and nutritional carcinogenesis.

While avidly pursuing diagnostics for early detection of cancer, Rao also has been at the forefront of identifying new agents for treating cancer. His arrival at the OU College of Medicine in 2004 saw his continued determination in that effort. He and his research team are known for their work with the drug gefitinib, an inhibitor commonly used in chemotherapy for later stages of pancreatic cancer. But when given earlier at a low dose, gefitinib has been shown in mice

"Pancreatic cancer is a poorly understood cancer and the focus has been on treatment in the end stages. Our goal is to block the spread of the cancer. That is our best chance at beating this disease."

- C.V. Rao, Ph.D.

not only to stop the growth of pancreatic cancer tumors but, after 41 weeks of treatment, to remove them.

Gefitinib works by targeting signals of an epidermal growth factor receptor that is among the first to mutate when pancreatic cancer is present. By targeting the signal for tumor growth expressed by the mutated gene, Rao and his fellow researchers were able to stop the cancer's progression. They are now wrapping up studies with gefitinib and hope to begin a Phase II clinical trial soon. When an early detection test for pancreatic cancer is discovered, Rao and his team believe gefitinib will be crucial in targeting the disease before it spreads.

"This is one of the most important studies in pancreatic cancer prevention," Rao said. "Pancreatic cancer is a poorly understood cancer and the focus has been on treatment in the end stages. But we found that, if you start early, there will be a

much greater benefit. Our goal is to block the spread of the cancer. That is our best chance at beating this disease."

While pancreatic cancer research is a passion, much of Rao's work has focused on colorectal cancer. Several of his team's studies have set the stage for ongoing clinical trials, and the majority of his nearly 200 published papers have focused on colorectal cancer. His work showed that the administration of non-steroidal anti-inflammatory drugs like aspirin, ibuprofen, piroxicam and sulindac reduce the risk of colorectal cancer.

Rao also led studies on use of the drug Celebrex to inhibit the development of colon tumors in rats. Partly because of his work, the FDA later approved the use of Celebrex for reduction of polyps, in addition to surgery and monitoring the colon. Further clinical trials have shown that Celebrex is highly effective in preventing sporadic polyps. Unfortunately, continued clinical trials also showed that long-term and high-dose uses of Celebrex for all reasons leads to in-

creased cardiovascular side effects. To avoid cardiovascular risk, Rao's team developed several low-dose combination regimens. They have been highly effective in animal models, he said, and several are being considered for clinical trials.

Rao's work with naturally occurring agents and colorectal cancer prevention has been extensive as well. Under his leadership, his team established the preventive role of pure curcumin, a primary component of the turmeric in curry powder. They also have studied which types of fatty acid-rich diets influence colorectal cancer risk; identified the active component of wheat bran that has protective properties against colon cancer; and, in human clinical trials, provided evidence of the effect of fish oil on rectal cell proliferation. He also has extensively studied combination strategies, such as taking a chemopreventive agent at a lower dose in con-

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Faculty Leadership Program Helps Young Professors Build Career Road Map in Academic Medicine



Inger Aliason, M.D., a pediatric anesthesiologist, found a boost to her career in the Faculty Leadership Program.

Like many young faculty members, Inger Aliason, M.D., was excited to start her career in academic medicine after years of hard work as a student and resident.

Aliason, a pediatric anesthesiologist, quickly immersed herself in teaching and taking care of her young patients, enjoying her new title of clinical assistant professor and the work she had longed to do.

But if the breadth of academic medicine comes with significant professional rewards, it also leaves little time for looking to the future. Aliason knew she wanted a long career in academic medicine, but lacked the time and tools to plan her goals and projects.

Aliason, like others from all seven colleges on the OU Health Sciences Center campus, found her answer in the Faculty Leadership Program, a development program for early career faculty that helps them discover where they want to go and how they can get there.

“Knowing how to advance your career can be a big mystery,” Aliason said. “And we’re all so busy doing our daily jobs that our career aspirations get put on the back

burner. FLP brings that back into focus.”

The Faculty Leadership Program started in the College of Medicine in 1990. Valerie Williams, Ph.D., director of FLP and vice provost for academic affairs and faculty development, helped begin the program after conversations with department chairs about their desire to give faculty a better start in the three-pronged mission of a medical campus. Williams brought skills from her time in a federal appointment working for the assistant secretary for health, joining people from different agencies to move policy forward.

Soon, FLP was expanded to junior faculty in all the colleges, and the interdisciplinary setting allowed faculty to mingle, learn from each other and collaborate when their paths otherwise might never have crossed. The design of the program has been modified over the years to meet the needs of today’s health care professionals. Today, the program lasts 11 months and covers topics including time management skills, understanding personality temperaments, negotiation, public speaking and more. Participants also must take on a Scholarship-in-Progress project and work with Williams on

their Individual Faculty Development Plans.

The skills taught in FLP, along with the individual planning, gives young faculty members the tools – and the empowerment – to plan within the time constraints of their careers. After their plan takes shape, they must negotiate it with their department chairs.

“We put a lot of emphasis on that because department chairs are driven by what they have to do now,” Williams said. “They have to deal with a bottom line, they have to deal with course- and student-related needs in their areas, they have to deal with research applications and what’s happening with funding. They have a lot of in-the-moment realities as department chairs, and they don’t have many opportunities to talk about goals with their faculty. So a young faculty member must be prepared for a career conversation and understand how to make the most out of that sit-down opportunity focused on their future.”

And preparation almost always pays off. Faculty members who have established a plan for their tenure or promotion, projects and goals will likely be able to have that bigger conversation with their department chairs and understand how their goals fit within a broader set of long-term goals.

“You just can’t wait until the last two years before you go up for advancement to start planning. Or if you do, it could be a miserable two years,” Williams said. “But if you prepare well ahead, all the same work gets done, and the focus of what you’re trying to accomplish stays apparent. Then hopefully it fits in with the overall mission of your department and college. That’s what FLP is really designed to do – create an individual career plan, give faculty the skills set they need and teach them how to make the most of it.”

Elisa Davis, M.D., discovered a way to plan her career trajectory in her area of medicine-pediatrics, a smaller discipline on campus. She also embraced skills that are vital to medicine, but aren’t taught in medical school, like understanding people’s temperaments through the Keirse approach.

“I think it’s helpful, particularly in ‘type-watching,’ to determine other people’s temperaments and approaching them in a way that fits with their personality,” Davis said. “I think a lot of times we tend to take things personally, when people really just have different ways of dealing with things.”

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Elisa Davis, M.D., right, is pictured with the leaders of the Faculty Leadership Program, Valerie Williams, Ph.D., center, and Laura Fentem.

Young Professors *continued from page 42*

For Aliason, learning to negotiate was a valuable skill. It's easy in academic medicine to become overwhelmed by saying 'yes' to everything, she said, but the FLP taught her to prioritize projects that will be most beneficial to her and the university.

"Often, I think people go into all sorts of meetings with what they want to get out of the meeting, then it's hard to think outside the box," she said. "I learned that negotiating doesn't have to be one party winning and one party losing; it really can be a win-win situation for everybody and we can learn to approach problems from different points of view."

This year's FLP also resulted in Scholarship-in-Progress projects that should ultimately improve patient care across campus. Aliason is comparing intravenous vs. inhaled anesthesia for children undergoing craniotomy surgery. Davis created a standardized questionnaire to determine which patients need to be at the internal medicine clinic where she sees patients, and which need to be routed to another clinic for their care.

One of the most rewarding elements of FLP is the participants' interaction with peers from other col-

leges. This year's group featured six faculty from Medicine, three from Allied Health, four from Pharmacy and two from Public Health. Three are based at OU-Tulsa. Even though their areas of expertise are different, they share experiences that come with launching a career in academic health care, Williams said.

"They may feel like the weight of the world is on their shoulders, and when you get them together, they realize they're having the same experiences and that they're not expected to be perfect right – at least not right away," Williams said with a smile. "But, seriously, early career faculty must be able to ask good questions, think systematically about what might work better, test their ideas, get feedback and be willing to implement workable solutions. When you get this group from across campus together, they realize, 'I'm working at a place with a lot of other smart people and, yes, we can figure this out.'"

An interdisciplinary approach is becoming increasingly important in tackling tough health care issues in Oklahoma and the nation. A physician may be able to treat a patient effectively, but it may be a partnership with a nursing coordinator or a pharmacist that ensures the effective management of follow-up care.

FLP isn't designed to initiate an interdisciplinary project, but to get participants thinking about the value of a joint approach to health care, Williams said.

"Nothing about the health of human beings is getting simpler," she said. "We understand medicine better, and we know more about the science of learning, but health care is increasingly complex. People are living longer with chronic conditions, and there are new kinds of injuries. And what if a community's health is deteriorating for reasons that have more to do with their financial situations or the job market? How are physicians alone going to manage that? How are nurses alone going to manage that? How are we thinking about a community's health when it is not showing signs of getting better? How are we staying attuned to research discoveries that may over time contribute to understanding the disease process or ameliorating illness? And, how are we preparing our students as future clinicians and scientists to manage the explosion of knowledge and information? Some of the answers to these questions will come from faculty in leadership roles – we want our folks to be ready to make those contributions as leaders."

The value of FLP is evident when its participants graduate

each summer, and they get a chance to thank the program leaders, their fellow faculty and the department chairs who granted them the time to get involved.

Laura Fentem, FLP program coordinator, said it's gratifying to hear from former participants relaying how valuable the experience has been, or how they've just achieved something set forth long ago. Investment in faculty members is rewarding in itself, but knowing they have advanced themselves and the institution is even better. To date, 370 early career faculty members have completed FLP.

"It's really nice to see people moving up in their careers, and letting us know that they're doing it the way they planned," Fentem said.

In turn, faculty members feel like OUHSC has invested in them.

"I think it's extraordinary that Dr. Williams and her team take so much interest and effort in our careers," said Neeti Sadana, M.D., an obstetrics anesthesiologist. "It takes a little while to find your bearings, and FLP introduces you to other people who are in the same situation and who want to do great things and get ahead. The program really unifies all of us." }

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junction with a preventive diet.

Rao has continued much of that research at OU. He and his colleagues also have taken the fight against colon cancer to a genetic level. They discovered that a protein called Shugoshin-1, naturally found in humans and other organisms, holds answers. Shugoshin, which

goshin-1 is a key player in preventing tumor formation. "It is a gatekeeper type of gene in the chromosomal regulation," he said. "When that gatekeeper gene is not available, chromosomal abnormalities occur and the resulting genomic damage and mutations lead to cancer."

The logistical framework for Rao's work, the Center for

The center has a three-pronged research focus, and it collaborates with at least eight other medical centers around the nation. The first area of emphasis, environmental risk factors and pre-cancerous biology, looks at cancer risks caused by lifestyle factors and environmental agents such as tobacco smoke. Findings from these studies serve as the basis for development of cancer prevention intervention strategies.

The second, cancer preventive drug development, includes development and testing of drugs, vaccines and natural products that may be used alone or in combination with other approaches. Vaccines are a tremendous opportunity on the preventive side, Rao said. He and his researchers are currently investigating breast, colorectal and pancreatic cancer vaccines.

"We hope to create a much better understanding of why some of the immune cells that are supposed to attack the tumor cells are not doing so," he said.

The third, early detection – diagnosis/biomarkers, fo-

cuses on early detection research for pancreatic, lung and ovarian cancers, which are typically diagnosed in advanced stages when chances of a cure are small. That effort includes a collaboration with the OU College of Pharmacy and the newly acquired bio-

marker generator. "We have created a good niche here," Rao said. "People really look to us when we talk about these topics. We are moving in the right direction."

"If I could wish for one thing, I would want to see an early diagnostic for pancreatic cancer. This is the question that is near-impossible to think about. When you look at the change in five-year survival rates for cancer over the decades – today, it's 65 to 66 percent for colorectal cancer, 91 to 92 percent for breast cancer, and near 100 percent for prostate cancer. But if you look at a 60-year period for pancreatic cancer, the survival rate has barely moved from 3 percent to 5 percent." }

"If I could wish for one thing, I would want to see an early diagnostic for pancreatic cancer."

- C.V. Rao, Ph.D.

means "Guardian God" in Japanese, is well-named because it protects another protein, cohesin, which plays a role in normal cell division. If there is no cohesin, chromosomes move around during normal cell division, which can result in defects that lead to cancer.

Rao and his fellow researchers also theorize that Shu-

Cancer Prevention and Drug Development, is a significant element of the Stephenson Cancer Center. The CCPDD features a multidisciplinary team that includes molecular biologists, pharmacologists, pathologists, veterinary scientists, immunologists, nutritionists, natural product chemists, medicinal chemists and clinicians.



C.V. Rao, Ph.D.

Global Perspective

International rotations give students new appreciation for medicine and humanity.

Medical student Zachary Porterfield looked hard at the X-ray of an abscess formed by late-stage tuberculosis, considering the options for the patient in distress.

Porterfield encountered the condition, not in Oklahoma but in South Africa, during a six-week rotation as a fourth-year medical student. His trip introduced him to medical conditions and cultural traditions he'll likely never see in the United States, and it broadened his understanding of the practice of medicine. But perhaps more importantly, Porterfield left South Africa reaffirmed in

his dedication to provide care for his fellow human beings.

Porterfield, a 2012 M.D.-Ph.D. graduate of the OU College of Medicine, was among several who traveled abroad last academic year through the college's International Studies in Medicine program. The richness of his experience goes with him to residency and beyond.

"It gave me a chance to reflect on the larger practice of medicine in a different way," Porterfield said. "It takes you out of the books and hospitals you've been in for four years and you get to see medicine in a fresh

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Rajeev Ramgopal and Britney Martin are pictured during their medical rotation in Kyoto, Japan.



The interior of Kalafong Hospital in South Africa.



Zachary Porterfield at a roadside restaurant called the Dusty Chicken in Vaalwater, in the Limpopo province of South Africa.

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light. I got a taste of the large differences in our cultures and the medical issues we each face, but also what brings us all together. Even halfway around the world, people are practicing the same kind of healing that we practice in Oklahoma.”

The International Studies in Medicine program began in 1990, led by C.S. “Burr” Lewis, M.D., who was a clinical professor of medicine at the OU-Tulsa Schusterman Center. Each semester, fourth-year medical students can apply for a rotation at several sister institutions, including recent destinations of Pretoria, South Africa; Kyoto, Japan; Clermont-Ferrand, France; Vellore, India; and Baku, Azerbaijan. Several reciprocal relationships have been established; for example, students from Clermont and Kyoto are spending time with the OU College of Medicine this year.

Previous sites have included Thailand, Nepal, Zimbabwe, Colombia and Guatemala. Some relationships have ceased because of the difficulty in keeping agreements current or because of strife in a country. However, the OU College of Medicine plans to broaden students’ international opportunities: New sister sites are being explored in the United Kingdom, Belgium and Uganda.

Herman Jones, Ph.D., associate dean for student affairs, said students must write a paper and present a reflection on their experience upon their return. Quite often, their reactions are profound.

“They are usually quite moved by what they experience,” Jones said. “For example, they talked of the diligence of people from India, who keep their entire medical records with them because there isn’t a central repository. Or the respect and conscientiousness of the people in Japan – if you tell them they need to lose three pounds by the time they come back, they do it. They also get to practice with diseases we don’t see here anymore, like leprosy, as this year’s students in India did.”

Porterfield spent four weeks at an academic hospital and two weeks at a rural clinic in South Africa. In the hospital, he encountered first-year medical students who were already remarkably skilled at physical diagnosis because of the wait time to use a CT scanner or MRI. He also experienced the work of a traditional healer in a rural province whom many patients visit before they see a physician practicing Western medicine. The cultural rites were extremely meaningful to patients, he said.

“It was such an important part of the healing process for people,” he said. “What was remarkable about some of the people I worked with was they were trained in Western medicine and up to date with that standard of care, yet they were working side-by-side with traditional healers.

“When I returned home, it made me realize that even though our differences here in the United States are more subtle, we certainly all come from different cultural contexts and have different beliefs and approaches to our own health. It made me think of the importance of being sensitive to the

individual patient’s needs.”

South Africa also is special for Porterfield because that’s where he met the woman who would become his wife. One of his long-term goals is to return to South Africa to practice medicine.

An international rotation gives students insight into how other countries structure their medical education. Britney Martin was among several students who completed a rotation in Kyoto, Japan, last year. Martin experienced plastic surgery, ophthalmology and dermatology rotations. Her experience was different because Japanese medical education is not only longer (six years) but is more observation-based, she said.

“At OU, we really value the one-on-one patient interactions and procedures we take part in – any kind of hands-on things we’re able to do,” Martin said. “In Japan, their hands-on training is done during residency.”

The Japanese practice of medicine also differed in surprising ways, she said. In Kyoto, for example, patients are hospitalized for atopic dermatitis, an outpatient treatment in the United States.

“The opportunity to experience another culture and medical system is priceless,” she said. “I think it gives you an opportunity you’re not going to get anywhere else in your medical career.”

The feeling is mutual among the OU College of Medicine’s sister sites. The College of Medicine of Clermont-Fer-

rand is the only French medical school to offer students a full academic year at an American university. French medical students tend to be younger than their American counterparts: As third-year students, the French are 20 or 21 years old. Learning and working with older students is a wonderful experience, said Frank Bacin, M.D., of the French medical school.

The educational approach also differs between the two Colleges of Medicine. Clermont-Ferrand Professor Jeffrey Watts said French students appreciate greater access to their professors at OU, as well as personalized advice; simulated interviews with patients; weekly tests that provide a sustained pace of study rather than two large exams at the end of each semester; superb technology; and high-quality campus facilities.

“They discover a medical teaching very different from what they receive currently in France, with harder work but with teachers more attentive and closer to them,” Watts said. “The buildings and the facilities at OU are magnificent and cannot be compared with our modest college.”

Of course, the human experience of a new culture is significant as well. Many French students extend their stay in America as tourists, and most of them remain in contact with their fellow students. One graduate of the College of Medicine of Clermont-Ferrand met her future husband at the OU College of Medicine. §

Dying Well

What is a “good death”?

The conversation surrounding end-of-life care is rarely easy, but it is a topic that warrants discussion today more than ever.

A program within the Department of Family and Preventive Medicine is jump-starting the dialogue and educating medical students about palliative care.

“We view death as an option in this country,” said Annette Prince, J.D., director of the Oklahoma Palliative Care Resource Center. “But it’s not. It is a part of life, like births and marriage and graduations and childbirth. We

have a beginning, a middle and end, but if you separate the end, it doesn’t harmonize with a person’s life.”

Prince is the principal investigator for a research project called “Good Death.” All staff members on the University of Oklahoma Health Sciences Center campus received an email survey inviting them to participate if they’ve experienced the loss of a family member or close friend in the past five years. Survey questions focus on the end-of-life experience: Was the person pain-free? Did spirituality play a role? Was the person able to interact with fam-

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ily members or other important people? Were his or her wishes for treatment honored?

Those who answered the survey were asked to take part in more in-depth interviews. Prince said the goal is to develop an instrument that health care providers can use to ensure patients with a terminal illness have a “good death.”

“This affects not just the patient, but the family,” Prince said. “If I witness an unpleasant, painful death, I carry that forward in regard to my views of what’s going to happen to me. But if I view a very peaceful, comforted event, my outlook changes. A lot of our fear about death isn’t the event; it’s a fear of losing control, of losing our dignity, of being abandoned. But palliative care is the hope that you’ll never be abandoned by your health care professional. They’ll be there with you right to the end.”

Second-year medical students Jaron Soulek and Daniel Truong participated in the “good death” project as part of the Family Medicine Summer Research Experience. They view the project as an important complement to their medical education, and the topic of palliative care as crucial to their future careers.

“I didn’t know much about palliative care when I started this. I have learned some important things,” Truong said. “I’ve always seen medicine’s goal as defeating disease. But I’ve learned that sometimes you just have to manage a disease. And that means making sure your patients are comfortable and that you are treating them like humans.

“This project also will help us with patient communication,” Truong said. “Some people have a natural talent for it, but for most of us, it’s a skill you develop. Learning to talk to patients about more serious topics is really important.”

Bringing a positive experience out of the dying process may seem impossible, but talking about it increases the chances it will happen, Soulek said. And the physician should be an integral part of that conversation.

“Communication between the physician and the patient is important so the doctor knows exactly what the wishes are and how to best go about those,” Soulek said.

Cheryl Aspy, Ph.D., professor and associate director of research for the Department of Family and Preventive Medicine, said the students’ introduction to palliative care through the “good death” project gets them started toward the day when they must talk to a patient about

his disease and what it will likely do to him. Treatments and technology may be able to keep the patient alive, but they may not prolong quality of life. Patients and their providers must talk about goals for end-of-life care so preparations can be made.

“If a patient wants to stay alive at all costs, then the patient and clinician need to plan for that. If the patient wants to die at home or accomplish something before death, arrangements need to be made and medications may need to be adjusted,” Aspy said. “If a patient wants several people around him in the hospital at the time of death, but the room is too small to accommodate them, what can be done? When you know in advance what kind of death a patient wants, helping him achieve that is one of the most important things a primary care physician can do.”

On a mission to educate others

Palliative care already is an important part of many aspects of health care. When people go to the dentist for a root canal or to their physician for a colonoscopy, most ask for and receive a palliative approach to make the experience more comfortable. But when palliative care is applied to the end of life, misconceptions swirl amid talk of “death panels” and loss of rights. In reality, Prince said, palliative care is about providing comfort to the patient, whether through pain management or addressing spiritual or emotional needs, and honoring his wishes for treatment.

Prince brings an extensive background to the Oklahoma Palliative Care Resource Center. She previously served as an assistant attorney general for Oklahoma and was part of a task force charged with improving end-of-life care. She also was a drafter of the 2006 legislation that revised the Advance Directive Act to allow for a health care proxy and to permit individuals to plan in advance for conditions that would leave them unable to make their own decisions.

Prince is passionate about encouraging people to talk about end-of-life care. She travels the state and country giving her presentation “The Art of Dying Well,” and she once arranged for a billboard along Interstate 35 that read, “Have you had the talk?”

But it was a dog that perhaps brought home the matter more than anything else.

Prince, who also has a master’s degree in social work, was visiting children in foster care in Caddo County but having trouble connecting with the youngsters. She decided to find a dog that would be suited for therapy visits. She found Winnie, a soft-coated wheaten terrier with a knack

for knowing which people needed her most.

“Winnie meant so much to those children,” Prince said. “We would go for walks and the children would hold her leash. They would open up to me without having to be sitting in a room looking at me. It made all the difference in terms of healing their wounds.”

Prince later saw Winnie’s skills in both children and adult inpatient psychiatric units, where she instinctively knew which patients needed her presence. Prince also took her on therapy visits to local nursing homes, as well as The Children’s Hospital and OU Medical Center, where she became an honored visitor.

When Winnie was 12 years old, she was diagnosed with bladder cancer. Prince’s veterinarian explained the treatment options: Surgery could be performed, but because the cancer was advanced, not all of it could be removed, and Winnie would become incontinent. She could undergo chemotherapy, but she would have to stay in the clinic.

“Then he said, ‘Or we could choose a palliative care treatment,’” Prince said.

Prince knew that Winnie wouldn’t want the indignity

of being incontinent, nor would she want to be away from home. So Prince opted for a medication that had a chance of stopping or slowing the tumor growth.

As the veterinarian had explained, Winnie eventually died. But, just as she had been a palliative presence to so many others, Winnie’s own palliative care gave her comfort and quality of life at the end.

Today, Prince has a new soft-coated wheaten terrier named Catcher, a nod to “Catcher in the Rye.” Catcher continues Winnie’s legacy, and Prince remains devoted to palliative care education. Her interaction with medical students and residents is critical because she foresees a future in which physicians are well-equipped to talk about palliative care. And her work with society at large is important because she wants people to be knowledgeable about palliative care and unafraid to talk about it.

“The advancement of medicine means that we can live longer, but our challenge is how to live better,” she said. “That’s part of what palliative care does. Palliative care is the advocate for keeping you alive, but keeping you alive with quality of life. That’s what we want.” §



Annette Prince, left, director of the Oklahoma Palliative Care Resource Center, and Cheryl Aspy, Ph.D., right, professor and associate director of research for the Department of Family and Preventive Medicine, discuss the “good death” research project with second-year medical students Daniel Truong and Jaron Soulek.

Patient-Centered Medical Home

Approach Deepens at OU School of Community Medicine



From left are providers representative of a patient-centered medical home team: Martina Jelley, M.D.; Lakesha Hester, LPN; Gary Brooks, M.D., and Berta Garcia, patient communication coordinator.

Providers are bidding goodbye to the days when a patient is treated for his illness, then sent home until the next acute situation arises.

Instead, physicians and a team of providers, such as social workers, nurses and dietitians, are working proactively with a patient to improve his health. That may take the form of a patient receiving help with transportation issues and a plan to check his blood sugar daily. It means the patient's team, thanks to the electronic medical record tied to the MyHealth Access Network, will know if he goes to the emergency room over the weekend and will follow up with a call. And it means a broader look at a team's patients as a population to see if they face unique challenges.

It means a transformation in primary care.

The patient-centered medical home approach to primary care continues to strengthen and grow at the OU School of Community Medicine in Tulsa. The effort has

been under way since 2009, but new opportunities and tools are taking it to another level. For the first time, several initiatives are converging to significantly advance the culture change inherent to PCMH. A national certification from the National Council for Quality Assurance is in the works, and the MyHealth Access Network provides data on a scale never available before.

To be implementing these changes in an academic medical setting is especially gratifying to School of Community Medicine leadership.

"It is thrilling to be able to train the next generation of physicians in a national model that improves the care of patients," said F. Daniel Duffy, M.D., dean of the OU School of Community Medicine. "The main idea that PCMH promotes is how to function in a team for the patient, and it's wonderful to teach residents and students to perform in that way. It's not about the doctor; it's about the team

that delivers the care. Patients have a whole team of people working with them to help them stay healthy and prevent the ravages of chronic disease."

The cycle of medicine

The principles behind a patient-centered medical home aren't new. However, the changes in primary care medicine beg for their return. In the past 15 years, primary care has fallen on hard times, Duffy said. Its financial model is underfunded, making it less attractive as a career. Many solo and small-group practices have consolidated or been purchased by larger groups. With the onset of hospitalists, primary care physicians stopped seeing patients in the hospital, and the continuity of care between outpatient and inpatient was lost. So has the establishment of emergency medicine as a specialty affected primary care doctors seeing patients in the emergency room.

"So now you have a medical system that's made up of all these pockets of health care, but the coordination among them is no longer a personal commitment to the patient," Duffy said.

Change began to take place on a national level about four years ago when Paul Grundy, global director of health care transformation for IBM, gathered several of his major-corporation colleagues to meet with organizations like the American College of Physicians and the American Academy of Family Medicine. They wanted their employees to have quality preventive and coordinated care, Duffy said, and out of that was born the patient-centered medical home.

"The PCMH is a design for medical care that incorporates the very best practices in primary care," Duffy said. "A medical student recently told me she was impressed with the way PCMH works. She said, 'I bet that when you were in practice, you never had anything like this.' I said, 'No, quite the contrary. That's the way practice used to be.' We've lost the things that the personal physician used to provide for

patients, but now we're re-creating them by putting together PCMH teams."

Whole-person orientation

The School of Community Medicine became a Tier III PCMH through the Oklahoma Health Care Authority in 2009. Since then, the PCMH approach has grown, and the school is applying for recognition from the National Council for Quality Assurance. The intervening time has seen an increased understanding of the PCMH approach.

Using the university's Desire2Learn platform, primary care staff members in internal medicine, family medicine, pediatrics and community health clinics have completed training on the PCMH approach. A "medical home agreement" has been developed to detail what the patient's team pledges to provide and what the patient, as the center of the team, also agrees to do.

Renee Engleking, RN, executive director of clinical operations for OU Physicians-Tulsa, said PCMH adds to the traditional fee-for-service arrangement of financing primary care medicine – with a payment for proactive preventive services, coordination and

emphasis on increased access to care and shared decision-making.

For example, all primary care clinics now have extended hours so that a mother can take her small children to the doctor on a Friday evening. Patients can email the clinic to ask questions in between appointments or to request an upcoming visit. In turn, providers remind patients about an upcoming mammogram or immunization and talk about other preventive measures during an office visit. The team of providers is dedicated to better care coordination and integration. If

Patient-Centered *continued on page 56* ►



Margaret "Peggy" O'Kane, president of the National Council for Quality Assurance, speaks at the MyHealth Access Summit in Tulsa this summer. She also visited the School of Community Medicine campus to see how the patient-centered medical home is being put into place.

OU Physicians-Tulsa Clinics Receive 'Golden Opportunity' with Federal Initiative

OU Physicians-Tulsa's internal medicine and family medicine clinics are among 75 primary care providers in the Tulsa area that have received a golden opportunity to change to a patient-centered medical home.

In April, the Center for Medicare and Medicaid Innovation selected the greater Tulsa region as one of seven markets around the nation to carry out a new program. Called the Comprehensive Primary Care Initiative, it fosters collaboration between public and private health care payers to strengthen primary care. Medicare will work with commercial plans and the state Medicaid program to offer bonus payments to primary care doctors who better coordinate care for their patients.

For the OU Physicians-Tulsa clinics, which received notice in August that they were among the individual clinics chosen, the CPCI is a novel opportunity. To carry out the CPCI, major insurers in the Tulsa area – Blue Cross Blue Shield of Oklahoma, Community Care and SoonerCare, the state's Medicaid program – have agreed to the arrangement.

In the CPCI agreement, each insurer joins Medicare in making a per-member, per-month payment to participating primary care doctors to help them develop the infrastructure they need to provide patient-centered medical home care. That includes an electronic medical record; registries for tracking patients and quality measures; a database for care management (identifying patients who are at high risk for hospital admissions or emergency room visits); and developing tools and techniques for shared decision-making so patients can be more involved in their care.

F. Daniel Duffy, M.D., dean of the OU School of Community Medicine, said that by carrying out this proactive plan, the costly parts of health care, like emergency room visits and unnecessary referrals, will decrease, thereby reducing costs.

"If we can reduce unnecessary services, insurers will pay less money," Duffy said. "That will create a savings,

which the insurer and the physician will share. We anticipate that it will bring about \$103 million over a three-year period into the Tulsa economy."

Primary care physicians and their staffs will have a lot of work to do, however. Milestones of the CPCI include completing a budget for the new revenue; providing care management for high-risk patients; providing 24-hour telephone access to nurses or providers who have real-time access to a patient's medical record; compiling quality measure reports; among others.

Aligning the payments of private-sector insurers with federal payments will enable practices to provide all their patients, regardless of insurer, with the comprehensive, coordinated care that is at the heart of the patient-centered medical home, said David Kendrick, M.D., MPH, associate professor of internal medicine and pediatrics at the School of Community Medicine.

"As a primary care doctor, my struggle is that every different insurance company, including Medicaid and Medicare, asks us to do different things," Kendrick said. "The CPCI is a golden opportunity to give primary care providers a cohesive, logical model of care delivery that is not only synchronized but is rewarded and reimbursed.

"This has been a really nice effort because we all sat down at the table and decided it would be ideal for our community. In a place where you would think there would be a lot of competition, we have found a lot of similarities."

Blue Cross and Blue Shield of Oklahoma was among those at the table for CPCI. Joseph Cunningham, M.D., chief medical officer and vice president of health care management for BCBSOK, said the initiative is important because it focuses on fostering the relationship between clinicians and their patients.

"By improving care coordination, patients' overall health care needs can be met in a much more efficient and cost-effective manner," Cunningham said.

Kendrick also serves as CEO of MyHealth Access Network, the health information exchange that connects the electronic medical records of Tulsa area providers. It will



David Kendrick, M.D., left, and F. Daniel Duffy, M.D., discuss new opportunities made possible through the Comprehensive Primary Care Initiative.

play a central role in CPCI by providing data.

"Our goal at MyHealth is to make this as easy as possible for a practice," he said. "There are so many requirements of a clinic that we can't do for them, in terms of changing their practice for the CPCI. But we can help them measure their performance and provide it to them at the point of care, which should ease the burden."

MyHealth and the Tulsa region were an attractive choice for the CPCI because of ongoing efforts in this area. In 2010, MyHealth received a \$12 million Beacon Community Award, a stimulus funds program to further work in health information technology. That grant accelerated the plans of MyHealth to its fully functioning status today.

The School of Community Medicine is proud to be a part of the CPCI and its efforts to improve health and reduce costs, Duffy said.

"This is exactly the role of a university because the CPCI is about innovation," Duffy said. "Universities are out to discover new knowledge and new ways of doing things, so this is a perfect example of changing systems of care. That's why we're so proud to be a part of it."

Patient-Centered *continued from page 54*

a patient goes to a specialist or the emergency room, the team knows about it and follows up.

The team also is working toward its members practicing "at the top of their license." Currently, many members of the team are stuck doing inefficient or wasteful work that is being replaced by electronic information transfer and streamlined workflow.

"When your team is providing parts of the care that they are most suited to provide, everything doesn't go to the physician," Engleking said. "You can use standing orders that nurses can execute when the patient is in, for example. It allows us to be more efficient and utilize our resources more effectively. With the information we have available through our health information exchange, we can also minimize duplication of tests and procedures."

The advent of MyHealth Access Network, which enables numerous electronic medical records in the Tulsa area to communicate, makes much of the measurement obligations of a PCMH possible. David Kendrick, M.D., MPH, who is CEO of the network and associate professor of internal medicine and pediatrics at the OU School of Community Medicine, said the modernization of the health care system to leverage technology makes for an exciting time in the field.

"We've always used the most advanced CT scans, MRIs and surgical techniques, but until recently we've had a problem with information management," Kendrick said. "One of the key components of a PCMH is measuring performance and setting targets for providers and hospitals to meet. MyHealth becomes a center point for gathering data for different parties and putting it together into one picture. We can report to a primary care provider how they're doing on their mammogram screenings or how they're managing diabetes.

"But MyHealth also serves as an intervention tool. If my patients are going to the emergency room instead of coming to see me, it could be a sign that I don't have enough slots open. I can log into MyHealth and see which of my patients were in the emergency room last night, then we can establish a follow-up. It becomes part of the solution, not just a measurement tool." }

Layers of Healing Support

Center for Palliative Care grows in its ability to treat patients, teach the next generation

Palliare, the Latin for cloak, is an apt word origin for today's burgeoning practice of palliative medicine.

Practitioners of palliative medicine envelop their patients with care that addresses their symptoms, whether physical pain or psychological distress, and they wrap the family into the journey of honoring the patient's goals and wishes.

Palliative medicine is an interface between the art of medicine and the science of medicine – a space that is being reclaimed by health care providers as extraordinarily valuable to a patient's experience with illness.

The OU School of Community Medicine in Tulsa features a growing Center for Palliative Care. Launched in 2011 with nearly \$1 million in private funds, the center is making significant in-roads toward educating both medical residents and the public about the approach, as well as offering it in the inpatient setting through a partnership with Hillcrest Medical Center. It also has earned a significant national distinction: Joint Commission Certification in Palliative Care, making it the first in Oklahoma to earn the designation and the 12th such center in the nation.

"Since the mid-1990s, a major ethical change has been under way in the medical culture in the United States," said Jennifer Clark, M.D., co-director of the Center for Palliative Care and assistant professor of medicine/pediatrics and hospice and palliative medicine. "We had the passing of the Patient Self-Determination Act, from which came the idea of informed consent. As a result, we went from a paternalistic medical society to one with autonomy for the patient. At the same time, we had a huge jump in technology, and we lost the skill of prognostication. Today, our ethics are catching up with our technology, and palliative care is bringing back balance – shared decision-making with patients, who are given options that are most consistent with their medical issues and who they are as a person."

Viewed as a diagram, palliative medicine is a big bubble, and hospice care is but one small part of the larger palliative practice. Whereas hospice care tends to be provided to patients at the end of their lives, palliative care aims to improve the quality of life for those with serious illness,

whether they are living with a chronic condition, expect to recover from an illness, or are seeing the disease progress. Palliative medicine uses an interdisciplinary team of physicians, social workers, nurses, pharmacists, chaplains and others to provide an extra layer of support to someone who is suffering.

And palliative care works. Studies have shown that palliative medicine decreases the length of hospital and ICU stays and eases patient transitions between care settings. Palliative care is data-driven by its practitioners measuring pain relief, hospital discharges, relocation to a venue that suits their needs and other metrics. Providers also look at a patient's whole picture rather than taking a single-organ approach.

"We're a consulting team that prognosticates," Clark said. "We receive a phone call and we determine how we're needed. Sometimes it's very straightforward, such as a patient newly diagnosed with cancer who needs help with back pain. Other times it's a very complex situation – a patient has been in the hospital for 30 days, is on a ventilator and the family is devastated. We sit with the family and patient and figure out who the patient is as a person and how we can make medical decisions most consistent with who they are."

Palliative care practitioners also reach out to their fellow providers. Nurses, especially, experience the burden of care for a chronically ill patient and often serve as a primary point of contact for the family. Palliative care seeks to support those providers throughout their work.

Palliative care is a subspecialty recognized by 10 medical boards, from family medicine to psychiatry to pediatrics. Jeffrey Alderman, M.D., who directs the Center for Palliative Care with Clark, is double-boarded in internal medicine and hospice and palliative medicine. He practiced internal medicine for nine years until he discovered palliative care was the answer to questions he was facing. However, palliative care also seems to go against what's taught in medical school.

"You're taught to cure, fix and reverse illness," Alderman said. "Sometimes disease can't be cured or reversed, but it can be palliated; it can be managed. That really spoke to me. I felt that in internal medicine, I wasn't addressing these bigger issues. I was a doctor who was able to order lots of tests and report results, but I wasn't making people feel better.

"When I learned more about palliative care, it resonated



Left: Jeffrey Alderman, M.D., second from left, goes over options with fellow team members, from left, R. Chase, LPN, Tara Simmers, LPN, and John Schumann, M.D., director of the internal medicine residency program. Right: Jennifer Clark, M.D.

with me. It was in tune with why I wanted to be a physician in the first place: to help relieve suffering and to explore the challenges that patients and families face."

Education is a major thrust of the Center for Palliative Care. A six-month lecture series for the public this year explained the details of palliative care, hospice, pain management and end-of-life communication.

As for patients and families who are newly introduced to palliative medicine, their reaction is often relief. Palliative care has been labeled as the work of a "death panel" when it is really about providing comfort and addressing patient goals of care.

"To give that gift to someone is remarkable," Clark said. "As a physician, I know I can affect someone immediately, and that's very gratifying."

Alderman and Clark have adapted a national palliative medicine curriculum to immerse residents who round with them at Hillcrest. Residents, too, can have misconceptions about palliative medicine but are pleasantly surprised at its well-roundedness and depth of support.

"When residents first start with us, they think it will be like working in a funeral home," Alderman said. "The best part is watching their 'a-ha' moment. It speaks to the material. We're teaching parts of internal medicine, geriatrics, pediatrics, anesthesiology, ethics, law – parts of medicine that have been siloed off, but we're bringing them together in this interdisciplinary work."

The Center for Palliative Care has seen tremendous growth since it began. Hillcrest leadership has championed the cause of palliative medicine, Clark said, and the center recently occupied administrative space at the OU-Tulsa Schusterman Center on the second floor of the clinic. Kodi Herman, program manager and grant coordinator, is reaching out to the community to build relationships with existing organizations that support palliative care.

Palliative medicine dovetails with the patient-centered medical home approach being established at the School of Community Medicine. Patients will engage with the center for help with advance directives, care planning documents and to request palliative care in an outpatient setting, such as a pain regimen follow-up for an oncology patient.

Ultimately, Alderman and Clark plan to take palliative medicine from the practice level to the institutional level across the region so that no person with a complex illness suffers needlessly, and that no family feels like the health care system is failing them.

"Our responsibility as an academic medical center is to introduce palliative care on a broader scale," Alderman said. "We feel like we need to promote it as a discipline not just for providers like ourselves or to specialists, but to primary care providers. Then they can have these conversations with their patients and provide symptom relief so people with disease do not suffer to the extent they are now."

Oxley Foundation Pledges \$30 Million for Tulsa School of Community Medicine

This summer, University of Tulsa President Steadman Upham and University of Oklahoma President David Boren announced a \$30 million gift from The Oxley Foundation for the proposed four-year Tulsa School of Community Medicine. This joint community medical education program would help address Oklahoma's low health status, low health systems performance and physician shortage.

Initially, The Oxley Foundation will provide a \$15 million grant to provide start-up funding for personnel and operating expenses for the planned Tulsa School of Community Medicine. The Oxley Foundation has pledged an additional \$15 million grant as a dollar-for-dollar challenge for contributions from others to the future Tulsa School of Community Medicine endowment. The match portion of The Oxley Foundation gift will be given to support the Tulsa School of Community Medicine on or before Dec. 31, 2016.

"This generous gift from The Oxley Foundation provides critical forward momentum toward the establishment of the joint University of Tulsa – University of Oklahoma School of Community Medicine," Boren said. "We are deeply grateful to the Oxley family for making this gift and for their strong desire to provide medical care for underserved areas in Tulsa and eastern Oklahoma."

TU has an established core of science education and research programs, and OU has an established medical training program in Tulsa focusing on residency training and the third and fourth years of clinical medical student education. The Tulsa School of Community Medicine will allow medical students to complete all four years in Tulsa. The first class of students is proposed to start in fall 2015.

A steering committee composed of representatives from both universities has been working since 2009 to create the infrastructure for the future Tulsa School of Community Medicine. Planning subcommittees have been meeting regularly and designing strategies for recruitment, admissions, curriculum, student support, services, faculty development, facilities and accreditation.

"This gift represents an unqualified validation of years of hard work to address the many health challenges in our region in a very systemic, educationally based manner," Upham said. "Our vision is a shared vision for a better Tulsa. We are incredibly honored that The Oxley Foundation has partnered with TU and OU in such a profound way."

The program will build upon the concept of a School of Community Medicine, which was established at OU-Tulsa in February 2008 with a \$50 million gift from the George Kaiser Family Foundation, with emphasis on helping those Oklahomans most in need of medical care. The curriculum, designed and supported by TU and OU faculty, will focus on such priorities as improving the health of entire communities, improvement in public health disparities, recruitment of students with altruistic goals, health systems improvement and interdisciplinary work.

Five years ago, the two universities partnered to offer a Master of Health Sciences in Physician Assistant Studies through the OU School of Community Medicine.

"Oklahoma's poor health statistics speak for themselves and our communities are suffering because of it," said Gerard P. Clancy, M.D., OU-Tulsa president. "This gift is a great example of a public-private partnership from an institutional and funding perspective. This outstanding support from The Oxley Foundation will allow us to realize this vision of the proposed Tulsa School of Community Medicine, where we can train physicians to treat the whole community and not just the symptoms of disease. This will truly make a difference in the lives of countless Oklahomans."



Together for the announcement of a \$30 million grant from The Oxley Foundation, from the left, are former University of Tulsa President Steadman Upham; OU President David L. Boren; Hank Harbaugh and Konnie Boulter of The Oxley Foundation; and OU-Tulsa President Gerard Clancy, M.D.

Faculty Achievements

Michael S. Bronze, M.D., professor and chair of the Department of Medicine, was elected president of the Association of Professors of Medicine. He also was named to the board of directors for the Alliance for Academic Internal Medicine.

John B. Forrest, M.D., clinical associate professor of surgery/urology at the School of Community Medicine in Tulsa, is serving as president of the American Board of Urology from 2012-2013. He also works in private practice at Urologic Specialists of Oklahoma, Inc., in Tulsa.

Steven Chernausek, M.D., pediatric diabetes/endocrinology, assumed presidency of the Pediatric Endocrine Society, the national membership society for pediatric endocrinologists.

Lynn Mitchell, M.D., chief medical officer for OU Physicians and associate dean for clinical affairs for the College of Medicine, has joined the board of trustees for Oklahoma Christian University. Mitchell taught biology, anatomy and physiology at OC from 2005-2010.

Gregory L. Skuta, M.D., president and CEO of the Dean McGee Eye Institute and Edward L. Gaylord Professor and Chair of the Department of Ophthalmology, will serve as president-elect of the American Academy of Ophthalmology in 2013 and president in 2014.

LaTasha Craig, M.D., assistant professor in the Department of Obstetrics and Gynecology and the medical clerkship director, was honored with the 2012 Association of Professors of Gynecology and Obstetrics William N.P. Herbert, M.D. Promising Educator Award. It is a national award given in recognition of demonstrated accomplishments and a promising future in academic medicine in women's health education.

Robert E. "Gene" Anderson, M.D., Ph.D., received the 2012 Paul Kayser International Award in Retina Research by the International Society for Eye Research and the Retina Research Foundation. Anderson is a George Lynn Cross Research Professor of Ophthalmology and Cell Biology and director of research at the Dean McGee Eye Institute.

John Iandolo, Ph.D., vice president for research for the

OU Health Sciences Center and professor of microbiology and immunology, and **P. Lloyd Hildebrand, M.D.**, professor of ophthalmology, have been named to the board of directors for the Oklahoma Bioscience Association.

Judith James, M.D., Ph.D., adjunct professor in the Department of Microbiology and Immunology, was elected secretary-treasurer for the American Society for Clinical Investigation for 2012-2015.

Mary Anne McCaffree, M.D., pediatric neonatologist, has been appointed to the National Health Collaborative on Violence and Abuse, representing the American Medical Association.

Everett Rhoades, M.D., professor emeritus of medicine, has been honored by the American Medical Association Foundation for his community service and dedication to improving access to health care for American Indian people. Rhoades, a member of the Kiowa Tribe of Oklahoma, was presented the 2012 Jack B. McConnell Excellence in Medicine for Volunteerism, one of six recipients nationwide. Rhoades is the founder of the Association of American Indian Physicians, based in Oklahoma City.

William M. Tierney, M.D., assistant professor in the Department of Medicine, has been appointed to the governing board of the American Society for Gastrointestinal Endoscopy. His term will continue through May 2015. Tierney also serves as vice chief of digestive disease and nutrition and director of endosonography at OU Medical Center.

Meredith Davison, Ph.D., MPH, associate dean for academic services at the OU School of Community Medicine, Tulsa, has been selected as a finalist for the Tulsa Business Journal 2012 On Call section, which recognizes Tulsa's best health care professionals. Davison was recognized for her work in starting the physician assistant program.

W. Michael Woods, M.D., professor of medicine at OU-Tulsa and director of the Ramona Rural Residency Program, was selected 2012 Family Physician of the Year by the Oklahoma Academy of Family Physicians.

Evening of Excellence to Honor Stephensons, Cooper, TSET



Peggy and Charles Stephenson



Kenneth Cooper, M.D., MPH



Oklahoma Tobacco Settlement
Endowment Trust

The namesakes of the Stephenson Cancer Center, a pioneer of preventive medicine, and an agency that has spurred cancer research on campus will be honored Jan. 31, 2013, during the annual Evening of Excellence.

The dinner, sponsored by the OU College of Medicine Alumni Association to raise funds for research by junior investigators, will be held at the National Cowboy and Western Heritage Museum.

Dean's awards for distinguished service will be presented to Peggy and Charles Stephenson, Kenneth H. Cooper, M.D., MPH, and the Oklahoma Tobacco Settlement Endowment Trust.

Peggy and Charles Stephenson

Partners in all aspects of life – work, charitable activities, family, religion – is the best description for Peggy and Charles Stephenson. The couple, who were childhood sweethearts growing up in small-town Oklahoma, have been married for 55 years. They are leaving their legacy across Oklahoma in ways that are leading to a better quality of life for their friends and neighbors.

On the OU Health Sciences Center campus, the Stephenson Cancer Center stands as a prominent example of their dedication to health care. Their \$12 million gift

to the center in 2010 completed the private fundraising drive and helped bring to Oklahoma a cutting-edge cancer treatment and research facility.

Charles Stephenson graduated from OU in 1959 with a bachelor of science degree in petroleum engineering. After serving as an officer in the U.S. Army, he has spent the last 53 years in the oil and gas industry. He began his career with Amerada Petroleum Corp. in 1960, and from 1973 to 1982, he was an owner and president of Andover Oil Co. In 1983, he founded Vintage Petroleum, Inc., an independent energy company headquartered in Tulsa. The company grew from three people at startup to more than 750 employees and operations conducted throughout the United States, Canada, South America and Yemen. The company was acquired by Occidental Petroleum in 2006.

Charles is the co-founder and current chairman of the board of Premier Natural Resources, an independent oil and gas company. He is a partner of Regent Private Capital and co-founded and serves as director of Growth Capital Partners, both venture capital companies. He also is president of Stephenson Investments, Inc.

Peggy is executive director of the Charles and Peggy Stephenson Family Foundation, which provides support for community, church, education and health programs

in Tulsa and throughout the state. She co-manages their personal philanthropic activities which, combined with the Family Foundation, support such projects as the Stephenson Research and Technology Center and the Stephenson Life Science Research Center on OU's rapidly growing Research Campus in Norman.

Peggy and Charles are active in numerous other civic organization and church activities, including the Philbrook Art Museum, Girl Scouts and Boy Scouts, The Salvation Army, and American Red Cross. They were inducted into the OU College of Engineering and Natural Science Hall of Fame in 2011, and they have provided funds for scholarships and a chair in petroleum engineering. Both have been inducted into the Tulsa Hall of Fame. In 2002, they received the National Jewish Medical Research Center Tulsa Humanitarian Award.

They have two children, Steve and Cindy, and six grandchildren.

Kenneth H. Cooper, M.D., MPH

Cooper, a preventive medicine pioneer and “father of aerobics,” has spent his lifetime inspiring people to prevent disease through living healthy lives.

Cooper, an Oklahoma native, earned his bachelor of science degree from OU and his medical degree from the OU College of Medicine. He also received a master of public health degree from the Harvard University School of Public Health. He is certified by the American Board of Preventive Medicine.

During Cooper's 13 years of service with the U.S. Army and U.S. Air Force, he served as a flight surgeon and director of the Aerospace Medical Laboratory in San Antonio. He worked with NASA to help create the conditioning program that prepares astronauts for space, as well as an in-flight anti-deconditioning program used to keep astronauts active aboard spacecraft. He also developed the 12-minute and 1.5-mile fitness tests and the Aerobics Point System, used today by military organizations, amateur and professional athletics teams, law enforcement agencies and public schools and universities.

Cooper's work with the military and NASA launched his aerobics work, but it was his own health crisis that made it personal. While water skiing at age 29, he thought he was having a heart attack. At the hospital, the doctor told him he was simply out of shape, having gained 40 pounds and becoming inactive. That experience catapulted the young physician to lose weight and run his first marathon, the Boston Marathon, one year later.

In 1968, Cooper released his first book, “Aerobics,” which

became a best-seller and led to official recognition of the exercise term “aerobics.”

In 1970, Cooper resigned from the military to explore the relationship between cardiovascular fitness and health and longevity. He founded Cooper Aerobics Center in Dallas, where he serves as chairman of seven health and wellness companies. He also founded The Cooper Institute, a research and education nonprofit organization with locations in Dallas and McKinney, Texas.

His mission is shared by his son, Tyler Cooper, M.D., MPH, who is a preventive medicine physician at Cooper Clinic and CEO of Cooper Aerobics Enterprises, Inc. Father and son have written a book together, “Start Strong, Finish Strong,” released in 2007.

Cooper has written a total of 19 books. His philosophy that “it is easier to maintain good health through proper exercise, diet and emotional balance than to regain it once it is lost” has been proved in scientific research. He also has been active in the fight against childhood obesity and has been instrumental in getting physical education back in schools.

Cooper and his wife, Millie, have two children, Berkley and Tyler, and five grandchildren.

Oklahoma Tobacco Settlement Endowment Trust

A strong scientific, evidence-based foundation is at the heart of the programs funded by the Oklahoma Tobacco Settlement Endowment Trust. Created in 2000 by a voter-approved constitutional amendment, TSET has used payments from the 1998 settlement agreement from a multi-state lawsuit against the tobacco industry to invest in research, prevention and cutting-edge opportunities to improve the health of Oklahomans.

TSET's prevention efforts include the Oklahoma Tobacco Helpline, which has coached nearly 37,000 Oklahomans to quit using tobacco a year. Prevention efforts also include community coalitions that work to create healthier environments by promoting systemic policy and culture change at the local level. Partnering with local community leaders, the coalitions work to reduce and prevent tobacco use and improve nutrition and fitness across Oklahoma. The work has led to nearly 270 schools that are tobacco free and nearly 80 communities that have adopted clean indoor ordinances to protect the public from

Excellence continued on page 63 ►

Excellence *continued from page 62*

secondhand smoke. Nutrition and fitness grants are in the first year of work and will be focusing on improving health and wellness in schools, businesses and communities.

The TSET board of directors has committed to deepening its research investments. Research efforts for TSET began in 2008, when the board allocated \$5 million to fund the Oklahoma Tobacco Research Center within the Peggy and Charles Stephenson Cancer

Center. The mission of the OTRC is to fund researchers from institutions and organizations throughout Oklahoma to conduct behavioral and biomedical research in cancer and tobacco-related diseases.

More recently, TSET expanded its role as a research partner to underwrite efforts to attract and sustain world-class scientists to the Stephenson Cancer Center and the Oklahoma Center for Adult Stem Cell Research.

At the Stephenson Cancer Center, TSET has committed

\$30.2 million over five years to establish the Oklahoma TSET Cancer Research Program to enhance and accelerate cancer research in the state. An important part of this program is the TSET Phase I Program, which provides cancer patients with early access to emerging therapies. In most cases, standard treatments have failed and new personalized therapies offer hope for those battling cancer.

In 2009, TSET made a \$9.5 million investment in the Oklahoma Center for Adult Stem Cell Research, which is collab-

oratively governed by OU, Oklahoma State University and the Oklahoma Medical Research Foundation. A portion of TSET's investment helps fund grants that allow scientists to focus on research that could eventually use stem cells to repair tissues damaged from a tobacco-related disease.

With this comprehensive approach, TSET is working to reduce top preventable causes of death in Oklahoma and improve the health of every Oklahoman. ¶



Alumni Day 2012 honoree John M. Flack, M.D., MPH, gathers for a photo with his family before the awards ceremony.



Peyton Osborne, '72 M.D., visits with Alice McInnis, '77 M.D., during 2012 Alumni Day activities.



Richard Mayeux, M.D., a 1972 College of Medicine graduate, gives the presentation "Genetics and Genomics of Alzheimer's Disease" during Alumni Day 2012. Mayeux is chairman of neurology for the Columbia University Medical School.



Alecia Hanes, '82 M.D., takes a tour through the Clinical Skills Education and Testing Center during the 2012 Alumni Day.

2013 Alumni Day Set May 3

The 2012 Alumni Day featured a day full of activities and continuing medical education classes, followed by an evening banquet at the Oklahoma History Center. Honored were William D. Hawley, M.D., a cardiothoracic surgeon and lymphoma advocate; John M. Flack, M.D., MPH, chairman of the Department of Internal Medicine for

Wayne State University School of Medicine; and Sen. Tom Coburn, M.D., who serves Oklahoma in the U.S. Senate.

Alumni Day in 2013 will be Friday, May 3. Reunion classes will be 1958, 1963, 1968, 1973, 1978, 1983, 1988, 1993, 1998 and 2003.

50s

Duane Barnett, '52 M.D., has 60 years and counting as clinical professor of surgery at the University of Texas Southwestern in Dallas. He also spends one afternoon a week working at Healing Hands Clinic and Project Dallas.

Kent Braden, '57 M.D., works part time as a consultant for patients with pain at the VA Medical Center in Oklahoma City. He retired from private practice in neurosurgery in 1987. His wife, Barbara Foster Braden, '57 M.D., retired in 2006 after a career in internal medicine and many years performing compensation/pension exams at the VA.

Jack Coats, '57 M.D., was recently elected to the San Juan Regional Medical Center Hall of Fame in Farmington, N.M., where he was on staff. He retired in 1994 after 35 years in family practice.

Oliver W. "Bill" Jones, Jr., '57 M.D., enjoys crafting and studying Native American flutes in his retirement, as well as working with his Jones Family Foundation. Its primary focus is providing scholarships for underserved and disadvantaged students who qualify for advanced education, especially if they are the first in their families to attend college. He is retired as a professor emeritus of medicine and pediatrics from the School of Medicine at the University of California, San Diego.

60s

Bert N. Corley, '62 M.D., still practices family medicine in Sallisaw after 46 years there.

Dan T. Sullivan, '62 M.D., works part time as a diagnostic radiologist in Springfield, Mo.

Grady Jeter, '62 M.D., continues practicing arthroscopic surgery at a clinic he formed in San Jose, Calif. He also is on the board of a new ambulatory surgery center that will accommodate total joint and spine surgeries.

Ron Orr, '62 M.D., retired in 2011 after practicing pediatric medicine 44 years at Southern Plains Medical Center in Chickasha. He continues to serve on the board of trustees for Grady Memorial Hospital as well as Southern Nazarene University.

Walter J. Stark, Jr., '67 M.D., is the Boone Pickens Professor of Ophthalmology and director of the Stark/Mosher Center for Cataract and Corneal Diseases of The Wilmer Eye Institute, The Johns Hopkins School of Medicine in Baltimore. He also serves as medical director of the Medical Eye Bank of Maryland and

director of the Medical Board of Directors at Tissue Banks International.

Lincoln Bynum, '67 M.D., retired in July 2011 but continues working part time as a professor in drug development programs at the University of California at Berkeley.

Bill Culp, '67 M.D., is a professor of radiology and surgery at the University of Arkansas for Medical Sciences. His research focus of the last decade has been stroke therapy development.

Dorothy Young Riess, '69 M.D., retired from internal medicine practice in Pasadena in 2000, relocated to Las Vegas and resumed her music career as a concert organist. She recently performed her 80th birthday celebration concert at the University of Nevada, Las Vegas, and returned to Oklahoma City in October 2011 to play the rededication of the organ at Nichols Hills Methodist Church, which she originally dedicated prior to medical school in 1963. She also is writing a book, "Performing in the Golden Years, Just Survive or Really Thrive?"

70s

Karen (Reisig) Myers, '72 M.D., retired in 2009 from an OB-GYN private practice. She serves as a volunteer at Hope Pregnancy Center in Oklahoma City reading first-trimester ultrasounds.

Gene Parks, '72 M.D., continues a full-time solo OB-GYN practice in California. He is assistant clinical professor at UCLA-Westwood and volunteer medical director at Westside Family Clinic in Santa Monica, Calif.

William "Bill" C. Hamilton, '72 M.D., practices outpatient psychiatry in Ponca City. He previously practiced adult psychiatry in a community mental health center in Ponca City.

Fred G. Silva, '72 M.D., practices with the Little Rock, Ark., company Nephropath, which interprets renal biopsies. He spent 37 years in academic medicine and stepped down in 2011 as executive vice president of the United States and Canadian Academy of Pathology. He has served as the author or editor of seven textbooks and is working on two more.

G. David Casper, '72 M.D., is a consultant for Laser Spine Inc., in Oklahoma City and practices medical pain management and addiction medicine on a part-time basis. He retired in 2010 after a career in minimally invasive spine surgery.

Robert N. "Bob" Miles, '72 M.D., practices anesthesiology part time at Oklahoma Surgicare in Oklahoma City.

Ron Painton, '72 M.D., retired in 2011 from private

practice at the Endocrine Group in Oklahoma City. He enjoys drawing in pencil, painting with pastels, and he volunteers at the humane society.

Richard H. Grimm Jr., '72 M.D., is professor of medicine and epidemiology at the University of Minnesota. He also is director of the Berman Center for Outcomes and Clinical Research at the Hennepin County Medical Center.

Barry Pollard, '77 M.D., is in private neurological practice in Enid. He has established the "Medical Cow-boys" scholarship program at Oklahoma State University.

Christopher Teter, '77 M.D., practices concierge medicine in Tulsa. In 2011, he published his first book, "The Day I Met Mickey Mantle."

Ron Peterson, '77 M.D., is a part-time emergency medicine physician and a full-time grandfather in Montana. Since 1981, his career in emergency and occupational medicine has been in Great Falls.

John J. Coyle, Jr., '77 M.D., has served as a staff physician in nuclear medicine since 1983 at the West Los Angeles VA.

80s

Susan Chambers, '82 M.D., continues practicing OB-GYN at the group she helped launch, Lakeside Women's Hospital in Oklahoma City. Last October, she hiked to the top of Mt. Kilimanjaro.

Paula B. Gettys, '82 M.D., is a regional lead physician for the Oklahoma Department of Corrections, primarily caring for minimum-security female offenders who have serious and unusual diseases.

Bob Baker, '82 M.D., works as a roving hospitalist for Sound Physicians, traveling around Texas. In his down time, he enjoys landscaping the yard of his family's new home, where he replanted more than 90 azaleas he moved from their previous home.

David W. Vanhooser, '82 M.D., is cardiac surgery chief at the new Heart and Vascular Institute at Integris Bass Hospital in Enid. Outside of work, he enjoys improving his speed in Formula Mazda and Porsche Club racing.

Mark Ziegler, '82 M.D., is chief of the Department of Neonatology at The Permanente Medical Group, Inc., in Roseville, Calif. He still loves rocking and feeding babies at 2 a.m. and working alongside 15 neonatologists he hand-picked for the group.

Steven L. Fillmore, '82 M.D., is a hospitalist and vice president of medical affairs at Valley View Hospital in Ada.

Bill Mallonee, '82 M.D., practices general neurology

at the Hutchinson Clinic in Hutchinson, Kan. He also is a clinical instructor at the University of Kansas College of Medicine in Wichita, and medical director at the Hereditary Neurological Disease Center, a Huntington's Disease clinic.

Richard Coker, '82 M.D., practices interventional radiology at Dallas Presbyterian Hospital. He recently became a fellow in the American College of Radiology.

Joe Leverett, '82 M.D., still enjoys being a "country doctor" in Altus, where he has practiced adult medicine since 1985. He also is involved with several Air Force activities.

Maudie Miller, '82 M.D., retired from general surgery in 2011. Now she enjoys traveling to see family, and she recently completed the Master Gardener course.

Karen L. Miller, '82 M.D., works in endometriosis genetics research after a career on the OB-GYN faculty at the University of Utah. She also volunteers in outpatient gynecology at a free clinic.

Mark S. Matlock, '82 M.D., practices general dermatology at the Laser Skin Rejuvenation Center that he established with his daughter, Lindsey, in Joplin, Mo.

Kathryn Newport-Dew, '87 M.D., is the medical director of anesthesia at Southwestern Medical Center in Lawton. She also is chair of the hospital's Medical Management Committee.

Ronald D. Schlabach, '87 M.D., is assistant clinical professor of family medicine at the University of Arkansas for Medical Sciences. He also serves as a volunteer physician for medical mission trips and the Alma, Ark., school district.

David J. Mullen, '87 M.D., is a professor in the Department of Psychiatry, University of New Mexico School of Medicine. He also is the executive medical director of the University of New Mexico Children's Psychiatric Hospital.

Malinda Overton Webb, '87 M.D., has practiced general pediatrics at Warren Clinic in Stillwater since 1997.

Gerald Oliver, '87 M.D., has practiced family medicine in Overland Park, Kan., for 17 years. He also works emergency room shifts twice a month for a group that serves small communities in Kansas, Nebraska and Missouri.

David M. Harsha, '87 M.D., leads the sports

Class Notes continued on page 67 ►

Class Notes continued from page 66

medicine and orthopedic practices at St. Vincent Family Medicine in Indianapolis. He also is the sports medicine fellowship director. Harsha has served as team physician for the WNBA, USA Diving and amateur hockey teams.

Bruce Meyer, '87 M.D., practices family medicine at the Bill Johnson Correction Center in Alva. He has run two marathons.

90s

Kristen Barry Thomas, '91 M.D., is the division chair for pediatric radiology in the Department of Radiology at the Mayo Clinic in Rochester, Minn. She also is in her second term as the program director for the radiology residency.

Phil Berry, '92 M.D., has practiced rural family medicine and obstetrics in a Shattuck clinic since his residency.

Bryan Wood, '92 M.D., has worked for 18 years in emergency medicine in Oklahoma and Kentucky. He also has developed a system of clinics in Kentucky, called SelfRefind, that treat opiate and alcohol addiction. He has a second business, PremierTox, a quantitative drug screening lab.

Kristi McLendon, '92 M.D., practices emergency medicine at a private hospital in Brisbane, Australia. She ran her first marathon on the Gold Coast in July.

Dane Weil, '92 M.D., is chief of urology at the Asheville VA Medical Center in North Carolina and assistant professor of surgery at Duke University, where he also trains urology residents.

Janet S. Arnold-Clark, '92 M.D., is an assistant professor of clinical pediatrics at the University of Southern California and medical director of the VIP Pediatric Clinic, which provides child abuse and sexual assault evaluations and primary care to children in the foster care system.

Amy Darter, '97 M.D., practices at the Oklahoma Institute of Allergy and Asthma in north Oklahoma City. She also is medical director for the institute's clinical research.

Jean M. Helmbright, '97 M.D., practices psychiatry at the community mental health center in Ponca City.

William Edward Henry, '97 M.D., is chairman of the Department of Radiology at Northern Michigan Regional Hospital and is chief of staff-elect.

00s

Chad Betts, '02 M.D., is a cataract/refractive surgeon and owner of McDonald Eye Associates in Fayetteville, Ark.

Jason Pauk, '02 M.D., who practices with Midwest Radiology Associates in Oklahoma City, has started a business called J.A. Taylor Photography. He donates the proceeds to children's charities.

Julie Guertin Sullivan, '02 M.D., works for a private-practice group in Kansas City called Priority Care Pediatrics.

Natasha (Hunt) Herz, '02 M.D. is a cataract, corneal and refractive surgeon at the Kensington Eye Center in Washington, D.C. She purchased the practice in 2007 and has seven employees.

Corey E. Ponder, '02 M.D., does hip and knee replacements and revisions at the Oklahoma Sports and Orthopedic Institute in Oklahoma City. His wife, Michelle Marie Ponder, '02 M.D., practices teleradiology from their home. They have three children.

Brian Yeaman, '02 M.D., opened his own clinic in Norman and started a medical billing and medical informatics consulting company. He also is chief medical informatics officer at Norman Regional Hospital and is active with health information exchange efforts at the state, regional and national levels.

Jamie Hokett, '02 M.D., cares for babies to seniors at Integris Family Care in Altus. She also performs skin care and cosmetic medicine.

Richard S. Carter, '02 M.D., is CEO of The Physicians Hospital in Anadarko. He has owned and operated an ER staffing company since 2003 and has an interest in helping troubled rural hospitals avoid closure.

Wendy Y. Pitt, '02 M.D., is the solo pediatrician at United Medical Centers, a multispecialty, private, nonprofit federally qualified health center in rural Texas.

Julie M. Thompson, '02 M.D., has been a staff anesthesiologist at Mercy Hospital Oklahoma since 2007.

Keith August, '02 M.D., is a pediatric hematologist/oncologist at Children's Mercy Hospital in Kansas City.

Kelly Jester Geldmacher, '02 M.D., is an emergency physician and co-medical director at Anderson Hospital in Maryville, Ill.

J. Mark Evans, '02 M.D., is a diagnostic radiologist and residency program director at Radiology Associates, LLC, and Integris Health in Oklahoma City. He also serves on the Admissions Board for the OU College of Medicine.

Bart Rowlett, '02 M.D., works in general radiology at Midwest Regional Medical Center in Midwest City.

Class Deaths

A.M. Arky, '55 M.D., Pittsboro, N.C.

Robert K. Borron, '59 M.D., Nampa, Idaho

Henry R. Bramanti, '66 M.D., Palm Beach, Fla.

Leonard H. Brown, '45 M.D., Tulsa

Richard A. Conley, '59 M.D., Arlington, Texas

Ann J. Eisenbraun, '83 M.D., Park City, Utah

Herman F. Flanigin Jr., '43 M.D., Little Rock, Ark.

Ira R. Grimes, '54 M.D., Liberal, Kan.

Gary G. Hays, '60 M.D., Clinton

Jack D. Honaker, '50 M.D., Tulsa

Daniel L. Husky, '77 M.D., Davenport, Wash.

George H. Ishler, '59 M.D., Kalamazoo, Mich.

Paul Kouri, '45 M.D., Rancho, Calif.

Michael M. McDaniel, '73 M.D., Oklahoma City

J. Riley McFarland, '53 M.D., Bartlesville

Richard A. McKinne, '61 M.D., Muskogee

James D. Moore, '61 M.D., Miami, Okla.

John A. Owen, '81 M.D., Edmond

H. Craig Pitts, '62 M.D., Edmond

Richard L. Russell, '49 M.D., Wormleysburg, Pa.

David M. Selby, '57 M.D., Enid

Cynthia R. Silfer, '93 M.D., Clinton, N.Y.

Gene R. Smith, '57 M.D., San Antonio, Texas

Joe A. Stewart, '49 M.D., Fountain Inn, S.C.

L. Brian Thompson, '03 M.D., San Diego

Ronald E. Wright, '66 M.D., Oklahoma City

Former GI chief Welsh dies at 83

Jack D. Welsh, M.D., who instilled a love of learning, intellectual curiosity, compassion and high standards to a generation of physicians, died Aug. 28 at age 83 after a long illness.

Welsh joined the OU College of Medicine faculty in 1959 and became a David Ross Boyd Professor of Medicine in 1971. He served as chief of the gastroenterology section in the Department of Medicine from 1962 until his retirement in 1990.

He inspired numerous students with his ability to communicate and educate, along with his friendliness and intellect. He also performed extensive research and was widely published on a variety of topics, primarily diseases of the gastrointestinal system.

From 1969 to 1974, Welsh served as coordinator of the Saigon Vietnam Medical School Internal Medicine Post-Graduate Program. He facilitated advanced training for Vietnamese physicians in gastroenterology and other subspecialties in internal medicine on campus. Later, he was instrumental in the relocation of refugee Vietnamese physicians to the United States.



Jack D. Welsh, M.D.

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for your generosity to the
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The College of Medicine gratefully acknowledges our alumni and friends who gave so generously between July 1, 2011, and June 30, 2012, and we are pleased to list them on the following pages.

Gifts large and small received during the period totaled \$22,688,743.67, each gift demonstrating your commitment to our mission of providing excellence in education, research and patient care.

Every effort was made to ensure accuracy in this report. However, should you notice errors, please report them to the Office of Alumni and Development, OU Health Sciences Center, 1000 Stanton L. Young Blvd., Ste 162, Oklahoma City, OK 73117-1208.

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Larry W. Hill, M.D.
Richard E. Honaker, M.D.
Howard R. Johnson, M.D.
Bruce A. Naylor, M.D.
Tim K. Smalley, M.D.
Eric J. Sorenson, M.D.
Walter S. Stullman, M.D.
Robert A. Taylor, M.D.
Dale I. Webb, M.D.
1965
John R. Bozalis, M.D.
Stephen S. Haas, M.D.
Jimmie Jackson, M.D.
Abbas E. Kitabchi, M.D.
Robert R. Pavlu, M.D.
Gary W. Rahe, M.D.
A.J. Reed, M.D.
Ildiko M. Sandford, M.D.
Gary F. Strebel, M.D.
Bruce M. Van Horn, M.D.
1966
Jon N. Astle, M.D.
Robert G. Case, M.D.
John W. Geurkink, M.D.
Robert L. Hemphill, M.D.
Joe C. Leonard, M.D.
James T. Shaeffer, M.D.
Mark S. Tong, M.D.
1967
Edwin F. Ellis, M.D.
Coy Freeman, M.D.
Joe B. Harbison, M.D.
Robert B. Livingston, M.D.
Robert J. Weedn, M.D.
1968
Stephen B. Campbell, M.D.
David A. Cross, M.D.
Phyllis P. Engles, M.D.
Donald H. Garrett, M.D.
Thomas D. Harris, M.D.
Warren W. Kendall, M.D.
William McDaniel, M.D.
Kenneth W. Whittington, M.D.
1969
Dennis W. Coffman, M.D.
Lawrence A. Jacobs, M.D.
Dennis R. Mask, M.D.
D. Robert McCaffree, M.D.
1970
M. Dewayne Andrews, M.D.
Sinclair W. Armstrong Jr., M.D.
Jack J. Beller, M.D.
Jay P. Cannon, M.D.
R. Nathan Grantham, M.D.
Lawrence J. Gregg, M.D.
Thomas J. Hanson, M.D.
Lynn H. Harrison Jr., M.D.
Stephen W. Haskew, M.D.
Carl T. Hook, M.D.

Fred M. Hurst Jr., M.D.
Norman K. Imes Jr., M.D.
Laird Ingham Jr., M.D.
John C. Sacra, M.D.
Lee E. Schoeffler, M.D.
R. Douglas Shaw, M.D.
James S. Thompson, M.D.
1971
Clisto D. Beaty, M.D.
Charles F. Bethea, M.D.
Philip C. Bird, M.D.
Robert Cates III, M.D.
David J. Confer, M.D.
Robert A. Frampton, M.D.
John B. Kamp, M.D.
Anthony D. Keys, M.D.
Howard R. Loehr, M.D.
Mary A. McCaffree, M.D.
Robert D. Ornitz, M.D.
Marvin D. Peyton, M.D.
David A. Ronk, M.D.
William R. Stetler, M.D.
1972
Duane A. Burroughs, M.D.
William C. Hamilton Jr., M.D.
Zev M. Kahn, M.D.
John M. Kessinger, M.D.
John W. McReynolds, M.D.
Peyton E. Osborne, M.D.
D. Gene Parks, M.D.
James L. Pool, M.D.
Ira A. Priluck, M.D.
John W. Tipton, M.D.
Daniel G. Walters, M.D.
Peggy J. Wisdom, M.D.
John J. Zavoshy, M.D.
1973
William C. Burnett, M.D.
Billy W. Eden, M.D.
Ronald E. Hempling, M.D.
John H. Holcombe, M.D.
Walter L. Lamar, M.D.
William G. McCreight Jr., M.D.
J. Randall Rauh, M.D.
James H. Schmidt, M.D.
C. Robert Steves, M.D.
Charles E. Womack, M.D.
1974
Dian Y. Denney, M.D.
C. Douglas Folger, M.D.
John E. Goff, M.D.
Richard C. Greyson, M.D.
Ralph T. Guild III, M.D.
Michael S. Haynes, M.D.
Paul F. Henke, M.D.
Richard T. Jennings, M.D.
Paul J. Kanaly, M.D.
Larry J. Sanders, M.D.
James G. Webb, M.D.
Gregory P. Williams, M.D.
Nathan D. Williams, M.D.
Carla E. Wilsey, M.D.
Stanley E. Wright, M.D.
1975
H. Bard Coats, M.D.
Julian V. Deese, M.D.
Lynn E. Frame, M.D.
James C. Hoffman, M.D.
James P. Holland, M.D.
John H. Holliman, M.D.
Richard J. Katz, M.D.
Russell G. Postier, M.D.
David W. Potts, M.D.

William B. Ross, M.D.
Robert H. Roswell, M.D.
Michael J. Stirling, M.D.
Jerry B. Vannatta, M.D.
1976
Patricia A. Barnes, M.D.
John C. England, M.D.
Lawrence J. Fortier, M.D.
Sharon K. Henthorn, M.D.
Charles N. Howard Jr., M.D.
Richard H. Jackson, M.D.
Stanferd L. Kusch, M.D.
Kennon L. Kuykendall, M.D.
Bill McEntee, M.D.
Diana D. Mills-Maloney, M.D.
Philip Mosca, M.D.
Don P. Murray, M.D.
Robert C. Newman, M.D.
G. Wendell Richmond, M.D.
John R. Smithson Jr., M.D.
Ann L. Ward, M.D.
Charles W. White, M.D.
1977
Max G. Cates, M.D.
John J. Coyle Jr., M.D.
Michael A. Crews, M.D.
Lynda M. Dickerson-Khouzam, M.D.
Joe G. Ford, M.D.
James R. Fraser, M.D.
Glen R. Fuller, M.D.
Gerald I. Geiszler, M.D.
Joel B. Huber, M.D.
Craig H. Lubin, M.D.
Michael B. McCormick, M.D.
Alice E. McInnis, M.D.
J. Steve Miller, M.D.
Michael A. Nairn, M.D.
Robert O. Nathan, M.D.
Baird D. Oldfield, M.D.
Kenneth D. Parrott, M.D.
Michael W. Peters, M.D.
Ronald G. Woodson, M.D.
1978
Christopher L. Adelman, M.D.
Edward S. Bentley, M.D.
Jerry D. Brindley Jr., M.D.
Robert M. Clark, M.D.
Paul C. Cochran, M.D.
Mark S. Cotner, M.D.
Douglas G. Cox, M.D.
Dan Donnell, M.D.
Janis R. Finer, M.D.
Paul M. Finer, M.D.
John R. Gray Jr., M.D.
Timothy L. Grode, M.D.
Christy Hendrickson, M.D.
Chet H. Jameson III, M.D.
Michael A. Jenike, M.D.
Jeanne A. King, M.D.
William H. Knight, M.D.
Charles L. Lackey, M.D.
John D. Lasater, M.D.
William R. Logan, M.D.
James S. Millar, M.D.
Aletha C. Oglesby, M.D.
David A. Porter, M.D.
Joe M. Roundtree, M.D.
Arthur W. Rousseau, M.D.
Glenn J. Rubin, M.D.
Stephen E. Trotter, M.D.
Don L. Wilber, M.D.
1979
Gordon E. Alldrin, M.D.

John C. Andrus, M.D.
J. Don Beavers, M.D.
Michael L. Bumpus, M.D.
David G. Folks, M.D.
Steven E. Gaede, M.D.
Steven L. Henslee, M.D.
Timothy J. Hill, M.D.
Marc F. Inciardi, M.D.
Stephen G. Lindsey, M.D.
William L. McHenry, M.D.
J. Michael Pontious, M.D.
Gene R. Fuller, M.D.
Randall J. Willis, M.D.
Richard M. Young, M.D.
1980
Reagan H. Bradford Jr., M.D.
Mary S. Burton, M.D.
Helen L. Corcoran, M.D.
Charles E. Cottle II, M.D.
David L. Dautenhahn, M.D.
Justine C. Dautenhahn, M.D.
Barry R. Eisen, M.D.
Warren L. Felton III, M.D.
Harold H. Haralson II, M.D.
Terry Hayes, M.D.
Robert E. Hillyer, M.D.
Janet L. Knight, M.D.
David L. McLaren, M.D.
Mojtaba Moghadam, M.D.
Martha R. Morse, M.D.
George Selby, M.D.
Joseph W. Stafford Jr., M.D.
Charles M. Swaney, M.D.
Clifton Whitesell, M.D.
1981
John R. Ashley, M.D.
Brian G. Birdwell, M.D.
Rickie A. Conrady, M.D.
Sharon M. Dodd, M.D.
Andrew J. Dodge, M.D.
John R. Green, M.D.
Donald R. Hamilton, M.D.
Kim R. Hauger, M.D.
Peter S. Jungwirth, M.D.
Donald J. Kastens, M.D.
Gary L. Larson, M.D.
Robert K. Lerner, M.D.
Ann Loudermilk, M.D.
Marlene Magrini-Greyson, M.D.
John R. McMahan III, M.D.
Thomas D. Mihelich, M.D.
Peter R. Morgan, M.D.
Mary Olowin, M.D.
John H. Saxon III, M.D.
John F. Tompkins II, M.D.
Tina R. Tomsen, M.D.
Thomas W. White, M.D.
Ervin S. Yen, M.D.
1982
James H. Baker, M.D.
Mary Z. Baker, M.D.
Ronnie D. Brownsworth, M.D.
Mark C. Burr, M.D.
Debra S. Colpitt, M.D.
John K. Doyle, M.D.
Steven L. Fillmore, M.D.
John M. Flack, M.D., MPH
Michael P. Gwartney, M.D.
Marilyn R. Hendrix, M.D.
Philip L. Jones Jr., M.D.
Joe L. Leverett, M.D.
David C. Martin, M.D.
Mary S. Maxwell, M.D.

Karen L. Miller, M.D.
Montgomery C. Peden, M.D.
Robert E. Remis, M.D.
Mark A. Riner, M.D.
Leon S. Serchuk, M.D.
Donald E. Stowell, M.D.
Stephen L. Styron, M.D.
1983
Paul A. Benson, M.D.
Phillip Doerner, M.D.
Druann M. Farrell, M.D.
Bradley D. Lowery, M.D.
David L. Graybill, M.D.
Kurt L. Hansberry, M.D.
Robert A. Hein, M.D.
C. Anthony Howard, M.D.
Lynn Hufnagel, M.D.
Joni McClain, M.D.
James M. Odor, M.D.
Gregory A. Parker, M.D.
John M. Riddle, M.D.
David R. Rumph, M.D.
1984
Mary L. Blumberg, M.D.
Deborah S. Boyer, M.D.
Brent R. Brown, M.D.
Anthony L. Claxton, M.D.
Randy C. Fullerton, M.D.
David A. Hufnagel, M.D.
Robert F. Mahnken, M.D.
David L. Simms, M.D.
Thomas D. Tinker, M.D.
J. Mark Wilson, M.D.
Gaylan D. Yates, M.D.
1985
Richard Chesler, M.D.
Kerry R. Clark, M.D.
David W. Griffiths, M.D.
David K. Harry, M.D.
Elizabeth D. Hunter, M.D.
Timothy B. Jones, M.D.
Joseph D. Kern, M.D.
Andrea L. Key, M.D.
Norman S. Koehn, M.D.
Brick A. Lantz, M.D.
Jennifer K. Nelson, M.D.
Richard A. Ruffin, M.D.
Douglas S. Stratton, M.D.
Phebe M. Tucker, M.D.
1986
James M. Baker, M.D.
Joan Parkhurst Cain, M.D.
Mark A. Camp, M.D.
Lisa Dobberteen, M.D.
Janis R. Finer, M.D.
Martina J. Jelley, M.D.
Mohit Nanda, M.D.
Diane L. Pentecost, M.D.
Reginald D. Westmacott, M.D.
Arthur F. Windholz, M.D.
David K. Wong, M.D.
1987
John M. Bell, M.D.
Mark R. Brady, M.D.
Irwin H. Brown Jr., M.D.
Stephen A. Feuerborn, M.D.
Joseph B. Guarnaccia, M.D.
David M. Harsha, M.D.
J. Stuart Jackson, M.D.
Philip L. Jones Jr., M.D.
Carol C. Kutteh, M.D.
Richard W. Lowry Jr., M.D.
Scott W. Maxwell, M.D.

David J. Mullen, M.D.
Georgianne M. Snowden, M.D.
Eleatha L. Surratt, M.D.
1988
Samuel C. Bielick, M.D.
Cynthia H. Bindner, M.D.
Deborah S. Blalock, M.D.
Bret F. Craytor, M.D.
Steven W. Emmons, M.D.
Lisa A. Hudson, M.D.
William R. Kakish, M.D.
Bradley D. Lowery, M.D.
Douglas K. Mandel, M.D.
Nancy E. O'Dell, M.D.
Lana H. Oglesbee, M.D.
Jim Radike, M.D.
Roger A. Thompson, M.D.
C. David Wood, M.D.
1989
Timothy J. Brennan, M.D.
Gena Gray, M.D.
Glen R. Hanson, M.D.
Kenneth V. Hughes III, M.D.
Rhett L. Jackson, M.D.
Steven T. McCormack, M.D.
Mark R. Miller, M.D.
Kirkland C. Nolan, M.D.
Laura M. Patton, M.D.
Lorenz T. Ramseyer, M.D.
Nabil E. Srouji, M.D.
Thomas K. Tkach, M.D.
1990
Paul C. Bierig, M.D.
Robert E. Engles Jr., M.D.
Joseph P. Pineau, M.D.
Daron G. Street, M.D.
1991
Joseph W. Beets, M.D.
Patricia I. Davis, M.D.
Barron C. Fishburne, M.D.
Douglas B. Kliewer, M.D.
William R. Puffinbarger, M.D.
John P. Roberts, M.D.
Lisa D. Rotz, M.D.
1992
Rene Ballard, M.D.
Jonathan E. Drummond, M.D.
Patricia G. Fenderson, Ph.D., M.D.
Darlene K. Foster, M.D.
Devon W. Hahn, M.D.
David J. Harris, M.D.
Greg A. Krempl, M.D.
Kelly D. Means, M.D.
William G. Watson II, M.D.
Bradley Watts, M.D.
1993
Michael Davoren, M.D.
Tuan-A D. Diep, M.D.
Natalie J. Hoshaw, M.D.
Tay S. Howell, M.D.
Kevin W. Miller, M.D.
Vanessa Sepulveda-Catinchi, M.D.
Steven E. Smith, M.D.
Khanh P. Tran, M.D.
1994
Tate B. Allen, M.D.
Mark A. Dawkins, M.D.
Michael S. Gebetsberger, M.D.
Julie L. Hansen, M.D.
Joseph M. Li, M.D.
Sonya R. Miller, M.D.
Nestor F. Pinaroc, M.D.

Leslie J. Rainbolt-Forbes, M.D.
LaNette F. Smith, M.D.
Steven O. Smith, M.D.
1995
Justin T. Atherton, M.D.
Tamie S. Babb, M.D.
Sherri S. Baker, M.D.
Bradley D. Carter, M.D.
Tina M. Cooper, M.D.
Todd Gillingham, M.D.
Samantha J. Lewellen-Jackson, M.D.
Brian J. Seaton, M.D.
Michael L. Suminski, M.D.
W. Chris Sutterfield, M.D.
David L. Williams, M.D.
1996
David W. Bobb, M.D.
Christopher S. Candler, M.D.
Dianne H. Chambers, M.D.
Kimberly A. Cheatham, M.D.
Michael J. Hahl, M.D.
Glen A. Henry, M.D.
Emily Y. Huang, M.D.
Rebecca L. King, M.D.
Juan C. Nalagan, M.D.
Christopher A. Paskowski, M.D.
John F. Revelis, M.D.
1997
Marianne E. Dunlap, M.D.
W. Bentley Edmonds, M.D.
Karl R. Hansen, M.D.
Tanna M. Leibold, M.D.
Travis W. Lockwood, M.D.
James R. McCurdy II, M.D.
Jonathan A. Tarpley, M.D.
1998
Florence F. Doman, M.D.
Julie S. Hager, M.D.
Allen Harrison, M.D.
Michael H. Hennessey, M.D.
Timothy F. Krous, M.D.
Shelley L. Lawrence, M.D.
Jason S. Lees, M.D.
Ashley A. Magness, M.D.
Kevin M. Neal, M.D.
Sidney D. Treat, M.D.
Atul M. Vaidya, M.D.
1999
James T. Banta, M.D.
Elizabeth A. Jett, M.D.
Joshua C. Kershner, M.D.
Robert J. Lockwood, M.D.
Waverly A. Ford, M.D.
Timothy P. Schweitzer, M.D.
Ashwini K. Vaidya, M.D.
2000
Catrina F. Bourne, M.D.
Christopher T. Cassetty, M.D.
Jason C. Graff, M.D.
Kelly R. Katcher, M.D.
Julie W. Lees, M.D.
R. Clayton Musser, M.D.
Jason G. Newland, M.D.
Aaron V. Sapp, M.D.
Christopher C. Shadid, M.D.
2001
Melissa R. Arbuckle, M.D.
Mercy M. Hylton, M.D.
Kelly E. Jones, M.D.
David L. Saxton, M.D.
Amy L. Shultz, M.D.
Allison Heather M. Thompson, M.D.
Roy L. Thompson, M.D.

2002
Keley J. Booth, M.D.
Bobby L. Boyanton, M.D.
John Maxwell Carment, M.D.
Mario T. Coleman, M.D.
Andrea L. Fraley, M.D.
Kelly J. Geldmacher, M.D.
Renee H. Grau, M.D.
Thomas C. Hall, M.D.
Jamie L. Hokett, M.D.
Jason C. Joice, M.D.
Heather D. Jones, M.D.
Lisa M. Landrum, M.D., Ph.D.
D. Che Miller, M.D.
Monica S. Reid, M.D.
David A. Salikof, M.D.
Shane E. Stidham, M.D.
Tammy L. Yanovitch, M.D.
Brian A. Yeaman, M.D.
2003
Jana D. Bingman, M.D.
Christine F. Cooper, M.D.
Aneesh K. Mehta, M.D.
Peter M. Sinton, M.D.
2004
Sarah R. Hughes, M.D.
Robert M. McConathy, M.D.
Sara K. Metcalf, M.D.
Bryce W. Murray, M.D.
John W. Porter, M.D.
Eric W. Raasch, M.D.
David W. Shepherd, M.D.
Natalie M. Sivak, M.D.
2005
Dianne M. Augelli, M.D.
Heather D. Barnes, M.D.
Shawn A. Calvin, M.D.
Jenelle F. Ferry, M.D.
Craig A. Haslam, M.D.
Jamie L. Hokett, M.D.
Navara Malayaman, M.D.
Kyle D. Payne, M.D.
Christopher C. Shadid, M.D.
Ryan T. Skinner, M.D.
Kerrie J. Spoonemore, M.D.
John A. Thomas, M.D.
2006
Keith A. Anderson, M.D.
Terry J. Coffey, M.D.
Scott T. Kane, M.D.
Jeffrey A. Miller, M.D.
Christina D. Mumm, M.D.
Miranda E. Smith, M.D.
2007
Christopher L. Beene, M.D.
Justin A. Gulledge, M.D.
Jamie L. Laughy, M.D.
Kyle A. Stewart, M.D.
Sarah A. Wolfe, M.D.
2008
Julie C. Babb, M.D.
Joseph C. Hudson, M.D.
John S. Long Jr., M.D.
2009
Robert D. Crane, M.D.
Christopher J. Goff, M.D.
Matthew J. Jared, M.D.
Kalen J. Rogers, M.D.
2010
Jessica M. Jones, M.D.
Jobria M. McCracken, M.D.
Nicholas A. Sloat, M.D.



Lillie Neal, who worked for 10 years as senior administrative assistant in the Department of Family and Preventive Medicine, receives a visit from Catcher, a soft-coated wheaten terrier therapy dog. Neal lost her battle with cancer in September and benefited from palliative care at the end of her life. Catcher belongs to Annette Prince, director of the Oklahoma Palliative Care Resource Center, which is housed within the department. See page 49 for a story on the center.