FALL/WINTER 2015

For Alumni and Friends

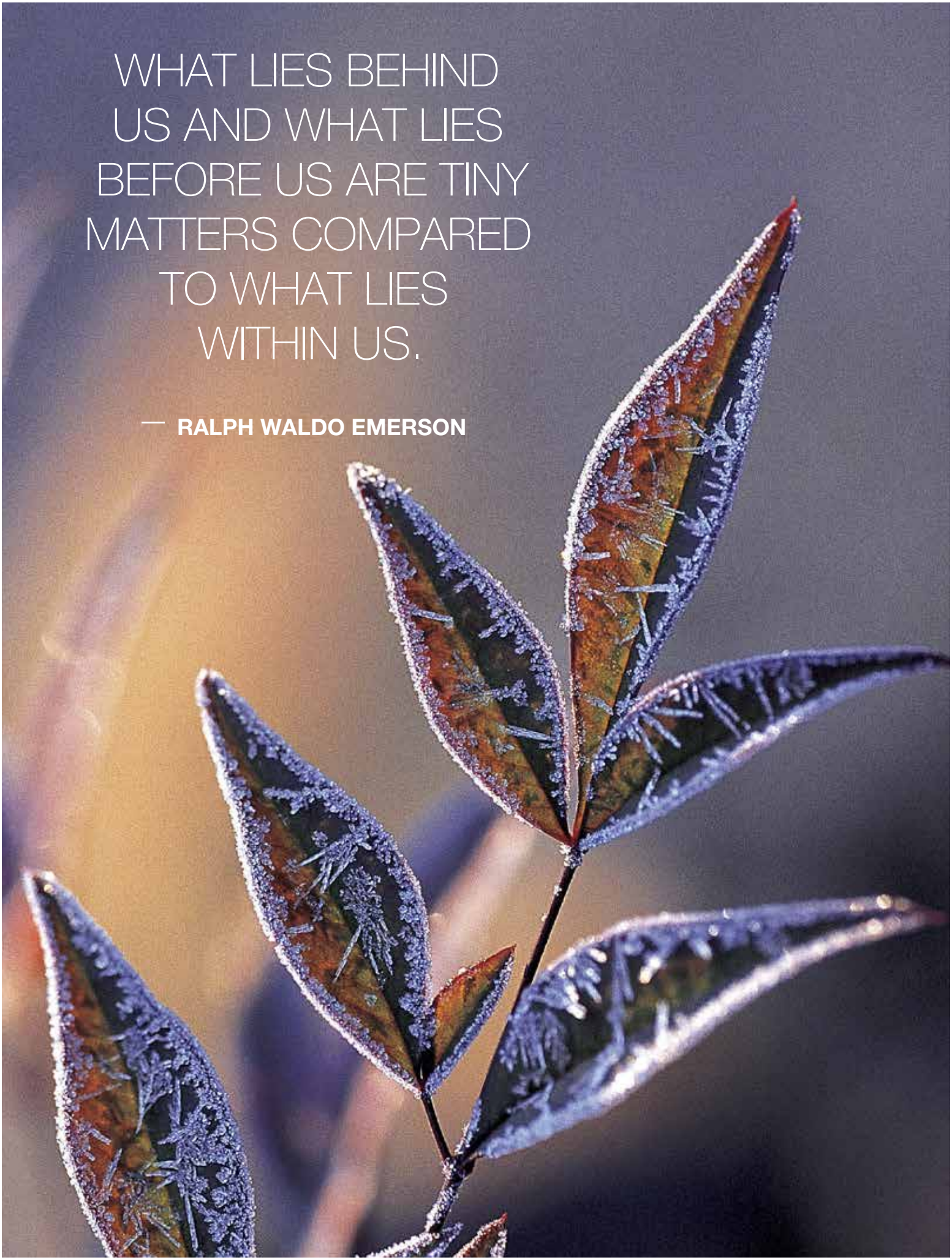
Frontiers

The University of Tennessee Medical Center & the University of Tennessee Graduate School of Medicine

Cancer cells start the same way: an abnormal cell grows out of control. The most promising research in cancer therapy relies on advanced targeting.

The FIGHT Against CANCER

We know more about cancer today than ever before.


WHAT LIES BEHIND US AND WHAT LIES BEFORE US ARE TINY MATTERS COMPARED TO WHAT LIES WITHIN US.
— RALPH WALDO EMERSON

Frontiers

The University of Tennessee Medical Center and the UT Graduate School of Medicine *Frontiers*

Fall/Winter Issue 2015

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Frontiers is a magazine produced by The University of Tennessee Medical Center and the University of Tennessee Graduate School of Medicine. It is designed to showcase the unique benefits of having an academic medical center in East Tennessee.

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Wisdom for Your Life.

THE UNIVERSITY of TENNESSEE GRADUATE SCHOOL OF MEDICINE

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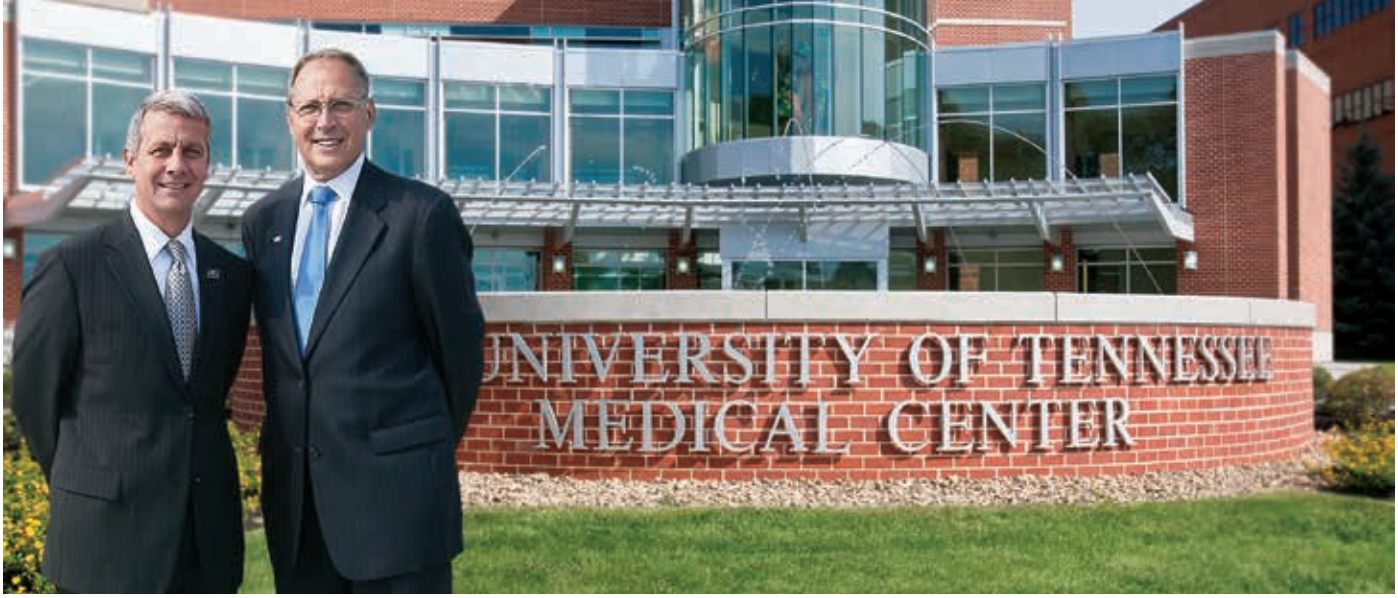
CONTENTS



Dear Alumni & Friends,

This year was a building year for The University of Tennessee Medical Center and UT Graduate School of Medicine — literally and figuratively. From opening our first regional referral center in Sevierville and expanding our Emergency Department to enhancing our education and research capabilities in some of our most important areas of focus, we continued to fulfill our mission — to serve through healing, education and discovery.

Along with providing the best quality of care to our patients, our work is driven by our conviction that good health is a fundamental right shared by all, and by our commitment to prevention and health promotion. Even as we care for the patients who come through our doors every day, the medical center is committed to understanding the broader health needs of our community. That's why we are proud partners of the Healthier Tennessee initiative and were designated a 2015 Healthier Tennessee Workplace that promotes healthy eating and exercise.

Delivering outstanding quality with an excellent patient experience is our ultimate goal. This practice is proven in our fourth year of recognition in the "Best Hospitals" edition of *U.S. News & World Report* as the No. 2 medical center in the state and a best regional hospital in the Eastern Tennessee region. We have also received national recognition from multiple organizations such as the Leapfrog Group, Healthgrades and The Joint Commission which serve as validators of our success and a direct result of improving the quality of care on behalf of our patients.

We invite you to take the opportunity to read about our commitments in the community, through care, education and research. Thank you for your continued support, and we look forward to serving you and your family for years to come.

We wish you happy holidays and a healthy New Year.

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

James J. Neutens, PhD
Dean
UT Graduate School of Medicine

Our Mission | To serve through healing, education and discovery

We Value | Integrity • Excellence • Compassion Innovation • Collaboration • Dedication

Our Vision | To be nationally recognized for excellence in patient care, medical education and biomedical research

Project | SEARCH®

Interns for Project SEARCH graduated in October in a celebration with their families and fellow team members.

Two years ago, The University of Tennessee Medical Center paired with the Breakthrough Corporation to bring a unique internship for adults with disabilities to the medical center. Called Project SEARCH, the program (which is modeled after a successful program in Cincinnati), provides skills training and workplace internships for individuals with significant disabilities, particularly young people transitioning from high school to adult life.

The goal of Project SEARCH is to provide interns with the skills they need to get jobs in the community. In the graduating class of 2014, 10 out of the 17 interns from The University of Tennessee Medical Center and East Tennessee Children's Hospital took jobs in the area.

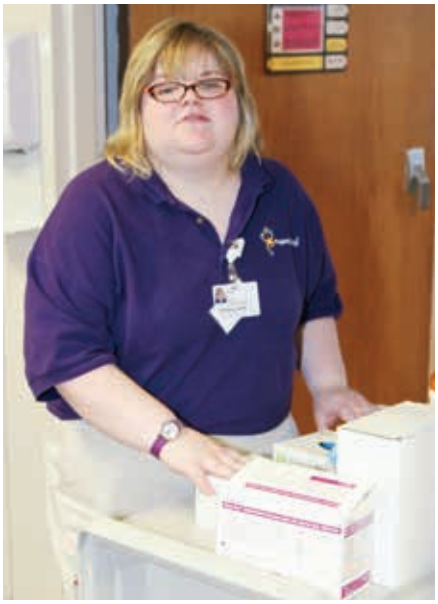
The graduating class of 2015 included: Philip Marcus Atchley, Amber Dailey, Reid Lamson, Tiffani McKinney, Marty Myers, Steve Ogle, Vickie Parks and Lauren Trainor.

Each year, 10 interns are selected to join Project SEARCH. The interns have three, 10-week rotations in areas of their interest. The program includes training sessions, classroom education and hands-on work experience. Project SEARCH also teaches professional skills and etiquette, such as learning to communicate better with patients, team members and visitors.

Most importantly, the interns learn independence. The program provides students with both a job coach and a mentor, but many of the interns become self-reliant by the end of the program.

In 2015, the second class of Project SEARCH graduated at the medical center. Graduation is an important day filled with a multitude of emotions. The interns feel proud of their achievement, as do the team members who witnessed their growth throughout the program. Graduation allows interns to reflect on how they matured, and it is also a time where the medical center staff expresses its gratitude and appreciation for the interns.

The goal of Project SEARCH is to provide interns the skills they need to get jobs in the community. In the graduating class of 2014, 10 out of



Amber Dailey, a Project SEARCH intern, working on the pulmonary/general medicine floor at the medical center.

the 17 interns from The University of Tennessee Medical Center and East Tennessee Children's Hospital took jobs in the area.

While Project SEARCH hopes that all interns will seek immediate employment, some learn through the program that they would rather pursue other opportunities. For instance, one student went on to enroll in a local degree program.

The interns gain much more than professional experience and communication skills from Project SEARCH. They gain knowledge about themselves, develop friendships and a chance to become involved in the community. The University of Tennessee Medical Center is honored to be able to offer Project SEARCH to the people of our region.

Project SEARCH Interns Give Back

Last spring, Project SEARCH interns decided they wanted to do something meaningful to thank the patients, families and team members they had come to know through their program. So the interns planned a bake sale on the medical center's campus. Though it wasn't initially clear where the proceeds would go, the group knew they wanted to give back in an important and impactful way.

After raising $1,092.91, Project SEARCH interns took a vote on which area of the medical center they felt most passionate about; they chose the Cancer Institute's Campaign for Hope. The Campaign for Hope provides funding for resources, research and educational endeavors key to creating a place of healing for cancer patients in East Tennessee.

The medical center team extends its sincere gratitude to the 2015 Project SEARCH interns, including Marcus Atchley, Amber Dailey, Reid Lamson, Tiffani McKinney, Marty Myers, Steve Ogle, Vickie Parks and Lauren Trainor (pictured above). Special thanks to the staff who helped make the event possible, including Kendrise Colebrook, Sandy Cunningham, Kellie Helton, Danny Matthews, Abram Rampey and Marwa Shourbaji.

Your hard work, generosity, philanthropic spirit and kindness are helping meet the needs of those touched by cancer.

Visit us online for more information about *Frontiers*: bit.ly/UTFrontiers
Links are case sensitive.

Cancer Research Endowment

Become a Champion in the Fight Against Cancer

WITHIN **5** YEARS, **CANCER** WILL SURPASS **HEART** DISEASE AS THE **LEADING** CAUSE OF **DEATH.**

EVERY $ OF EVERY DONATION RECEIVED

FUNDS **CANCER RESEARCH**

SPEEDS UP **DISCOVERIES** THAT EXPAND THE FRONTIERS OF MEDICINE

THAT WILL **MAKE CANCER** HISTORY

TOGETHER,
WE CAN **INVEST** IN RESEARCH THAT MAKES A **DIFFERENCE, RESEARCH** THAT LEADS TO **DISCOVERY** AND MORE **PERSONALIZED** TREATMENT, ALL LEADING TO **MORE SURVIVORS** AND A **CURE.**

Chances are that you or someone you love will someday face a cancer diagnosis. It's a sobering reality.

Research conducted at The University of Tennessee Medical Center today may determine what kind of treatment — or even cure — will be available tomorrow. The goal is simple: Help patients with cancer live better, longer lives.

As the population of aging Americans grows, chronic illness rates – especially cancer – are increasing, too. This is already felt at the medical center. Between 2010 and 2014, the number of patient visits to The University of Tennessee Medical Center Cancer Institute grew an incredible 43 percent, and that trend is expected to continue.

Based on these statistics, medical center leadership identified the need to create a Cancer Research Endowment.

With the Cancer Research Endowment — which will be funded by donations of all amounts — the medical center will fund research leading to new discoveries.

Giving Patients Hope

Research is advancing quickly. Not so long ago, a cancer diagnosis was associated with a high probability of death. The treatment options that existed had significant side effects. So as treatments attacked cancer cells, they also attacked normal cells, leaving in their wake debilitating side effects.

Thanks to research supported by medical center donors, a new generation of cancer treatments have enhanced cancer patients quality of life.

On the Horizon

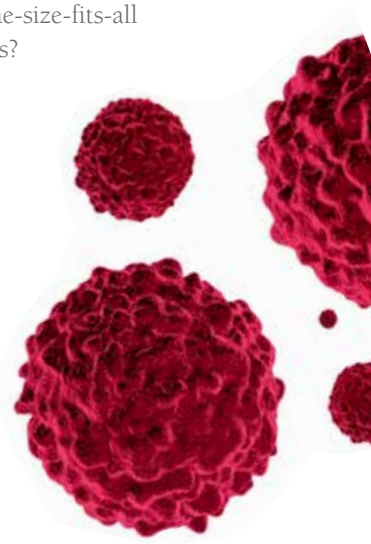
What if doctors could diagnose certain cancers before a patient experienced symptoms or develop designer drugs that are customized to a person's genetic makeup? Or cure cancer altogether? Prevent cancer?

Science isn't there yet, but it's getting closer by the day. That's why the Cancer Research Endowment is one of the medical center's top priorities. If the scientific community has any hope of conquering this disease — and they believe they do — the medical center must invest in new and promising research projects going forward, including targeted therapy, molecular imaging and tracer development programs.

Targeted Therapy

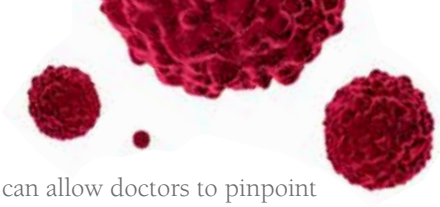
No two patients are alike. They have different backgrounds, lifestyles and genetic makeups. Likewise, no two cancers are alike. Some — like cervical cancer — can be caused by a virus, while others — like leukemia — are caused by a genetic mutation. Various cancers act differently, progressing at different rates and responding to treatments in different ways. So why would doctors give patients cookie-cutter, one-size-fits-all cancer treatments?

Thanks to new research, they don't have to.



Cancer specialists are now able to take advantage of targeted treatment methods. These methods allow doctors to give medications that attack cancer cells while sparing the normal cells. This approach often results in more effective treatment, helping people with cancer live longer. Just as importantly, it leaves patients with fewer side effects and improved quality of life.

Targeted treatment methods are especially beneficial in treating older patients. These patients often have other health issues, such as diabetes or heart disease, which can limit their options for aggressive cancer treatments. The development of these new, targeted methods means cancer specialists can now offer alternative options to patients.



James Lewis, MD, associate professor of Surgery, currently working on several melanoma clinical trials.

"The endowment allows us to concentrate on the present and know that our future is secure as we focus on patient care and our mission of discovery."

– James Lewis, MD

In the past 15 years, scientists decoded the human genome, which they've termed as the "blueprint of life." This major scientific milestone is a relatively new discovery, but cancer specialists are using it to develop therapies based on cancer type and an individual's unique genetic makeup.

At the Cancer Institute, top-rated cancer specialists closely review each case, taking into account the individual's unique set of circumstances before recommending a treatment plan. This customized approach often means the difference between giving the patient bad news and giving them hope of a longer, more fulfilling life.

These developments are exciting but there's still much work to be done to find a cure for cancer.

Molecular Imaging

Molecular imaging is a tool that gives detailed pictures of what's happening in the body on a cellular level. Molecular imaging reveals more than traditional imaging techniques, like x-rays, CT scans and ultrasounds. As scientists learn more about cancer-specific proteins, molecular imaging is becoming more common.

Molecular imaging works by detecting cancer cells with specific mutations, often as the disease is developing. This can allow doctors to pinpoint the cancer's location and activity so they can diagnose it earlier and treat it more effectively. Also, since doctors can continue watching imaging changes as the cancer cells respond to treatment, they can more accurately determine whether or not a treatment is working.

Molecular imaging is playing a more important role in diagnosing cancer and following treatment effects earlier. However, researchers believe it can do more. With additional understanding, doctors will be able to use even more specific molecular imaging to detect the disease in its earliest stages and follow its response to treatment.

Cancer cells were once normal cells that began to mutate and multiply. Because the mutated cells were originally normal, the body doesn't block them because it doesn't recognize them as being a threat. By the time a CT image can detect changes, the cancer cells have already multiplied many times and developed into a cancer.

Doctors and researchers like those at The University of Tennessee Medical Center are coming closer to understanding and eliminating cancer. Researchers must continue to dig deeper into the causes of cancer and find better, more effective, less toxic treatments. With the help of friends like you, the Cancer Research Endowment will allow the medical center to support the best and brightest scientists in developing the next generation of cancer detection and treatment … right here in East Tennessee.

To learn more about how you can support the Cancer Research Endowment, please contact the Development Office at 865-305-6611 or visit utmedicalcenter.org/make-a-gift.

Committed to Raising Funds for Cancer Research

In 2014, Steve and Becky South and Jeff and Rita Roth committed to lead a campaign to raise $3 million for a newly established Cancer Research Endowment for The University of Tennessee Medical Center Cancer Institute and the UT Graduate School of Medicine.

No strangers to hard work and exceeding goals, both couples agreed to take the lead. The Souths are leading the campaign while the Roths are serving as honorary co-chairs in the fundraising efforts.

"Once we met with John Bell, MD, director of the Cancer Institute and professor of Surgery, he shared the vision for what this endowment would mean to the people of East Tennessee and we knew we wanted to help," said Steve South, President of South College. "Becky and I were so moved by what this research could do for patients living with cancer."

The Roths' motivation is driven by personal experience with the Cancer Institute. Rita, who is currently living with Stage 4 breast cancer, credits the team of physicians and other professionals at the Cancer Institute with giving her more years with her family.

"Without the team that has cared for me since May 2009, I would not be here today," said Rita. "Research and experience play a vital role in the care that is provided by the Cancer Institute. There are new drugs available now that were not available when I was diagnosed six years ago. Jeff and I want to do all we can to raise funds for this much-needed cancer research endowment."

The campaign is well underway and is resonating with many in the community. The University of Tennessee Medical Center plans to celebrate the campaign milestone of $3 million by April 2016.

Becky and Steve South, co-chairs

Rita and Jeff Roth (far left), honorary co-chairs

Holland Roth, Jeff and Rita's first grandchild, is one of the many reasons Rita keeps fighting.

The Importance of Endowments

An endowment, or endowed fund, creates a permanent and self-sustaining source of funding for an organization. Once fully funded, a portion of the endowment is paid out every year to support the fund's purpose and any additional earnings are reinvested to increase the value of the fund. Endowments are often established by an individual donor or a small group of donors through gifts of cash or securities. They provide critical support to The University of Tennessee Medical Center and the UT Graduate School of Medicine's funding needs. These needs include but are not limited to: patient care, education, training, research and infrastructure improvements. For more information on supporting existing endowments or creation of an endowment, contact the Development Office at 865-305-6611 or visit utmedicalcenter.org/make-a-gift.

Big Care for Our Sma

Newborn babies who need intensive medical attention are often admitted into a special area of the hospital called the Tom and Katherine Black Intensive Care Nursery. The Neonatal Intensive Care Unit combines advanced technology and trained health care professionals to provide specialized care for the tiniest patients. NICUs may also have intermediate or continuing care areas for babies who are not as sick but do need specialized nursing care.

The Importance of a Level III NICU

The private-room Level III NICU at The University of Tennessee Medical Center provides the highest level of comprehensive care and has the unique designation of being the Regional Neonatal Referral Center for East Tennessee. The NICU, Labor and Delivery and the Mother/Baby Units are conveniently located on the third floor of the medical center, so the mother and family can remain in one space for their care. The nursery provides state-of-the-art treatment and 24-hour physician coverage as well as emergency, laboratory and other specialized services.

Every aspect of the NICU is designed around the needs of babies and their families. The unit has one critical mission: give each baby the best chance to thrive while offering comfort and convenience for families.

The design emulates the warmth, calmness and stillness of the womb. It is in this healing, stable and secure environment that babies need to fully develop. Every environmental condition has been carefully considered. Lighting and temperature are precisely controlled for each baby. Noise is minimized, thanks to acoustic design and advanced equipment and communications.

The NICU is the first home for many newborns; it also becomes the family's second home. For that reason, comfort and privacy are a priority. In addition to its healing environment and specially trained providers, the NICU at the medical center is distinctive for its focus on patient-and family-centered care.

Helping Babies Learn to Eat

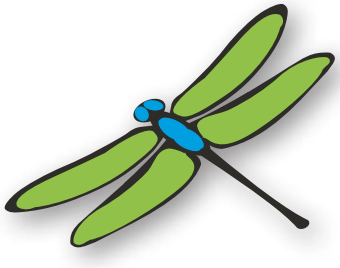
According to the CDC, in 2013 approximately 450,000 babies were born prematurely in the United States. One of the problems that 40 percent of premature infants face is learning the skill of sucking, which is essential to learning how to eat on their own. At the medical center's NICU, babies learn this essential skill with the NTrainer System, which uses a pulsating pacifier to assess and develop non-nutritive sucking (NNS). The NTrainer develops the infant's coordination of sucking, swallowing and breathing — improving the babies' ability to eat.

"We are thrilled to offer this technology and expand the treatment solutions we provide to our tiniest and most vulnerable patients," said Cynthia Williams, RNC-MNN, BScN, BEd, MHA, vice president for Women and Infants. "Helping to teach our babies how to feed independently helps to get them out of the NICU and home with their parents sooner."

NTrainer console

allest Patients

This system provides the NICU caregivers with a standardized assessment tool to measure non-nutritive sucking performance. Once babies can eat independently and gain weight, they can be discharged faster from the NICU.



Celebrating Every Milestone

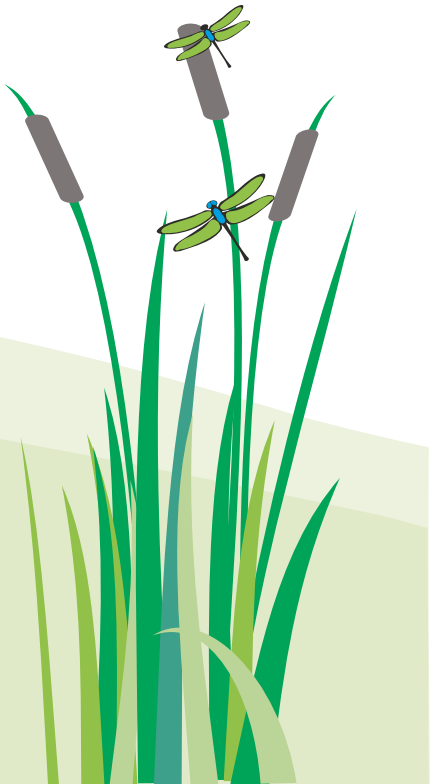
One of the most frequent questions parents ask in the NICU is, “When will my baby go home?” Going home greatly depends on the success of each baby achieving health milestones — such as being able to eat on their own. To assist nurses and parents in communication, a standardized readiness chart called the Discharge Train was developed. The Discharge Train helps parents understand the various milestones their baby achieves while in the NICU, bringing them one step closer to going home.

One of the most frequent questions parents ask in the NICU is, “When will my baby go home?” To assist nurses and parents in communication, a standardized readiness chart called the Discharge Train was developed.

Abby Kelsey, BSN, RN, CCRN, and Crystal Young, BSN, RNC-NIC, developed the Discharge Train during their senior preceptorship in their BSN program, along with their preceptor Kim Massey, MSN, RN, NE-BC, NICU Nurse Manager. They conducted a literature review, discussed staff perception of concerns and developed visual aids for families and team members.

A Discharge Train is located in each of the private rooms and is used to show the milestones a baby must achieve before it is ready to go home. This helps the parents understand the importance of each milestone and where their babies are on their journies.

Mason, born three weeks early, in the NICU. His mom Stephanie (pictured), and dad watched their son grow from 2 pounds to 5 pounds using the NTrainer therapy. Mason and his family graduated from the NICU healthy and happy in October.



NICU Phase II Expansion

The NICU Phase II construction is scheduled to begin in early 2016. This phase is critically important because it means patients will have access to an additional 29 private, single-bed rooms and 5 twin-bed rooms, increasing the medical center's Level III NICU single-room capacity to 65. Thankfully, this will ensure that all infants and their families will have the best possible experience during a time when they need it most. Today, the medical center remains the region's first and only designated Level III private room NICU in East Tennessee.

Research indicates that private rooms offer tremendous benefits to at-risk infants, including:

- **Shorter hospital stays**
- **Decreased risk of infection**
- **Greater visual acuity development**
- **Enhanced safety and security**
- **Optimal growth and development**

More than $4.4 million in private donations have been raised to date in support of the Phase II Renovation Campaign. The ultimate goal is $4.8 million. Jeff Thode, chair of the NICU Capital Campaign Committee, has worked tirelessly in partnership with the medical center, helping the campaign get where it is today.

Jeff still recalls the day his twin girls were born and taken to the NICU. "My daughters were born at The University of Tennessee Medical Center 23 years ago. The doctors and nurses in the NICU saved their lives. This campaign is one way I can give back and express my gratitude while honoring just how much my daughters mean to me."

With the goal of completing the Phase II campaign by year-end, the medical center remains grateful for Jeff and the many others who generously committed time and financial support to meet the needs of our tiniest patients and their families.

Phase I of the NICU expansion project was successfully completed in 2007. Twenty-nine private rooms were added to the preexisting 55-bed nursery, as well as other state-of-the-art equipment and facility enhancements necessary for providing the highest level of care for the smallest and most vulnerable patients. Originally established in 1970 from the generosity of the late Tom and Katherine Black, the NICU continues its mission of providing the highest level of care for sick and/or premature infants.

Thode Twins: Then and Now

Born July 10, 1992, at 33 weeks gestation

Mackenzie Thode
4 lb, 11 oz.
Two-week stay in the NICU

Madison Thode
3 lb, 9 oz.
Four-week stay in the NICU

Madison and Mackenzie Thode today

For more information on how you can help support the NICU Phase II campaign, please contact the Development Office at 865-305-6611 or visit utmedicalcenter.org/make-a-gift.

5 minutes with a pharmacist

Expert advice from Anjali Todd, PharmD

Anjali Todd, PharmD, pharmacist specialist, Medication Safety; assistant professor, University of Tennessee College of Pharmacy

Nearly 70 percent of Americans take at least one prescription drug, say researchers who conducted a recent study at the Mayo Clinic and Olmstead Medical Center. According to the study, more than half are on two, and 20 percent of Americans (typically older adults) are on five or more prescriptions. Medications can keep patients healthy, but they can also cause serious problems if taken incorrectly.

Medication errors and adverse effects often result from misinformation or lack of information. Patients can help prevent medication errors by keeping a current list of all of their medications. Patients should bring the list to all health care-related appointments, including hospital visits. A copy should also be given to a trusted friend or loved one in case of emergency.

Medication Information

Q: What information is important to include on my medication list?

A: Your list should consist of any medications you are currently taking. This includes prescriptions, over-the-counter medications, patches, drops, injections, herbals, vitamins, dietary supplements and any medicine you take only on occasion or as needed. Also include your dose, how often you take it, as well as the reason for taking it. Additional important information to have on your list is vaccine history and any allergies (medications, dyes, food) you have, along with the reaction you experienced.

Q: Why is all that information important?

A: A complete list will help your doctor, pharmacist, hospital and other health care workers tailor your treatment and take better care of you. When they have access to this information, the risk of medication errors and adverse reactions decreases.

Q: What resources are available for documenting my home medication list?

A: The Institute for Safe Medication Practices and the Tennessee Pharmacists Association both have a Universal Medication List that can be printed from their websites and filled in. Your doctor's office or pharmacy may have a similar form you can fill out and keep in your wallet or purse. Numerous free smartphone apps are also available for keeping a current list of home medications.

Q: What else can I do to help my providers better manage my medications?

A: Use a single pharmacy for all your medications. This allows the pharmacist to evaluate what you are currently taking, ensure appropriate usage and answer any questions you may have. The pharmacy will also serve as a resource to any health care providers that need to call and clarify information. Also, take your medications as prescribed. If you are unable to take your medications as prescribed due to cost or side effects, discuss your concerns with your provider(s) to find possible alternatives.

Because so much medical information is available through various sources, it's important to differentiate fact from fiction. "5 Minutes With a Pharmacist" provides clear advice about medication to the people of East Tennessee.

Blackberry Wine Event Benefits the Heart Lung Vascular Institute

The annual Blackberry Wine Event was held on August 23-24, 2015 at the beautiful Blackberry Farm in Walland, Tennessee. More than 80 guests enjoyed a wine tasting led by Riedel, dinner prepared by the world-famous Blackberry chefs and entertainment by Matt Stillwell.

Proceeds from the event benefit the Heart Lung Vascular Institute at The University of Tennessee Medical Center. Nearly $60,000 was raised for cardiac rehab to support our pulmonary and cardiovascular patients. The funds will be used for exercise equipment, assistance to patients that cannot otherwise afford to participate, tools to improve the ability of patients to self-manage their diseases at home and patient education literature and materials for classes.

Thank you to the event co-chairs, Ronda Landsman, Christy Phillips and Wendy Wortham, as well as all those in attendance who helped make the event a success.

The 2016 Blackberry Wine Event is tentatively scheduled for August 21-22, 2016. If you are interested in attending, contact the Development Office at development@utmck.edu or 865-305-6611.

The Health Information Center, with Preston Medical Library, opened in a new, expanded space in October 2014.

Health Information Center Seeks to Improve Health Literacy

This fall, The University of Tennessee Medical Center celebrated the one-year anniversary of the relocation and expansion of the new Health Information Center (HIC). Through its new central location in the medical center, made possible through philanthropic dollars from generous donors, the new center has been reaching a larger community of both area health care providers and patients and their families. Using its expanded resources of books, journals, classes and programs, HIC librarians, including director Sandy Oelschlegel, have worked to better the overall health of East Tennessee and beyond in support of the medical center's mission of healing, education and discovery. To achieve this goal they improved access to and promoted reliable health-information resources and launched a major initiative targeting health literacy.

A Year at a Glance:

- Visitors: **90,200**
- Online use of library resources: **204 to 291**
- Consumer health information books checked out: **179**
- Tennessee counties served: increased from **18 to 26**
- In-depth literature searches for health care professionals: **752**
- **60%** of health care professionals using the in-depth literature search service said the literature search will influence the care of a patient they are currently treating
- **61%** of patients using the health information service they plan to use the information they received to improve their health
- **64%** of patients using the health information service stated they plan to use the information they received to discuss the topic with their doctor

Cynthia Baur, PhD, health literacy expert with the Centers for Disease Control and Prevention, gives the keynote address at the first-ever Tennessee Health Literacy Forum.

Throughout the past year, the number of people visiting HIC more than doubled to a monthly average of 7,200. Also during that time, medical librarians responded to nearly 5,000 information requests for patients, their families and community members. This was nearly a 400 percent increase per month. The new central location of the library also raised awareness among doctors and nurses of the in-depth searching services available to them by professional librarians on clinical topics. New online and print resources were also added, including point-of-care tools available on smart phones and tablets for clinicians to seek the best evidence-based information when caring for patients. As a result, HIC staff saw a 20 percent increase in the use of its resources by health care professionals, the primary audience Preston Medical Library within the center.

Outside the center, HIC staff have been focusing on outreach to the community to increase knowledge of HIC services and resources. The health information services librarian, Kelsey Leonard, is now featured on a monthly televised consumer health segment on WBIR. This provides the opportunity to discuss some of the reliable resources available both online and through the HIC for viewers to learn more about relevant health topics. Among topics addressed, chronic obstructive pulmonary disease and prostate cancer resulted in an immediate increase in calls to the HIC for more information. The segment runs on the first Monday of each month during "10 News at Five."

> Recent reports show 90 million Americans – nearly half of all American adults – cannot understand or act on the health information they receive.

Also new this fall, the Health Information Center sponsored the first-ever Tennessee Health Literacy Forum. Approximately 100 health care professionals, educators, librarians, and government and business leaders from across the state of Tennessee attended to address the importance of health literacy and its influence on patient health. Cynthia Baur, PhD, senior advisor for Health Literacy and the senior official for the Plain Writing Act with the Office of the Associate Director for Communication for the Centers for Disease Control and Prevention, opened discussions with the keynote address. According to Baur, health literacy is one underlying cause of health care disparities.

To combat this issue, the U.S. Department of Health and Human Services drafted the National Action Plan to Improve Health Literacy including the goal, "To promote changes in the health care delivery system that improve health information, communication, informed decision-making and access to health services."

Discussions at the forum focused on the need for health care providers to improve their communication with patients by using simpler language and to guide patients in accessing educational resources such as the HIC. Attendees expressed interest in continuing the discussion in the year to come with the goal of another forum at the medical center in 2016.

To learn more about HIC and its services, visit utmedicalcenter.org/health-information-center. There, you can take a tour, submit a research request, chat online with a librarian and find out how to become a member.

Residency PROGRAMS Embrace New Leadership

The University of Tennessee Medical Center has nine academic departments through the UT Graduate School of Medicine. Each department is led by a chair who is responsible for promoting excellence in healing, education and discovery among faculty and resident physicians; developing a vision that supports the goals of the department, the UT Graduate School of Medicine and the medical center; supporting faculty needs and development; and monitoring resident education.

The UT Graduate School of Medicine has recently named new chairs in the departments of Anesthesiology, Obstetrics and Gynecology and Surgery.

Anesthesiology

Robert Craft, MD, began his career with the UT Graduate School of Medicine as an Anesthesiology resident. He followed residency with a fellowship in Neuroanesthesiology at Mayo Clinic and then returned to the medical center as a faculty member in 1994. Over the last 20 years, Craft has committed himself to the medical center's mission of healing, education and discovery. He has served in a variety of roles simultaneously, including professor, vice-chair, residency program director and section chief for Neuroanesthesiology and Pre-Operative Evaluation.

Robert Craft, MD, has more than 20 years of experience teaching Anesthesiology residents and is now leading the Department of Anesthesiology as chair.

He has helped grow the Anesthesiology residency program from a three-year program of 21 residents to a four-year program of 32 residents. He was an inaugural member of the UT Graduate School of Medicine's Academy of Scholars, which promotes education and faculty development. He also completed the Physician Leadership Academy, a year long education program developed by The University of Tennessee Medical Center. Craft was also instrumental in expanding the research division of Anesthesiology by recruiting international neuroscience experts to conduct groundbreaking research to better understand the brain and consciousness.

Larry Kilgore, MD, came to the medical center in 2009 as director of Gynecologic Oncology and is now chairing the Department of Obstetrics and Gynecology.

Obstetrics and Gynecology

Larry Kilgore, MD, came to the medical center in 2009 as professor of Obstetrics and Gynecology and director of Gynecologic Oncology. He began serving as interim chair in 2014. John Bell, MD, director of the Cancer Institute, recruited Kilgore from The University of Alabama at Birmingham to become the leading physician in gynecologic oncology services, specifically to fill a need in minimally invasive and robotic procedures.

Since then, Kilgore has established a presence in the community for his commitment to healing and his research on women's cancers, searching for safer and improved treatments for ovarian and cervical cancer. Kilgore is also an inaugural member of the Academy of Scholars, as well as a graduate of the Physician Leadership Academy.

As chair, he plans to promote resident and medical student education, focus on faculty development, enhance clinical research in women's health care and advance safety and quality health outcomes for the women of East Tennessee and The University of Tennessee Medical Center.

Surgery

Bruce Ramshaw, MD, is new to the Graduate School of Medicine. He is internationally recognized for laparoscopic and advanced hernia procedures, and he also specializes in creating patient-centered care teams, which is a priority as the medical center advances in healing. Most recently, Ramshaw chaired a surgical residency program in Daytona Beach, Fla.

He has also founded multiple companies in the health care field, including a patient-safety organization founded when he recognized there could be vast differences in how the same hernia mesh reacted in different patients. Using continuous quality improvement principles, this company works with medical device manufacturers, pharmaceutical companies and distributors to improve value, quality of care and patient outcomes.

As chair, Ramshaw plans to work with everyone at the medical center to facilitate internal and external collaboration, which will help the medical center continue leading the health care transition from a volume-based model to one based on value for the patient.

Bruce Ramshaw, MD, specializes in creating patient-centered care teams and will use his expertise as chair of the Department of Surgery.

Coleman Family Establishes a Fellowship in Stephen Y. Coleman's Memory

The Coleman family knows just how devastating a brain cancer diagnosis can be. In 2011, Stephen York Coleman, son of Steve and Brenda Coleman, lost his three-year, courageously fought battle against brain cancer. He was only 37. Inspired by Stephen's journey, his brother and uncle led the Coleman family in establishing a fellowship in medical oncology at The University of Tennessee Medical Center and the UT Graduate School of Medicine in Stephen's memory. With more than 22,800 people in the United States expected to receive a malignant brain or spinal cord tumor diagnosis this year, according to the American Cancer Society, the fellowship is vitally important.

Stephen inspired those who knew him daily — and even those who did not — as he lived his life in the Maryville community. He was a four-year letterman athlete at Maryville High School in both football and baseball. After graduating from Maryville College, where he also played baseball and had a stellar career, he became the fourth generation in his family to join Anderson Lumber Company and Home Center as Chief Executive Officer in sales and marketing. His passion for sports and teamwork, his friendliness and integrity influenced many in the Maryville community and East Tennessee region.

Since his death, Stephen's family, the community of Maryville and many who knew and loved him, have found ways to remember Stephen and the life he led. While they grieve for his loss, they find inspiration in supporting other cancer patients, their families and the physicians who cared for Stephen.

The family created Tailgating Against Cancer, a not-for-profit organization dedicated to raising funds for the Cancer Institute at The University of Tennessee Medical Center and the programs at the UT Graduate School of Medicine. The organization created unique Tailgating Against Cancer t-shirts, which are sold throughout the community. They also host an annual golf tournament, which raised more than $30,000 in 2015.

The desire to leave a permanent legacy in Stephen's memory is what inspired the family to fund the newly created fellowship in medical oncology. Once fully funded at $500,000, the fund will support a fellow in the discipline of medical oncology.

Oncology is the field of medicine that is devoted to cancer. Medical oncology is the specialty of cancer that treats patients with various medications, including chemotherapy. This fellowship, which is a 36-month program accredited by the American Board of Internal Medicine, will offer specialized training in medical oncology. This specialty training will allow these newly trained physicians to be eligible for board certification in this discipline.

The fellowship program typically involves an initial year of intensive clinical training, followed by two or more years of in-depth clinical and/or basic research training. The Stephen Y. Coleman Fellowship in Medical Oncology is the first of its type at the medical center.

Stephen's obituary read that he "fought his illness with perseverance, courage, determination and dignity." His legacy will continue as the family raises funds in his memory to train additional specialists in the field of medical oncology. For more information about the Cancer Institute or Fellowship programs and how you can help support the cause, please contact the Development Office at development@utmck.edu or call 865-305-6611.

ASK THE EXPERT

THE PHYSICIAN IS IN

Respiratory syncytial virus (RSV) is a common respiratory infection in infants and young children. In Tennessee it typically causes infections from November through May. It is a frequent cause of runny nose, nasal congestion, coughing and wheezing.

Keri A. Lattimore, MD, FAAP, assistant professor of Obstetrics and Gynecology.

Q: What are the symptoms of RSV?

A: Initially, RSV can cause upper respiratory tract symptoms of nasal congestion, sneezing and runny nose. The virus tends to spread to the lower respiratory tract and then causes coughing, wheezing, difficulty breathing and increased breathing rate. Infants and children infected with RSV usually show symptoms within four to six days of infection.

Q: When should I take my child to see a doctor?

A: You should see a doctor if your child has difficulty breathing, high fever, lethargy, difficulty drinking and/or eating and decreased urine output.

In children younger than 1 year of age, RSV is the most common cause of bronchiolitis, an inflammation of the small airways in the lung, and pneumonia, an infection of the lungs.

Q: How do you treat RSV?

A: Treatment consists of supportive care by suctioning the nose to clear secretions, treating fever with Tylenol and ensuring your child is getting enough fluids. Sometimes your doctor will prescribe breathing treatments to help lessen the wheezing. Antibiotics do not treat RSV, although sometimes they are prescribed if your child has an ear infection at the same time.

Q: How do you prevent RSV?

A: RSV is primarily spread by direct contact with infected respiratory secretions. Hand washing with soap and water or alcohol-based rubs is essential for preventing the spread of RSV. Some infants with lung disease, immunodeficiency or congenital heart problems can benefit from RSV vaccine. Speak with your doctor to determine if your child qualifies for the vaccine.

Learn more about the most recent advances in RSV research on page 24.

Kimberly Fortner, MD, assistant professor of Maternal-Fetal Medicine for the Department of Obstetrics and Gynecology, and medical director of obstetrics at The University of Tennessee Medical Center. Fortner joined the medical center in 2015, bringing with her a background of research and a passion for maternal-fetal vaccinations.

Kimberly Fortner, MD: Research to Keep Babies Healthy

Not only is Kimberly Fortner, MD, professionally interested in maternal vaccination research, she's interested personally, too. Her oldest son caught respiratory syncytial virus (RSV) at two months of age, and he now suffers from what will likely be lifelong asthma.

A vaccine given during pregnancy may have helped prevent the virus in her son, but so far, no such vaccine is available. Can researchers like Fortner overcome the challenges against vaccinations to help keep babies — including their own — healthy?

Finding Her Niche

Fortner became interested in immunizations given during pregnancy while in fellowship training at Duke University Medical Center. While there, she worked on two clinical trials evaluating H1N1 vaccines among pregnant women, and served on the H1N1 Emergency Preparedness Team through the 2009-10 H1N1 (swine flu) influenza pandemic.

When she finished her fellowship at Duke, Fortner accepted a faculty position at Vanderbilt University Medical Center to continue her research on maternal vaccination. While there, she focused on vaccine-preventable respiratory illnesses in mothers and worked on a Phase II clinical trial looking at Group B Streptococcus vaccine.

Once a native to the hills of East Tennessee, Fortner has now returned to The University of Tennessee Medical Center. She said, "It gave me the opportunity to become an independent investigator and it provided a great

opportunity to make a difference in the lives of people in my home community."

Working to Advance Global Research

Maternal-fetal vaccinations are a growing area of interest in scientific studies, but there is still very little data.

Starting in 2011, the National Institutes of Health (NIH) partnered with experts, industry and regulatory agencies like the FDA. Their purpose was to ask, from a national perspective, how the medical community could move research forward on pregnancy and vaccines. Or, as Fortner said, "How do we balance protecting pregnant women in research with the need for data and information on which to base their care?"

Excluding pregnant women from many clinical trials meant there were too few studies to provide the best information. So the NIH convened annual consensus panel meetings, selecting experts in maternal-fetal medicine, adult infectious diseases and pediatric infectious diseases.

Fortner's research into maternal-fetal vaccinations brought her to the attention of the NIH. During their 2011, 2012, and 2013 consensus panel meetings on maternal immunization, they invited Fortner to join.

Why Are Viruses So Important to Researchers?

Viruses like RSV, which have severe consequences if contracted by newborns and infants, make prenatal vaccines vital to babies' health. Babies do not have a mature enough immune system at birth, eliminating newborn vaccination as an option. Vaccinating a mother can enable her to make and then transfer antibodies, or protection, to her unborn child.

The CDC estimates that almost all children will have had RSV by their second birthday. The first time they're exposed, up to 40 percent have symptoms of pneumonia or bronchitis. Contracting RSV in the first three months of life may predispose babies to long-term respiratory diseases like asthma, as it did for Fortner's son.

A New RSV Study at the Medical Center

This summer, Pfizer reached out to Fortner, based on her prior research work, to conduct a study. The purpose of the study is to help capture baseline data on the prevalence of RSV in mothers and infants during RSV season.

> This study proposes to find out whether an in-pregnancy vaccine would be merited. Because RSV is so consequential to newborns, a study like this could have great benefit to children both nationally and all over the world.

One of the challenges in clinical trials is capturing the mother/infant pair to demonstrate effectiveness. Over the course of the study, the research will meet the challenge by going from one participant, the mom, to two participants, mom and baby.

This type of study is difficult but exciting because it "removes us as health care providers from our own 'silo' or area of expertise," said Fortner. But, with more than one patient, the study will need more than one team.

In partnership with High Risk Obstetrical Consultants, University Family Physicians, and Regional Neonatal Associates, Fortner quickly assembled a research team. The trial has begun and is now collecting initial data.

"The first part of the study is simply to establish a baseline presence of the RSV antibodies, or protection in both moms and babies," said Fortner. "We won't be administering any vaccines."

Instead, they'll capture data at a minimum of three time points: while mom is pregnant (from 34 weeks until the day before delivery), delivery and six weeks after baby's birth. Mother and baby will remain in the trial until the baby is six months old, monitoring exposures to respiratory illness.

"We want to start by seeing if moms have antibodies to RSV during RSV season, and if so, how long the baby is protected by its mom's antibodies," Fortner said.

The study will go through RSV season, beginning in November 2015 and ending around June 2016. Once the baseline study is done, the trial will be closed and data analyzed. After that, Fortner said, "I hope that Pfizer will come back and ask us to participate in the next phase of the trial."

Many issues create significant challenges for researchers like Fortner. But personal and professional interest keeps her team and others like it moving toward, looking for ways to keep babies healthy, all over the world.

Studies like this are an important part of the work The University of Tennessee Medical Center does to protect our health. If you or someone you know is interested in enrolling, please call High Risk Obstetrical Consultants at 865-305-8888.

Scientists Look at the Relationship of a Rare Protein Found in Common Cancers

ODAM Protein

Oral Cancer

Melanoma

Breast Cancer

Several years ago, researchers at the University of Tennessee Graduate School of Medicine discovered an unusual protein molecule known as odontogenic ameloblast-associated protein (ODAM). Initially identified in jaw tumors then subsequently in breast, gastrointestinal and lung cancer tissue, patients with these malignancies were found to have ODAM-binding antibodies in their blood. These antibodies could be used for early diagnosis of certain cancers that produce the ODAM protein.

Lung Cancer

In 2008, researcher Daniel Kestler, PhD, who is now retired, said, "This finding of the antibody suggests some type of immune reaction against the tumor and that ODAM may be an important target for cancer therapy."

Since that time, researchers in the Department of Oral and Maxillofacial Surgery (OMFS) and the Department of Surgery have been trying to gain a better understanding of ODAM's connection to cancers, especially oral cancer, breast cancer and melanoma.

In a recently completed OMFS study funded by the Physicians Medical Education Research Fund (PMERF), David Gerard, PhD, professor of research; Eric Carlson, DMD, MD, professor and chair; and Kipp Slocum, DDS, resident, examined 200 archived specimens of oral squamous cell carcinoma (OSCC) of the tongue to try to determine if a correlation exists between expression of ODAM and patient outcomes.

OSCC is the most common type of oral cancer and often has poor outcomes because it is diagnosed in a late stage. For the study, samples from patients treated from 2007 to 2014 were evaluated for the presence of ODAM expression in the cytoplasm and nucleus of the tumor cells. They found ODAM was expressed in 100 percent of reviewed cases. The preliminary results indicate a possible correlation between nuclear expression of ODAM in OSCC of the tongue and the presence of cervical lymph node involvement. More research is needed to validate this finding.

Slocum said, "The ability to provide an earlier diagnosis with expedient treatment of these cancers could be benefitted from a biomarker such as ODAM."

While OMFS researchers are looking at ODAM expression in malignant tissue, Surgery resident Shannon Beierle, MD, is examining the protein expression in both malignant and healthy tissue. Beierle is completing the study through a research year (funded by the Cancer Institute) within her residency program under the guidance of Surgery faculty James McLoughlin, MD, and John Bell, MD, and researchers in the Amyloidosis and Cancer Theranostics Program, Jonathan Wall, PhD, and Steve Foster. She says she hopes to define the role of ODAM in normal tissue. She hypothesizes that ODAM helps form calcifications once a cell becomes malignant as a way to seclude the cancer within the body.

Beierle says that her theory is based on the discovery that ODAM is found in tumors with calcification. In previous research looking at the mechanism ODAM uses when it interacts with teeth, investigators found that ODAM binds to a receptor known as BMPR-1B. This receptor is also found in breast tissue. Like teeth, breast cancer often shows calcification. Using this data, Beierle is growing breast cancer cells and normal breast tissue cells and trying to identify any interactions ODAM might have with BMPR-1B in breast cancer.

In a related study, Beierle is also growing breast cancer cells to try to induce calcification *in vitro*, meaning in a petri dish, so that she can further explore the mechanism and relationship behind breast cancer calcifications and ODAM. She said this research will then be used to investigate other tissues that produce calcifications in cancer such as thyroid and ovarian cancer.

David Gerard, PhD, researcher in Oral and Maxillofacial Surgery, studies the expression of a protein known as ODAM in oral squamous cell carcinoma tissue samples.

Shannon Beierle, MD, Surgery resident, is growing breast cancer cells in the lab so that she can explore the relationship between breast cancer calcifications and ODAM, a protein identified in breast cancer tissue.

Partnership with DeRoyal Industries Improves Efficiencies and Patient Safety

Partnership Receives National Award Recognizing Innovative Technology for Operating Rooms

In October 2014, DeRoyal Industries approached The University of Tennessee Medical Center for a partnership designing a software program aimed at creating a more efficient preference card for surgical procedures in the operating room.

DeRoyal Industries is an international medical equipment manufacturer and distributor headquartered in Powell, Tennessee. A major focus of DeRoyal's business is supplies for operating rooms. This experience fueled DeRoyal's interest in developing an efficient process for managing supplies needed during a surgical procedure. Surgeons utilize preference cards, which are instructions of surgical supplies, equipment and materials they will require to perform a specific surgical procedure.

According to DeRoyal, the national average for returning supplies to stock that are selected for surgical cases is almost 70 percent. "Tracking supply usage for a surgical case is done manually by clinical staff, and an overall lack of supply management leads to accounting inaccuracies," said Brian DeBusk, Chief Executive Officer at DeRoyal.

Beth Kaylor, RN, from DeRoyal, conducted an analysis of surgical supplies that showed there was a need for more accurate information. In addition, the analysis revealed that many supplies that were gathered for surgical cases were not needed and that staff often had to gather additional supplies from other supply areas.

Kaylor observed that all supplies are sealed in packaging, which is thrown away after surgery. She began to formulate an idea for a "smart trash can" where all items could be tagged with radio-frequency identification (RFID) tags and tracked by a computer. This process would then build the perfect surgical preference card.

Kaylor took her idea to DeBusk for evaluation. "I spent three days trying to figure out why this couldn't be done and couldn't come up with a reason. It made very good sense."

The innovative supplies-tracking system called Continuum, now under development by DeRoyal, uses RFID technology to manage surgeon preference card data, while also ensuring an accurate flow of supplies in and out of the operating room—ultimately improving patient safety.

The medical center and DeRoyal collaborated on developing the product, software and tagging system. "The orthopaedic surgical staff became the team to assist DeRoyal in testing this concept," said Becky Ashin, vice president of the Advanced Orthopaedic Center.

"We began with one prototype to provide DeRoyal with insight on how a surgical procedure progresses. DeRoyal took these ideas and created five prototypes to be used in all five orthopaedic operating rooms, for further testing and to ensure connectivity to our operating room computer systems. As a result of the collaboration with DeRoyal, The

There have been many other benefits of the Continuum system that weren't originally realized, such as:

- Identifying expired items
- Lowering infection risks from doors opening and closing when retrieving supplies
- Reducing restocking costs for unused supplies
- Reducing inventory excesses
- Separating bio-hazardous waste, which decreases disposal costs
- Increasing accuracy of charge records

University of Tennessee Medical Center has seen improvement in patient safety, automated inventory and surgical supply availability."

These operating rooms use Continuum technology to track supplies used in each surgery, by patient, by throwing away the packaging that has already been tagged with RFID into the Continuum bin, known as a safe.

"It gives us a better handle on what supplies need to be in each operating room," said Heidi Auer, a medical center orthopaedic operating room nurse.

"The Continuum safe is now in the final stages of development and will be ready for placement in all 33 operating rooms at the medical center in early 2016," said Ashin. "We will also begin tracking implants and other supplies, including instrument trays, using RFID."

DeBusk said, "The level of accuracy the new automated system provides will drive accurate doctor preference card maintenance in a way that the manual method never could."

The bins recognize 99 percent of all tagged items used during procedures, which will greatly enhance accuracy of preference cards.

According to Ashin, the innovative partnership between The University of Tennessee Medical Center and DeRoyal has received national recognition as well.

In the spring at the 2015 Health Information Management Systems Society (HIMMS) meeting, the medical center received the "Most Innovative Use Case" award from the Intelligent Health Association as the best example of innovative use of technology in a health care facility.

"We are honored to be recognized as a leader in innovation," Ashin said of the award. The medical center placed first and was recognized among other national health care leaders, including the University of Pittsburgh Medical Center, the University of Chicago Medicine and the Ochsner Health System.

In December, Ashin will also present this technology at the RFID Journal health care conference. Additionally several hospitals have toured the medical center to observe this new technology that improves operating room efficiency and patient safety.

INNOVATION in Regenerative

Stacy Stephenson, MD, director of the Laboratory of Regenerative Medicine, is collaborating on an NIH grant to create a technique for non-invasive, long-term tracking of cells used in regenerative medicine.

Regenerative medicine is a form of translational research. This means the study starts in a laboratory setting and has the potential to be used in patient care. Regenerative medicine involves stimulating the body's own repair mechanisms using cells to functionally heal damaged tissues or organs. Current estimates show that approximately one in three Americans could benefit from regenerative medicine, with applications to leukemia, type 1 diabetes, cardiovascular diseases, neurodegenerative diseases, brain injuries and other traumatic injuries. Bone marrow transplants are one of the most commonly known regenerative therapies in medicine, commonly used to treat leukemia, lymphoma, multiple myeloma and immune deficiency disorders. The Laboratory of Regenerative Medicine at The University of Tennessee Medical Center is looking for ways to further advance this medical field.

Medicine Starts Here

The National Institutes of Health (NIH), the primary agency in the United States responsible for biomedical and health-related research, has awarded University of Tennessee faculty Steven Ripp, PhD, research associate professor in the Center for Environmental Biotechnology, and Stacy Stephenson, MD, assistant professor and director of the UT Graduate School of Medicine Laboratory of Regenerative Medicine, a Small Business Innovation Research grant for a study to improve the tracking of cells used in regenerative medicine.

The study is in response to NIH's request for new techniques for non-invasive, long-term tracking of cell survivability, engraftment and migration following implantation. Assessing the fate of cells implanted into the body will allow for improved treatment effectiveness and an enhanced understanding of the potential risks of regenerative therapies.

The approach to following implanted cells is similar to how fireflies light up. A chemical reaction called bioluminescence creates light production in fireflies.

This process naturally occurs in specialized light-emitting organs, similar to what takes place in a firefly's lower abdomen. When mixed with oxygen, an enzyme known as luciferase causes the organ to light up. By equipping the regenerative cells with the ability to constantly glow, the cells' health and location can be tracked non-invasively.

The approach to following implanted cells is similar to how fireflies light up. A chemical reaction called bioluminescence creates light production in fireflies.

The project involves creating a lentiviral delivery vector. Viral vectors are commonly used to deliver genetic materials into cells, and lentivirus is a type of virus that permanently integrates the genetic material into a cell's DNA so that it may be expressed constantly and passed down as the cell divides. The project is expected to be completed by June 2016.

In 2015, NIH's small business programs invested over $780 million into early-stage health-and life-science companies that are creating a wide range of innovative technologies to align with NIH's mission to improve health and save lives. Through internal research, NIH is the largest biomedical research institution in the world, and externally it provides more than $25 billion in research annually. Research through NIH funding is extremely competitive. Currently the UT Graduate School of Medicine has four research projects funded through NIH grants.

Breast Cancer

Improving Outcomes Through Worldwide Research Collaborations

Physicians and researchers at The University of Tennessee Medical Center and UT Graduate School of Medicine help advance medicine worldwide by sharing knowledge, networking and collaborating. Two ways they do this are by publishing research papers and presenting at medical conferences.

In 2013, Amila Orucevic, MD, PhD, associate professor of Pathology, published a research paper on the predictive value of biomarkers in breast cancer in *Breast Journal*, the official journal of the National Consortium of Breast Cancers. Her paper was the most downloaded paper in 2013 for the *Breast Journal*, and it was also in the top five percent of all articles rated by several medical journal-publishing groups. The following year, Orucevic was contacted by the organizers of the World Congress on Breast Cancer 2015 to see if she would be interested in leading a symposium in Birmingham, England.

Orucevic collaborated with John Bell, MD, director of the Cancer Institute and professor of Surgery, and James McLoughlin, MD, associate professor of Surgery, as well as Pathology residents Daniel Snyder, DO, Matthew Curzon, MD, and Heather Gage, MBBCH, to put together a symposium entitled, "Implementing Recent Advances in Breast Cancer Diagnosis and Treatment: The University of Tennessee Medical Center at Knoxville Experience."

Each physician presented their original research on topics including: breast cancer biomarkers, breast cancer in women younger than 40, breast cancer in elderly women (over 70), HER2-positive breast cancer, and United States guidelines and standards for breast cancer care.

After breast cancer research by Amila Orucevic, MD, PhD, associate professor of Pathology, gained worldwide attention, she was invited to lead an international symposium along with medical center faculty and residents discussing breast cancer research conducted at the medical center.

Important points from the symposium:

- Data from research on Caucasian females with breast cancer from the medical center support the traditional breast cancer staging system as a continued relevant predictive tool for breast cancer outcomes, a system that has been disputed as obsolete in recent years.

- A better understanding of breast cancer in elderly women is needed. This may be achieved through inclusion of elderly women in more clinical trials.

- New treatments are needed for triple negative breast cancer patients, particularly in younger women. Triple negative breast cancer means that estrogen, progesterone and HER-2/neu receptors are not present in these cancers, making them insensitive to some types of breast cancer specific therapies.

- Anti-HER2 therapy (Herceptin) improves overall survival of HER2 positive breast cancer patients outside of clinical trials and should be offered to all eligible patients.

- The role of intraoperative fluoroscopy was most beneficial for planning surgery in difficult locations such as deep tumors in large breasts. It was also a useful teaching tool for junior residents learning three dimensional surgical planning.

- Discussion on United States guidelines and standards for breast cancer care, from screening to survivorship, employed in our academic medical center emphasized the increasing focus on value-based, evidence-based cancer care as the United States transitions to the era of the Affordable Care Act. This shifting focus is supported by many organizations including the National Comprehensive Cancer Network, the American Society of Clinical Oncology, the U.S. Preventive Services Task Force and the National Cancer Institute.

Orucevic says the presentations were well received among an audience of approximately 200 health care and information sciences professionals from around the world, including Australia, England, France, India, Spain, Turkey and the United States. Orucevic has already been invited to participate in two more international conferences.

Physicians from the medical center also learned. Orucevic said, “Listening to the talks from different speakers, it was clear that we are doing a very good job in delivering superb care to our breast cancer patients. However, each one of us learned something new on how different populations approach the same problems in treating breast cancer patients. I am sure that it will improve our own approaches to different situations that we will encounter.”

Healthy Living is Simple

All You Need to Do is Take the First Step

CUT OUT TOBACCO
Living a tobacco-free lifestyle reduces the risk of disease and saves you money.

MOVE MORE
Exercising helps you reduce stress, maintain a healthy weight and feel better.

EAT SMARTER
Eating better increases your energy and helps you control your weight.

healthier tennessee StartNow

The University of Tennessee Medical Center is partnering with Healthier Tennessee to educate the community on healthy living.

Healthier Tennessee created Small Starts, a series of simple, healthy activities you can start today. Small Starts is a free program available at healthierTN.com or download the Streaks for Small Starts app.

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Chief, Division of Hematology/Oncology

Anne Sprouse
Chaplain

Jonathan Wall, PhD
Professor, Department of Medicine
Director, Amyloidosis & Cancer Theranostics Program

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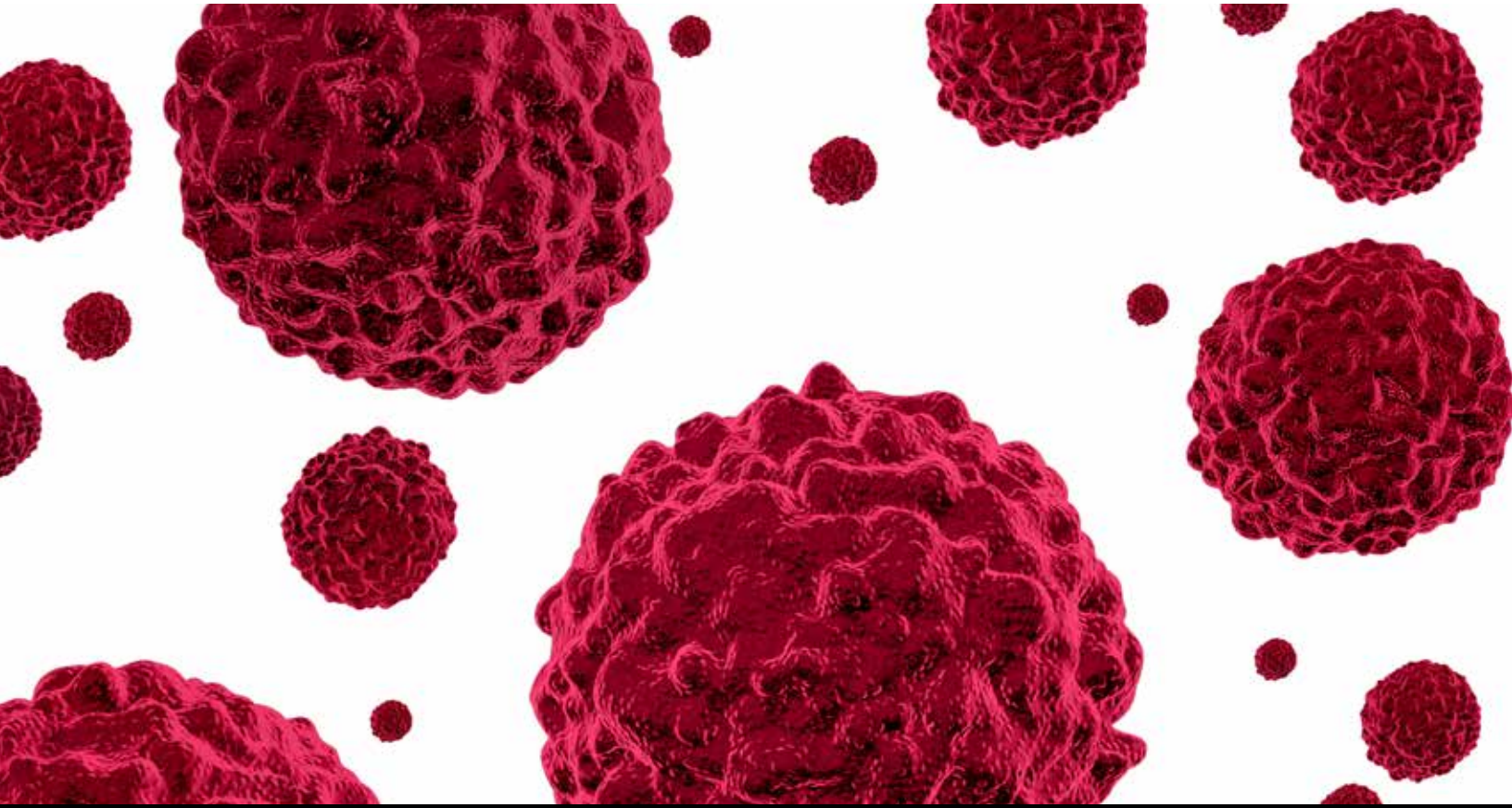

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