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John Breneman, MD, medical director of the Proton Therapy Center, stands beside the 90-ton cyclotron – the heart of the system that produces the proton beams for targeted cancer treatment.
A Year of Advancements

In the last months of 2015, we learned that UC Health had received two significant honors reflecting the sum of our efforts and our achievements throughout the year. While recognition is certainly gratifying to all of us here at UC Health, what’s more significant is what these honors say about the care and the services that we bring to all of you.

As Cincinnati’s only academic health system, we have a unique role in ensuring that you have convenient access to the most specialized, sophisticated care for complex conditions. With our unified system of hospitals, outpatient care centers and physician practices spread across the region, we offer care and service that’s been recognized for quality by leading organizations.

In October, we learned that University of Cincinnati Medical Center had been named a “Rising Star” by University HealthSystem Consortium. Every year, UHC honors health systems for exemplary performance in safety, mortality, clinical effectiveness, efficiency and patient-centered and equitable care. They recognized us for our strides in these areas, placing us among the top 25 percent of our peer institutions.

And in November, two of our hospitals were honored by The Joint Commission, the organization that accredits and certifies the vast majority of U.S. hospitals. UC Medical Center and West Chester Hospital were recognized as “Top Performers” for excellence in care of heart, pneumonia and surgical patients. West Chester Hospital also received its fourth consecutive Healthgrades® Outstanding Patient Experience Award.

This recognition came following announcements made earlier in the year that two of the three major bond ratings agencies in the U.S. provided positive evaluations of our system. Standard & Poor’s upgraded our long-term bond rating, and Moody’s upgraded its outlook on UC Health to positive. These agencies cited many factors, including:

• Our role as the only academic health system in the region, with strong gains in market share as more and more area residents choose UC Health and University of Cincinnati Physicians for care;
• Strong physician recruitment with more than 250 primary care and specialist physicians joining UC Health in the last three years;
• Expansion of our ambulatory care network to bring UC Health closer to area residents; and
• The strengthening of many of our key specialized services, including cardiology and transplant.

Among the highlights of our year:

Work Progresses at Region’s Newest Center for Advanced Cancer Treatment. Installation of equipment at the new Proton Therapy Center in Liberty Township brings the area one step closer to being one of the few locations in the world to offer a unique form of radiotherapy. The Center, a partnership between UC Health and Cincinnati Children’s Hospital Medical Center, is expected to begin patient care in late 2016.

Telehealth Enhances Convenience, Access. Imagine a real-time visit with your doctor—from your living room. Or having a health condition monitored by expert nurses without leaving home. UC Health’s Telehealth Network is pioneering these and other ways to help patients save time, avoid travel and have easier access to health care when they need it. The Network will also support our role as an academic health system by offering education and training for health care professionals.

New Maternity Unit Brings Specialized Mother and Baby Care to West Chester Hospital. Since the maternity unit opened at West Chester Hospital in April of this year, our physicians and nurses have helped more than 350 babies meet their families in the region’s newest birthing center. With beautiful labor, delivery, recovery and postpartum suites and sophisticated operating rooms, the unit offers everything parents could want, including an eight-bed Special Care Nursery, with a team of experts immediately available to provide specialized treatment to premature newborns and infants with high-risk conditions.

Region’s only Adult Heart Transplant Program. Our UC Heart, Lung and Vascular Institute has built a team of experts specifically trained in advanced heart failure, medical and mechanical heart therapies, including left ventricular assist devices (VAD), extracorporeal membrane oxygenation (ECMO) and heart transplantation. Our specialists collaborate across traditional boundaries and draw upon the expertise of anesthesiology, nutrition, psychiatry, social work and critical care, further delivering highly coordinated, patient-centered care.

Looking Ahead: Bringing the Best in Neuro and Psychiatric Care to the Region. Our UC Neuroscience Institute launched a $123 million project that will include a new world-class outpatient facility for people with the most challenging neurologic and psychiatric diseases. The Institute’s efforts will expand research programs, recruit additional physicians and researchers, support new training fellowships and expand community-wide programming.

We look to 2016 as another year of growth and accomplishments to bring the highest levels of medical care to you and your family.

Richard P. Lofgren, MD, MPH, FACP
President and Chief Executive Officer
UC Health

Limb Length Discrepancy:
UC Health Is First in Region to Offer Revolutionary Treatment

For years, Ben Brenner, a devoted husband, father of three and school counselor, endured the pain and limitations caused by a nearly two-inch length discrepancy between his left and right leg. The disproportional length was caused by a car accident that shattered his left femur and damaged the growth plate in his left hip when he was 12 years old. From that time on, a section of Brenner’s leg stopped growing.

The ramifications resulting from the injury started as Brenner began hitting growth spurts. “I began noticing problems as early as high school while playing sports,” he says. “I couldn’t run as quickly, and my shins and back would hurt.”

When Brenner reached his late 20s, life was becoming even more challenging due to his condition. The everyday tasks of standing, walking and exercising caused significant hip and back pain. He also had difficulty finding comfortable shoes and often had to use orthotics.

He decided that he had to find a solution. Brenner first saw a chiropractor and sought the advice of several physical therapists and orthopaedic doctors, but it wasn’t until he was referred to John Wyrick, MD, a UC Health orthopaedic surgeon, director of the Division of Upper Extremity Surgery and...
To learn more about the UC Health Orthopaedic & Sports Medicine, visit UCHealth.com/Orthopaedics. To schedule an appointment with an orthopaedic specialist, call (513) 475-8690.

New Technology Reduces Pain and Discomfort, Improves Quality of Life

UC Health Orthopaedic Surgeon John Wyrick, MD, is the first surgeon in the Greater Cincinnati region to use the PRECICE® Limb Lengthening System, a less-invasive procedure which is providing those with limb disparity a less-painful and faster solution.

The system features an internal device that is used for lengthening the femur and tibia bones and that can be adjusted via remote control to non-invasively lengthen the implant. The key is the magnetic interaction between the implant and the portable, hand-held remote which lengthens the implant.

Prior to this technology, limb lengthening procedures were performed using pins attached to bulky external devices. “This treatment is a significant step in orthopaedic medicine and will no doubt help many people who are looking to resolve a limb discrepancy problem. The process is much less painful for patients, and reports indicate fewer complications resulting from infection," says Dr. Wyrick.

The future of this technology will eventually include arm lengthening as well; a device for the arm is currently going through FDA approval.

Source: Ellipse Technologies, Inc.

Trauma, and professor of orthopaedic surgery for the UC College of Medicine, that Brenner was able to find hope for a real solution.

An expert in orthopaedic trauma and limb lengthening, Dr. Wyrick was confident that he could help Brenner.

Dr. Wyrick first talked with Brenner about pursuing the traditional method of breaking and lengthening the bone using pins and a metal framework around the limb. However, Dr. Wyrick believed a newer, less-invasive procedure would be the better choice.

“This new technology allows us to insert an intramedullary nail, or implant, inside the bone once it is cut, then it is slowly pulled apart one millimeter each day,” states Dr. Wyrick. “Over time, the bone lengthens and fills in. In addition, this procedure is better equipped to guide the bone into alignment as it grows.”

“IT was the second most important thing I have ever done in my life,” Brenner says. “Of course, the first was marrying my wife,” he says smiling.

Brenner experienced very little discomfort after the procedure and the results were miraculous. Only months after having the rod inserted, Brenner finished a 5K race, something he had been unable to achieve for nearly 10 years. The implant was removed in December 2015.

Today, the simple act of walking without pain has been an amazing change for Brenner. The biggest reward however; is that he is able to actively engage with his three young sons. “Every dad wants to be able to play with his children, and now I can,” Brenner says. “This procedure has changed the quality of my life tenfold and I couldn’t be more grateful.”

The Brenner family - Megan and Ben, with twins Cameron and Carter, and big brother Carson, enjoy time at home.
Half of all cancer patients will receive radiation therapy at some time during their treatment to shrink and kill cancer cells. X-ray treatment and gamma rays are modern medicine’s primary tools for treating a wide range of cancers.

“One of the major downsides of conventional radiation therapy are the side effects,” says John Breneman, MD, a UC Health radiation oncologist, medical director of the Proton Therapy Center and professor emeritus of radiation oncology and neurosurgery for UC College of Medicine. Many people are familiar with the common side effects, including fatigue, dry mouth, nausea and the potential for injuring internal organs.

In late 2016, UC Health and Cincinnati Children’s Hospital Medical Center will take a significant step to improve radiation therapy offered within the greater Cincinnati region when they open Ohio’s second proton therapy center in Liberty Township.

**Proton therapy is a superior form of radiation therapy.**

The major advantage of proton treatment is that the energy distribution of protons can be directed and deposited in tissue in a three-dimensional pattern from each beam used. As a result, the dose to the tumor can be increased while reducing the dose to surrounding normal tissues. The overall effects lead to the potential for fewer harmful side effects (such as nausea, vomiting or diarrhea), more direct impact on the tumor, and increased tumor control.

“When using protons instead of X-rays, treatment can be much more exacting,” says Dr. Breneman, explaining that the very nature of X-rays means that they will pass through the diseased parts of the body that are targeted and often have an undesirable impact on other organs.

“Cancer treatment is much more precise with protons,” says Dr. Breneman. Because of the physics involved with protons, they don’t travel past the targeted tumor and as a result, can completely eliminate radiation exposure to normal organs. For instance, even fairly low exposure to X-rays can increase the risk of heart attacks. Therefore, with conventional treatment, it can limit the dosage that physicians can prescribe. This is not the case with proton therapy.

“We’ve been working toward the opening of this center and offering this innovative therapy to our community for a long time—nearly eight years,” says Dr. Breneman. UC Health and Cincinnati Children’s will be one of fewer than two-dozen facilities in the U.S. employing proton treatment.”

**AT A GLANCE: Proton Therapy**

- Is the most precise form of radiation treatment available today. It destroys the primary tumor site, leaving surrounding healthy tissue and organs intact and unharmed.
- Is non-invasive and painless. Patients maintain quality of life during the treatment process as an outpatient. Many patients continue with normal activities during treatment, such as: playing golf, tennis, running and more.
- Can be used in conjunction with other cancer treatments such as chemotherapy.
- Minimizes the usual side effects of standard X-ray radiation.

*Source: The National Association for Proton Therapy

Learn more about the power of proton therapy from the National Association for Proton Therapy at proton-therapy.org.
Cancer Treatment & Memory Loss: FINDING A BALANCE

When we think about cancer, we tend to think mostly about the dark side of this prevalent disease. The good news, however, is that for many cancers, survival is much more likely than at any time in the past.

“Because of the successes we’ve achieved in medicine, people are now living long enough to see the side effects of the very treatment that has helped them survive,” says Rhonna Shatz, DO, a UC Health memory disorders specialist and medical director of UC Memory Disorders Center. She also serves as an associate professor in the Department of Neurology at UC College of Medicine, and is the Sandy and Bob Heimann Chair in Research and Education of Alzheimer’s Disease.

One of the most profound side effects of cancer treatment is memory loss.

“Much seems to stem from the inflammation and irritation that comes along with chemotherapy or radiation. It may also result from the inflammatory state of the cancer itself, before any treatment,” says Dr. Shatz. “We are still in a period of discovery when it comes to these issues. We believe that chronic inflammation may stress brain systems that, in turn, cause cognitive problems.”

Those cognitive problems manifest in many different ways, from depression and anxiety, to sleep problems and mild cognitive impairment. They all appear to be tied together.

If only these problems could be dealt with by taking a simple anti-inflammatory drug. It turns out, however, that the complex solutions are only partly understood. “It’s a process,” says Dr. Shatz, “not a pill.”

As a result, several teams of UC physicians are involved in a variety of research projects trying to solve these issues. “The more mechanisms we investigate, the more we understand,” says Luke Pater, MD, a UC Health radiation oncologist and an assistant professor of radiation oncology for UC College of Medicine. “However, we have a long way to go.”

One thing research has definitively revealed is that different areas of the brain react in unique and occasionally unpredictable ways. The brain is not a mass of uniform material. Rather, it is a collection of specialized areas that have found ways to work together.

“Gradually, we are learning how these different regions of the brain respond and how they react to varying doses of treatment,” says Dr. Pater. “With that knowledge in hand, we can modify our plans accordingly.”

“One of the triggers to combat inflammation, which commonly occurs as a result of radiation or chemotherapy treatment, is sustained aerobic activity,” she says. “An aerobic activity, such as walking, can be an effective solution.”

In the past, exercise has not been considered as part of the regimen for people undergoing chemotherapy. Because exhaustion can be a side effect of chemotherapy, motivating people to choose exercise over relaxation can be a challenge. The concern also exists that too much exercise will cause inflammation as well.

Timing can be crucial as well. With certain chemotherapies, turning to exercise is not immediately necessary. Breast cancer patients, for instance, are likely to be on chemotherapy or hormonal therapy for five years or longer. For most patients, an exercise regimen will have a positive influence.

“Through our continued research,” says Dr. Shatz, “we have a better understanding of how cognitive function is impacted by various cancer treatments.”

Learn more about the Memory Disorders Center at the UC Neuroscience Institute by visiting UCMemoryDisordersCenter.com or by calling (513) 584-2214.
A Life-Altering Diagnosis

Curtis Ashby, Jr. remembers June 6, 2014, very well. “It was a Friday night. I was at the gym. I did about 10 minutes on the elliptical and I had to get off. I couldn’t catch my breath.”

Until a couple of weeks before that, nothing like that had ever happened to him. True, he was overweight – and this was the reason he had begun to exercise again. He’d already lost nearly 40 pounds, and suddenly, his weight loss plan hit a plateau.

“I thought all I had to do was exercise more at the gym and everything would be okay,” recalls the 50-year-old Ashby. “But it wasn’t okay. At first, I thought I had a bad cold, or possibly pneumonia. I thought I had been working too many hours. My feet started to swell up.” A few days later, on the morning of June 11, he woke up and couldn’t catch his breath. His next move saved his life.

Ashby came to University of Cincinnati Medical Center with a hypertensive emergency, pulmonary embolus and uncontrolled diabetes. An echocardiogram showed that he suffered a severely reduced ejection fraction of 20 to 25 percent. Ejection fraction is the measurement of the percentage of blood leaving your heart each time it contracts. Normally, it should range from 55 to 60 percent.

An athlete during his youth, Ashby became a bit more sedentary as a middle-aged adult, balancing the duties of family life and a hectic work schedule. But after following a restricted diet and an exercise regimen designed by the UC Medical Center cardiac rehabilitation team, Ashby, a former U.S. Army sergeant, has dropped to 250 pounds and his ejection fraction has increased to 55 percent. He started reading food labels, watching carbohydrates and sodium.

Through his treatment, he worked closely with Anita Whitton, a nurse practitioner in the Advanced Heart Failure and Transplant Program, under the direction of his cardiologist, Stephanie Dunlap, DO, medical director of the UC Health Advanced Heart Failure Treatment Center. Exercise Physiologists Stephanie Moore and Chris Mueller, coordinated his physical activity, while Access Coordinators Shirley White and Jeanne Flick welcomed Ashby to his weekly appointments. Ashby says the UC Health team approach really made a difference in his care.

“You absolutely must have a positive attitude every day. I know that if I’m going to keep my freedom and my mobility, I can’t miss a single day. Ever.” – Curtis Ashby, Jr.

“I was never a big drinker or smoker,” says Ashby. “For the most part, I did what I was supposed to do in life. Being sick to this degree was an ‘a-ha moment’ for me—I hadn’t even been through anything like that before.”

His journey has not been an easy one. It’s not like taking an aspirin to stop a headache. His “cure” is adopting a healthy regimen that will continue for the rest of his life. “The toughest part about this is mental,” says Ashby. “They can give me the medication, but I have to make myself take it every day. You absolutely must have a positive attitude every day. I know that if I’m going to keep my freedom and my mobility, I can’t miss a single day. Ever.”

To receive the name of a UC Health cardiologist and to learn more about the UC Heart, Lung and Vascular Institute, visit UCHealth.com/heart; call (513) 475-8000 or email UCHeart@UCHealth.com.
Pelvic Floor Disorders:
Which Treatment Is Right for Me?

While several conditions fall under the heading of “pelvic floor disorders,” this clinical term most frequently refers to pelvic organ prolapse, which occurs when the pelvic floor—the muscles and connective tissue that suspend the abdominal cavity when standing—is weakened and the pelvic organs (the cervix, uterus, bladder, urethra and rectum) begin to bulge into the vagina.

Many factors can contribute to these conditions: vaginal childbirth, hysterectomy, repeated lifting of heavy objects or a prior surgery, among others.

No one best treatment exists for all women who have a pelvic floor disorder. Treatment should be individualized to meet the patient’s goal for therapy, according to James Whiteside, MD, a UC Health urogynecologist and associate professor of obstetrics and gynecology in the Division of Female Pelvic Medicine and Reconstructive Surgery for UC College of Medicine. He also serves as director of the UC Health Obstetrics and Gynecology residency programs.

Surgical Versus Non-Surgical Treatment?

A variety of non-surgical and surgical treatments are available to women, and patients should evaluate all options carefully in conjunction with their doctor, urges Dr. Whiteside.

**Surgical Mesh**

“Many people have heard of transvaginal mesh,” says Dr. Whiteside, a medical device that is inserted surgically to provide extra support to weakened or damaged tissue. Most surgical mesh devices are made from synthetic materials or animal tissue, with the applications focused on management of vaginal prolapse or stress urinary incontinence (when the bladder leaks urine during physical activity or exertion).

In most contexts, states Dr. Whiteside, no reliable studies exist to demonstrate that surgical mesh is consistently superior to non-mesh surgical options for the correction of most vaginal prolapse.

**Native Tissue Repair**

Prior to the introduction of mesh treatment, surgeons employed a so-called “native tissue” approach, using the patient’s own tissue to re-suspend the pelvic organs. In recent years, several high-quality studies have offered a better understanding of the risks and effectiveness of native tissue repairs relative to repairs using mesh, Dr. Whiteside says. These studies demonstrate comparable rates of effectiveness, with overall less risk, than repairs using transvaginal or abdominally inserted mesh.

**Pessaries**

The pessary is a silicon device that is inserted into the vagina to support the pelvic organs. Available in many shapes and sizes to suit individual needs, the pessary is regarded as an effective, non-surgical option for a variety of pelvic floor disorders.

**Medication & Physical Therapy**

Medications can be prescribed for some relief of pelvic floor dysfunction, and physical therapy specifically designed for women with pelvic floor disorders can also be effective in managing the condition.

Watchful Waiting

Active surveillance, or watchful waiting, may be a reasonable option for some women. “A fair number of women who possess less than perfect vaginal support are not bothered at all,” says Dr. Whiteside. “They aren’t experiencing prolapse symptoms and only became aware of the condition during a regular health check up.”

Dr. Whiteside strongly recommends that those who are suffering with pelvic floor dysfunction talk with their health care provider about all possible treatment options.

PT & The Pelvic Floor

For many women, developing and following a regimen of physical therapy may be all the treatment they need for a pelvic floor condition.

“We’ve known for a long time that with prolapse, it’s not just a result of having babies,” says Stacey Clarke, DPT, a UC Health physical therapist who specializes in pelvic health. “Our society has become incredibly sedentary. It has changed our posture and our muscular coordination in ways that many women don’t understand.”

And it’s not just at home, says Clarke. As workplaces have become more automated, fewer people have any measure of physical exertion on the job as well.

Clarke says many forms of exercise can help alleviate problems for women – and men, too.

As Clarke talks about various treatments, she doesn’t address just one issue. She considers the whole person, the whole body. She doesn’t lead with equipment-heavy regimes. Rather, she tries to help her patients balance their lifestyles. “I provide a great deal of muscle re-education,” says Clarke. “I’m not just talking about doing Kegel exercises all day long. Too much is not good.”

“I teach people to tap into the natural reflexes which they likely have decided to override,” says Clarke. “There are so many options available before a surgical solution is considered.”

To learn more about urogynecological services available in the UC Health Women’s Center, visit UCHealth.com/women or call (513) 475-UC4U (8248).
Discover Health is a quarterly magazine published by University of Cincinnati Medical Center to provide accurate and timely health information. It is offered as a health education tool featuring news and stories centered around academic-based, discovery-driven health care—it is not a substitute for consultation with a personal physician. UC Medical Center is located at 234 Goodman Street, Cincinnati, OH 45219. For more information, call (513) 584-1000 or visit UCHealth.com. You can also like us on Facebook at Facebook.com/uchealthcincinnati or follow us on Twitter @UC_Health. If you do not wish to receive future issues of this publication, please email UCMC-PR-Marketing@UCHealth.com.

2016 UC HEALTH EVENTS CALENDAR

University of Cincinnati Medical Center is a health education and information resource for people in the Greater Cincinnati Region. Events and activities listed on this calendar are held in various locations within UC Health facilities, unless otherwise noted.

**AMERICAN HEART ASSOCIATION 2016 HEART BALL**
Sat., February 20 – Duke Energy Convention Center, 525 Elm Street, Cincinnati, Ohio 45202.
UC Health is a proud sponsor of the 2016 Heart Ball, a black-tie gala celebrating the AHA’s life-saving work for Cincinnati families. Contributions from this event help support cardiovascular research, professional and community education, and advocacy efforts. For information or tickets, visit cincinnatiheartball.heart.org.

**ANNUAL HEART MINI**
Sun., March 13 – Fountain Square, Downtown Cincinnati
Each year, nearly 25,000 people participate in the Cincinnati Heart Mini, a heart-healthy day of exercise to raise life-saving funds to fight the #1 and #5 killers of heart disease and stroke. UC Health is a proud sponsor of the 1K Steps for Stroke portion of the event. To learn more or register, visit heartmini.org.

**CATHERINE GEERING ENDOWED COMMUNITY SEXUAL HEALTH EDUCATIONAL LECTURE**
Thurs., March 31, 7 to 8:30 p.m. – West Chester Hospital Plaza Conference Room (Level A) – 7700 University Drive, West Chester, Ohio 45069.
The keynote speaker is Sheryl Kingsberg, PhD, division chief of Obstetrics and Gynecology Behavioral Medicine, University Hospitals Case Medical Center – Cleveland. Register at UCHealth.com/events.

**HEALTHY LIVING IN A STRESSFUL WORLD: STRATEGIES FOR THRIVING WITH STRESS IN DAILY LIFE**
Sat., April 16, 1 to 5 p.m. – Daniel Drake Center for Post-Acute Care, 151 W. Galbraith Rd., Cincinnati, Ohio 45216.
This meeting provides support, fellowship and information to those who have experienced a stroke.

**WINE TASTING EVENT TO BENEFIT BRAIN TUMOR RESEARCH**
Thurs., April 21, 6 to 8:30 p.m. – Cincinnati Museum Center at Union Terminal, 1301 Western Avenue, Cincinnati, Ohio 45203.
Save the date for a special wine tasting event that will benefit the UC Brain Tumor Center. Enjoy wine, camaraderie and a silent auction. Business casual attire is requested. Find more details at UCNeuroscience.com/events.

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**SUPPORT & INFORMATION**

**PARKINSON’S DISEASE SUPPORT GROUPS**
Meets second Thursday of each month from 5 to 6:30 p.m. – UC Health Women’s Center Community Room, UC Physicians Office South, Fourth Floor, 7675 Wellness Way, West Chester, Ohio 45069.
Separate meetings for patients and for caregivers are offered simultaneously. For information, contact Michanne Davis at Michanne.Davis@UCHealth.com or Julie Gohs at Julie.Gohs@UCHealth.com.

**STROKE SURVIVORS SUPPORT GROUP**
Meets third Wednesday of each month from 7 to 9 p.m. – Daniel Drake Center for Post-Acute Care, 151 W. Galbraith Rd., Cincinnati, Ohio 45216.
This meeting provides support, fellowship and information to those who have experienced a stroke.

**ALLIES FOR HOPE & HEALING BRAIN TUMOR MENTORING PROGRAM**
The UC Brain Tumor Center mentoring program, Allies for Hope and Healing, pairs patients with caring individuals who have coped with brain cancer firsthand or through the experiences of a loved one. Trained mentors provide support to patients who have been recently diagnosed. Our team of volunteers offers comfort, helps to reduce anxiety and lends a sympathetic ear to patients who choose to share their concerns. For information, or to be matched with a mentor, contact Jennifer Ross at Jennifer.Ross@UCHealth.com or (513) 584-7043.

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**ARE YOU A CANDIDATE FOR A CLINICAL TRIAL?**

UC Health clinical research trials improve medical care and offer new solutions and hope to patients. Physicians and scientists use studies to develop new and improved diagnostic tools, medications, devices or treatment.

To find out if you qualify for a clinical trial, visit UCHealth.com/research.