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RATES OF GASTRIC CANCER.

SUPERIOR OB-GYN CARE
THAT MEETS ALL NEEDS.

UCI Health

FALL 2022

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EXCEPTIONAL HEALTHCARE FOR SOUTHERN CALIFORNIA



Innovations in MS Therapy

UCI Health offers treatment designed for
blood cancers to halt the disease.

SAFEGUARDING CARE FOR ALL



We are honored that *U.S. News & World Report* has ranked the UCI Health Chao Family Comprehensive Cancer Center among the top 50 cancer centers in the nation. As the only National Cancer Institute-designated comprehensive cancer center based in Orange County, we are the go-to provider for cancer care in our region — from the most common diagnoses to the most rare and challenging cases.

Our story on page 12 is a testament to our multidisciplinary, state-of-the-art cancer services. When a Signal Hill woman was diagnosed with late-stage stomach cancer and referred to us, we were prepared to respond. Because the disease is an

emerging problem in our region, particularly in Hispanic and Asian communities, two of our gastrointestinal cancer specialists had already joined forces to develop improved treatment options.

Through our cancer center's robust clinical trials program, these physicians were able to offer a therapy that has greatly benefited the retired nurse. She also received the highest level of care because, as an academic health system, our cancer team works with specialists from every discipline to treat the whole patient, including any comorbidities or complications that may occur.

We also lead the way in providing advanced treatments for a broad spectrum of noncancer conditions. On page 6, learn how we are using stem cell transplantation to treat a Corona del Mar woman for multiple sclerosis. As home to the area's only adult bone marrow transplant and cellular therapy program, we are expanding the array of cellular treatments we offer for both cancer and noncancer disorders.

On page 10, we invite you to learn why we are so proud of our OB-GYN services, which *U.S. News* has ranked among the nation's top 25 programs. This summer, UCI chancellor Howard Gillman joined other higher education leaders at a meeting with Vice President Kamala Harris to discuss our steadfast commitment to safeguarding women's reproductive healthcare.

This commitment to excellence across the full range of primary, preventive and specialty care services is why we earned *U.S. News* best hospital honors for the 22nd consecutive year. We are dedicated to maintaining the highest quality of healthcare, both at our UCI Medical Center campus in Orange and in the future at our new hospital and cancer center slated to open in Irvine in 2025.

Sincerely,

Chad T. Lefteris, FACHE
Chief Executive Officer
UCI Health

UCI Health

VICE CHANCELLOR, UCI HEALTH AFFAIRS
Steve A.N. Goldstein

CHIEF EXECUTIVE OFFICER, UCI HEALTH
Chad T. Lefteris

DEAN, UCI SCHOOL OF MEDICINE
Michael J. Stamos

EXECUTIVE MARKETING DIRECTOR
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ASSISTANT DIRECTOR, COMMUNICATIONS
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ASSISTANT DIRECTOR, MARKETING
Camila Hernandez

MANAGING EDITOR
Kristina Lindgren

DESIGN, EDITORIAL & CONTRIBUTORS
Moontide Agency

ART DIRECTOR
Yuiko Sugino

EDITOR
Shari Roan

COPY EDITOR
Laura Watts

For comments or questions, contact
UCI Health Marketing & Communications at
333 City Blvd. West, Suite 1250, Orange, CA 92868
714-456-5496

Information in this magazine is not meant to
replace the advice of your physician.

SUPPORT UCI HEALTH

Few things in life matter more than your health. As Orange County's only academic medical system, UCI Health is pushing the frontiers of lifesaving research while improving health and wellness in our community and beyond.

We cannot succeed without you. Please consider becoming an active partner in charting our future path. With your support, we will make new medical breakthroughs, redefine patient care, educate the next generation of health professionals and promote physical and mental well-being in our communities.

To make a gift supporting the expansion of UCI Health, to thank a provider or honor the memory of a loved one, call 714-456-7350 or visit ucihealth.org/giving. Your gift also supports UCI's Brilliant Future campaign.

BRILLIANT FUTURE
THE CAMPAIGN FOR UCI

TURNING OFF MELANOMA AND OTHER TUMORS

WRITTEN BY PATRICK J. KIGER

For UCI Health dermatologist Dr. Anand Ganesan, a specialist in skin disorders and a prolific research scientist, fighting cancer requires painstaking work to assemble bits of information — genetic information, in this case — to find a potential weapon against the disease.

That approach has led Ganesan and his colleagues to create a new molecular compound, ALY101, which has the potential to stop melanoma, the most aggressive type of skin cancer, in its tracks and possibly a range of other challenging cancers, too.

Ganesan, a UCI School of Medicine professor who holds both a medical degree and a doctoral degree in microbiology and molecular genetics, compares cancer and the ALY101 molecule to Jenga, a popular game in which players take turns removing parts of a tower made of wooden blocks.

"A cancer cell is a big Jenga puzzle," he says. "We want to figure out which blocks — that is, genes — are the right ones to target. The first thing we did was to say, 'Let's take out each block, one by one, and see how to fix the puzzle.'"

Unlike Jenga players, the goal wasn't to keep the tower of blocks intact, says Ganesan, who also is co-director of the UCI Chao Family Comprehensive Cancer Center's Biotechnology, Imaging & Drug Discovery program.

Instead, he wanted to learn the role that each piece plays in cancer, in hopes of finding one he could pull out and stop the disease's progression. "If we take away this gene, is the tumor still able to form?" he ponders. "Does it not metastasize? What happens?"

Eventually, Ganesan and his colleagues found a gene that plays a role both in chemotherapy resistance and in cancer progression. Their findings were published in the journal *Cancer Research* in 2012.

Then came the hardest part: figuring out how to switch off the finicky gene.

"That's the real challenge because you have to target it when it's switched on," Ganesan says.

A key breakthrough came when he went to Italy to give a lecture on his discoveries and spoke with Marco De Vivo, director of the Molecular Modeling and Drug Discovery Laboratory at the Italian Institute of Technology. De Vivo uses sophisticated computer modeling to test which chemical compounds may be able to block a protein from binding to a particular spot on a cell.

Ganesan wanted to figure out which compounds would block the gene, but told De Vivo he was stymied because his target was unstable, flipping on and off. "He said, 'Oh, that sounds interesting,'" Ganesan recalls.

Together, Ganesan and De Vivo used molecular modeling to create a new chemical compound that would do the trick. "That took a long time," Ganesan says. "There was a lot of trial and error."

In April 2022, Ganesan, De Vivo and colleagues published an article in the journal *Cell Reports* describing the promising results from ALY101. The work was supported by both the National Institutes of Health and the UCI Anti-Cancer Challenge, an annual fundraiser that provided his team with \$40,000 in seed money.

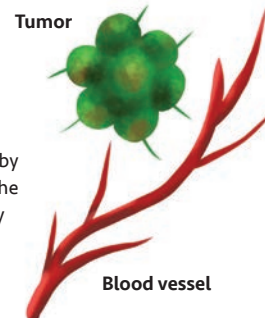
There's still much research to be done on ALY101 before it can be developed into a treatment, Ganesan says. In addition to further testing its effects on cancers, researchers have to determine the most effective way to administer it. He's hopeful that it will help not only melanoma patients but also people with neurofibromas in the ear (tumors

DESTROYING CANCER

A compound created by UCI Health researchers is designed to stop the spread of melanoma.



A melanoma tumor starts in the skin, then is spread by nearby blood vessels.



The ALY101 compound kills tumor cells in part by cutting off the blood supply to tumors.

that can destroy hearing) and Ewing's sarcoma (a bone cancer that strikes young people).

"We're also looking at the drug for rare cancers," he says. "There are a lot of rare cancers we have no treatments for." ■

Learn more about melanoma services at ucihealth.org/melanoma





UCI HEALTH TO BUILD STATE-OF-THE-ART REHABILITATION HOSPITAL

UCI Health and Kindred Rehabilitation Services (KRS), a business unit of LifePoint Health, announced a joint venture to construct and operate a 52-bed, 68,000-square-foot inpatient rehabilitation hospital in Irvine to serve the growing clinical needs of Orange County and the region.

The hospital will treat patients recovering from conditions such as stroke, traumatic brain and spinal cord injuries, as well as trauma, burn and orthopedic patients. KRS will manage the hospital's day-to-day operations. UCI Health physicians and clinical staff will provide high-quality care — all in private rooms with first-rate rehabilitation facilities. The partners expect construction on the \$80 million inpatient hospital to begin by December 2022, and they hope to begin admitting patients in late 2025.

The rehabilitation hospital will serve patients across the region, including patients treated at UCI Medical Center in Orange, home to Orange County's only Level I trauma center and regional burn center, in addition to orthopedic and neurological surgery services and a comprehensive stroke center. The hospital, to be located at 17931 Von Karman Ave., will dramatically expand inpatient rehabilitation access from 14 existing beds at UCI Medical Center. It will also serve patients treated at the new UCI Health — Irvine medical complex, now under construction on the UC Irvine campus.

"UCI Health and Kindred have a shared vision to create the most innovative and comprehensive rehabilitation center on the West Coast," says Lefteris. "As Orange County's only academic health system, UCI Health provides leading critical care to a region of more than 3.5 million people. They deserve a state-of-the-art rehabilitation center that offers advanced technologies to help them get back to their lives faster."



UCI HEALTH AMONG AMERICA'S BEST HOSPITALS FOR 22ND CONSECUTIVE YEAR

For the 22nd consecutive year, *U.S. News & World Report* has named UCI Medical Center one of America's Best Hospitals. The annual rankings recognize hospitals that excel in treating the most challenging patients and conditions.

This year's report highlights the excellence of UCI Health services in obstetrics and gynecology, No. 24; geriatrics, No. 42; and cancer, No. 46, among similar programs nationally. The UCI Health Chao Family Comprehensive Cancer Center is the only cancer program based in Orange County ranked among the *U.S. News* top 50.

"It is an honor to be recognized once again among America's Best Hospitals," says UCI Health CEO Chad T. Lefteris. "UCI Health is an indispensable health resource in Orange County, focused on improving the health of our community by leading in clinical innovation and managing complex health needs. The dedication, skill and compassion of our entire team means every patient receives the highest level of care available, which is reaffirmed by this recognition."

UCI Medical Center is ranked No. 6 in the Los Angeles metropolitan region and 13th in California. *U.S. News* also rates UCI Health services in gastroenterology (GI) and GI surgery, neurology and neurosurgery, orthopedics, pulmonology and lung surgery and urology as high performing.



Dr. Alpesh N. Amin helped expand COVID-19 therapy options for UCI Health patients during the pandemic.

UCI HEALTH LEADER NAMED O.C. PHYSICIAN OF THE YEAR

The Orange County Medical Association has named UCI Health internist Dr. Alpesh N. Amin Orange County's Physician of the Year. Amin serves as the Thomas and Mary Cesario Endowed Chair of the UCI School of Medicine's Department of Medicine and executive director of its Hospitalist Program.

Throughout the COVID-19 pandemic, Amin played a leadership role in expanding therapeutics for UCI Health patients, including opening a monoclonal infusion clinic and clinical trials.

"This is an honor to be selected as physician of the year by my peers," says Amin. "I am proud of our accomplishments at UCI Health and in the UCI School of Medicine. It is a privilege to work with so many talented people whose dedication, clinical insight and commitment to our patients allows us to provide the best care available for our community. I am very humbled and grateful."

Amin, an internationally recognized leader in the field of hospital medicine, pioneered one of the nation's first hospitalist programs in 1998 at UCI Medical Center. He is the first and only chair with a background in hospital medicine to lead a department of medicine at an academic medical school and academic medical center worldwide.

EXPANDING ACCESS TO CLINICAL TRIALS

UCI Health is expanding its offerings of leading-edge clinical trials with the recent opening of the Center for Innovative Health Therapies and the Center for Clinical Research. The centers, located next to the Chao Family Comprehensive Digestive Disease Center at the UCI Medical Center in Orange, will make it possible for more patients to receive treatments that represent the most promising advances in fields such as cancer.

The building includes six infusion rooms, two treatment rooms, three consultation rooms, a phlebotomy station and laboratory. "Our staff is committed to serving patients, researchers and sponsors with the highest level of clinical care and operational standards available," says UCI Health CEO Chad T. Lefteris.



MAJOR DONOR HELPS FUND NEW ADVANCED CARE CENTER IN IRVINE

A \$20 million donation from Joe C. Wen, founder and president of Cypress-based Sakura Paper, will support a new outpatient care center for the community next to UC Irvine's main campus. Wen's gift is the largest contribution by a donor under age 50 in UCI Health history and will facilitate completion of the five-story, 168,000-square-foot care center. The Joe C. Wen & Family Center for Advanced Care is designed as a one-stop shop for adult and pediatric specialty care, urgent care, lab and other services.

Expected to open in late 2023, the advanced care center is the first of three new facilities that will form UCI Health — Irvine, a \$1.3 billion medical complex that represents one of the largest investments in patient care services in California. A dual comprehensive cancer center and ambulatory care center will begin seeing patients in 2024, followed by a 144-bed acute-care hospital and emergency department in 2025.

"UCI Health transforms lives every day thanks to its leading-edge academic research, advanced medical facilities and — most importantly — passionate and top-notch medical professionals," Wen said in a statement. "There's no doubt that the new medical center in Irvine will have a tremendously positive impact on the community. My family members and I are honored and humbled to be able to help."

Rebooting the Immune System

MS patient gets leading-edge stem cell transplant therapy once reserved for blood cancers.

WRITTEN BY PATRICK J. KIGER

PHOTOGRAPHED BY MICHAEL DER

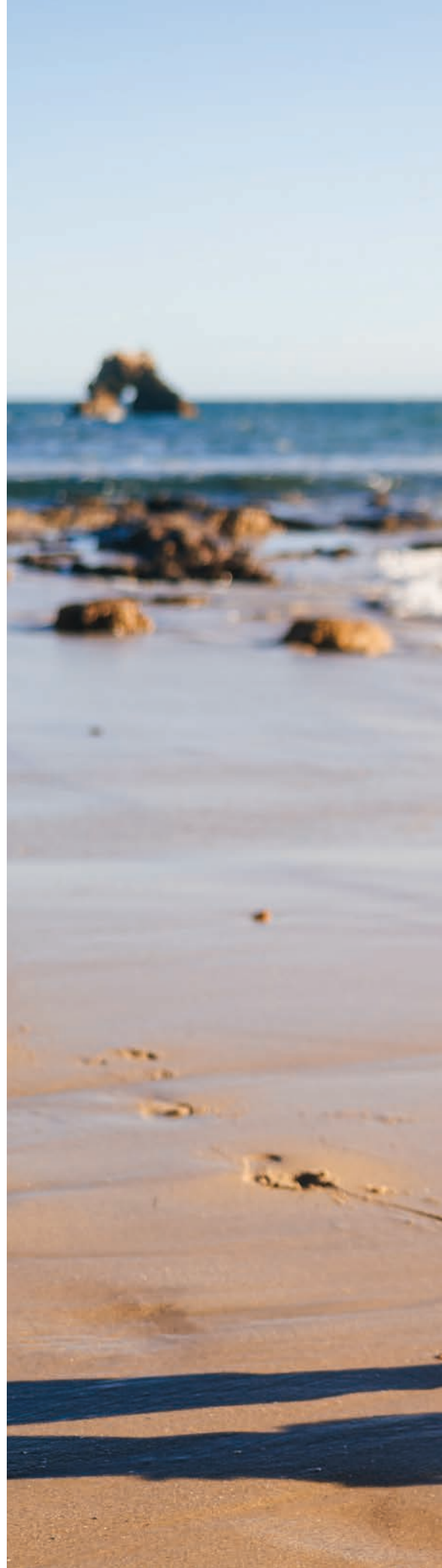
When Jessica Reinhardt was a teenager growing up in New York, a bad case of mononucleosis and sinusitis landed her in the hospital, where a precautionary MRI scan revealed a grape-sized spot on her brain. Her doctors first suspected a brain tumor but a series of follow-up scans showed it wasn't growing as a tumor would.

"They now think that was the first sign of multiple sclerosis," explains Reinhardt, now 40, who lives in Corona Del Mar.

Reinhardt would go on to experience years of strange and debilitating symptoms before being diagnosed with multiple sclerosis (MS), an incurable autoimmune disorder that attacks nerves in the brain and central nervous system. Then she learned about a novel, one-time treatment that could stop disease progression and give her back her active lifestyle.

Consulting with UCI Health physicians, she opted for a bone marrow transplant using her own blood cells to combat the disease. The therapy, called autologous hematopoietic stem cell transplantation (aHSCT), was administered this spring at UCI Medical Center, one of a handful of U.S. hospitals to offer the experimental MS treatment outside clinical trials.

"I feel reborn," says Reinhardt, who is contemplating a return to sailing and exploring the far corners of the world as her strength gradually returns. "I want people to know they have this option. I'm very passionate about this because most MS patients aren't aware it even exists."





For the first time in years, Jessica Reinhardt is able to do normal things like running on the beach with her beloved companion Henry.



Reinhardt hopes she'll again be able to explore the world's wilder places, like this Alaskan range she trekked before her MS diagnosis.

YEARS OF VAGUE SYMPTOMS

MS can be difficult to diagnose. In the years following that first MRI scan, Reinhardt had other mysterious health problems. An adventurous young adult who climbed mountains in Nepal and traveled to Brazil to study the dance-like martial art of capoeira, even her extreme fitness didn't prevent occasional painful falls.

She was also plagued by headaches. In her mid-30s, she was crippled by leg pains while traveling in Europe. "In Italy, my calves locked up so severely I had to take three or four days off and just lie down in an Airbnb." In 2018, she quit her gym because she was too tired to go.

In spring 2019, when she couldn't see out of her left eye after LASIK surgery and her head throbbed in pain, her optometrist sent her to an Orange County emergency room. A few days later, a doctor there showed her an MRI displaying the same grape-sized spot in her frontal lobe. Now there were others — on her optic nerve, on the corpus collosum, the part of the brain that allows the left and right lobes to communicate, and on her spine in her neck.

Those spots, it turned out, were telltale MS lesions where the insulating myelin layers that enable nerve cells to conduct electrical impulses had been destroyed.

"MS is one of the leading causes of disability among U.S. young people," says UCI Health neurologist Dr. Michael Sy, who specializes in MS.

The disease can trigger symptoms that range from pain, numbness and tingling to fatigue and even paralysis, as well as mood and memory problems. It's characterized by periodic relapses that can last from weeks to months and get progressively worse. There is no cure.

Like many of an estimated 1 million American MS patients, Reinhardt faced a grim future. Even with costly medications intended to slow the disease's progression — which have varying rates of success — it was a challenge to get through each day, let alone continue working as a certified sommelier or enjoy the travel and active recreation she loved. "You slowly lose your life to it," she says.

But she isn't one to give up. Her quest for effective treatments led her to read

about aHSCT, an immunosuppressive therapy used primarily for blood cancers but increasingly being offered to treat MS in Europe and elsewhere.

aHSCT, which involves harvesting a patient's blood stem cells then reinfusing them after chemotherapy to reboot the immune system. It's an arduous, months-long process that includes shots to boost bone marrow production of healthy blood stem cells and a prolonged post-transplant recovery. Because it offered a chance to prevent relapses, Reinhardt was game.

Initially, she and her husband, Nadeem, an engineer and executive at a local technology firm, planned to travel to Germany, Singapore or the United Kingdom, where aHSCT is available for MS. Then Sy, Reinhardt's neurologist, mentioned that UCI Health had begun offering the procedure at its Chao Family Comprehensive Cancer Center.

Launched in 2020, the fast-growing Hematopoietic Stem Cell Transplantation and Cellular Therapy Program recently won accreditation by the Foundation for the Accreditation of Cellular Therapies, a

“It’s truly a gift, and I want to spend my life helping other people with MS get this therapy.”

standard the National Multiple Sclerosis Society considers a “crucial” requirement for patients seeking aH SCT. California also has certified the program as a Medi-Cal Center of Excellence for adult bone marrow transplantation.

Reinhardt and her husband were over the moon. Instead of traveling across the world, she says, “I could have the transplant in my backyard.”

When Dr. Stefan O. Ciurea, the program’s director, first began performing bone marrow transplants in 2007 at another institution, the procedure was almost universally used to treat patients with blood cancers.

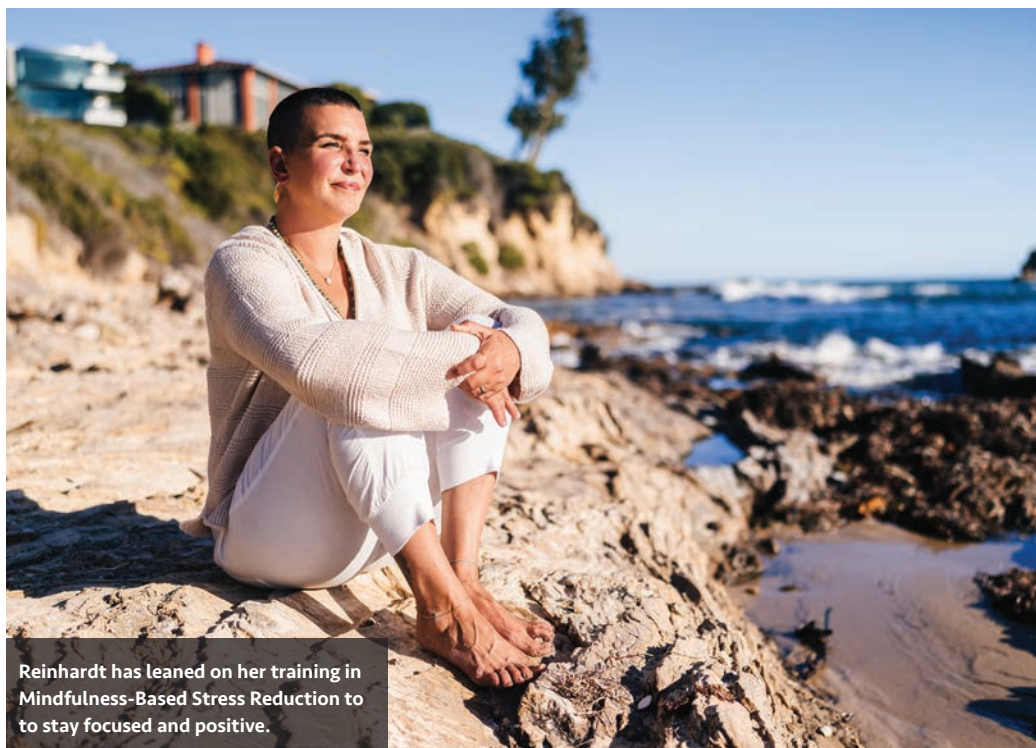
Although aH SCT is generally only available to U.S. patients through MS clinical trials, Ciurea says it is gaining acceptance as a therapy for MS and other autoimmune diseases as new studies have emerged. Results of a study of 120 British MS patients published in 2021 reported that MRIs found no new lesions in 90% of subjects two years after aH SCT, and no new damage in 85% of them after four years, indicating that most may not need further therapy.

Moreover, Sy says, other studies show that 60% to 65% of MS patients showed no progression of disease or disability five years after aH SCT.

“It still is unclear to what degree existing neurological damage is reversible, but we believe this may be happening, too,” adds Ciurea, who emphasized that the procedure is extremely safe, with “very low toxicity and very low treatment-related mortality — close to zero.”

AN IMMUNE SYSTEM REBORN

Even so, aH SCT is a lengthy, complex process. Reinhardt took daily drug injections for two weeks to stimulate her bone marrow to produce and move more



Reinhardt has leaned on her training in Mindfulness-Based Stress Reduction to stay focused and positive.

stem cells into her bloodstream, where they are more easily collected.

Then she underwent a four-hour process at the hospital, where a machine collected her blood, filtered out the fresh stem cells, then returned the rest to her body. She produced so many new cells that there were plenty left over for research — even another transplant if needed.

Next came a course of powerful chemotherapy drugs to wipe out her overactive immune system, which had been attacking her nerves. “At that point, you have no functioning immunity, less than a newborn baby,” says Reinhardt, leaving her feeling weak with little appetite and bouts of nausea.

Finally, on April 7, she was infused with her new blood stem cells and spent three weeks in an isolation room while her body began to build a new immune system. “I tell patients it’s like wiping out your hard drive and reinstalling Windows,” Sy says.

She went home to recuperate in late April, armed with antibiotics and antiviral medications to help shield her from serious infections.

“Dr. Ciurea told me I would see some improvement around the three-month mark,” she recalls. “Literally on day 90, all of a sudden, I’m getting out of bed in the mornings and I’m out gardening!”

Although Reinhardt is still regaining her

physical strength and endurance, she feels the difference. “It’s like night and day. My family says I’m a new person.”

She also has a new mission: spreading the word about aH SCT on social media and increasing access for other MS patients. That will mean pushing insurance companies to cover the procedure’s cost, an estimated \$150,000 — which she contends is cheaper and more effective than a long-term regimen of the expensive MS drugs they do cover — and persuading more U.S. doctors to perform it.

UCI Health has a long history in pioneering MS research and treatments, notes Sy. This partnership with the stem-cell transplant program is yet another noteworthy advance, with three of his MS patients who have had or are preparing for aH SCT so far. It comes as new research at UCI and elsewhere posits that aH SCT may also be effective for other incurable autoimmune diseases.

For Reinhardt, the transplant “has been life-changing.” She regards April 7 as a new birthday. “It’s truly a gift, and I want to spend my life helping other people with MS get this therapy.” ■

Learn more about the
stem cell transplant program
at ucihealth.org/bmt





UCI Health high-risk pregnancy specialist Dr. Carol Major reassures expectant mom Latiola Foliofo that her premature labor has stopped. With close monitoring, Major explains, they should be able to delay the birth until the baby's lungs are sufficiently developed.

REPRODUCTIVE HEALTHCARE TO MEET EVERY NEED

As an academic medical system, UCI Health obstetricians and gynecologists are dedicated to ensuring comprehensive care for every woman.

WRITTEN BY SHARI ROAN | PHOTOGRAPHED BY MICHAEL DER

The obstetricians and gynecologists of UCI Health believe that reproductive healthcare is a woman's cherished right and they are honored to serve the women of our region. UCI Medical Center is ranked by *U.S. News & World Report* among the best U.S. hospitals for maternity care and among the nation's top 25 for overall gynecologic care. We asked Dr. Tabettha R. Harken, a UCI School of Medicine professor of obstetrics and gynecology, to describe UCI Health OB-GYN services — from general gynecology and family planning needs to maternal-fetal care, childbirth and postpartum health.

As an academic health system, what sets your OB-GYN services apart from those of community hospitals?

We provide the most complex, comprehensive OB-GYN healthcare in our region. We have Orange County's only Level 1 adult trauma center and Level III neonatal intensive care unit, which means we take care of people with life-threatening conditions. No matter how sick somebody is when they come through our doors, we are prepared to care for them because we have all the specialties covered. We're also a public institution,

and we take that mission very seriously. One in five acute care hospitals in Orange County are religiously affiliated, and they can deny certain medical procedures based on the institution's religious convictions. At UCI Health, we deliver the highest level of inclusive care to all people in Orange County.

Why does UCI Health get so many referrals for high-risk pregnancies or other challenging maternity cases?

That's because we have the leading maternal-fetal doctors in the area, if not the state, and we can provide complex fetal surgery. We also have among the most advanced diagnostic radiology capabilities. Maternity patients may be high-risk because they have heart or kidney disease, cancer or neurological conditions. As a multispecialty medical center, our patients have access not only to our high-risk pregnancy team but also to the best specialty care possible. We also have highly experienced nurses, social workers and other professionals. In the midst of very scary moments for many of our patients, we keep their psychological well-being front and center and help them through their crises.

What other gynecological care do you provide?

We are strong across the board with world-renowned gynecologists, gynecologic oncologists and urogynecologists who are actively involved in research to improve care. We offer clinical trials that give our patients access to the most advanced treatments available. Our surgeons also use the least invasive techniques whenever possible, including vaginal approaches to hysterectomies. We treat uterine fibroids in ways that preserve a woman's fertility. And our Complex Family Planning Program offers patient consultations with genetic counselors and high-risk obstetricians.

What is UCI Health doing to address maternal mortality and improve birth outcomes?

UCI Health has been a leader in the state's maternal quality care initiative to ending preventable morbidity, mortality and racial disparities in maternity care. We have a robust research team that is driving innovation and improved maternal health practices nationally. And for 15 years, we have received an "A" grade for hospital safety from the Leapfrog Group, a national organization dedicated to ensuring patient safety.

What is your approach to OB-GYN clinical training?

As a public institution, we must train medical students to treat all types of OB-GYN patients and their conditions. Pregnancy can be really complicated. We see ectopic pregnancies, miscarriages, genetic abnormalities and other medical challenges. We also teach our students about social determinants that impact our patients' health. We believe it's critical to teach our students that patients have autonomy and the right to make decisions about their care.

What effect is the recent U.S. Supreme Court decision overturning the national right to abortion having on your team?

All the University of California hospitals have come together in partnership with Governor Gavin Newsom to create a safe haven for women and their families, including those who live in states that restrict patient autonomy and violate the physician-patient relationship. As an educational institution and a clinical training facility, we are mobilizing to serve the most vulnerable patients who are denied access to care elsewhere. As a health system, we are committed to expanding our capacity to care for the most complex patients and those whose rights to make medical decisions have been restricted.

For most women who have uneventful, healthy pregnancies, why is UCI Health a great place to have your baby?

As an academic health system, we combine solid research-supported practices with a dedicated team of physicians, nurses and staff who are engaged and excited about every aspect of your care. Studies show that teaching hospitals have the best patient outcomes. We have among the lowest cesarean section rates despite our high number of complex cases. I can truly say we offer the best care possible to everyone who comes through our doors!

Learn more about OB-GYN care at
ucihealth.org/maternity



UCI HEALTH RESEARCHER LEADS NATIONAL STUDY ON CARDIOVASCULAR DISEASE DURING PREGNANCY

UCI Health high-risk pregnancy specialist Dr. Afshan Hameed is directing a national study to better predict a patient's risk of cardiovascular disease (CVD) during pregnancy. CVD, the leading cause of U.S. maternal mortality, accounts for more than a third of all pregnancy-related deaths. Identifying a patient's risk early will lead to better monitoring to prevent maternal complications and death.

CVD can include cardiomyopathy, diabetes, hypertension and high cholesterol. But symptoms in pregnant patients are often misdiagnosed or dismissed, delaying the recognition and treatment of conditions that may lead to serious disease and mortality, Hameed says. The problem is especially acute for Black patients, whose rate of maternal mortality is three times higher than for whites.

The study to be conducted at 23 U.S. clinical locations will test an 18-point risk-assessment algorithm Hameed previously helped develop with the California Maternal Quality Care Collaborative. The screening tool can stratify pregnant and postpartum patients by those at low and high risk for CVD. When integrated with a patient's electronic health record, it can flag those at risk for CVD, alerting physicians to recommend a cardiology consultation and further testing.

BEST IN OB-GYN CARE

National funding for this study illustrates the ongoing UCI Health commitment to providing outstanding care for women. Several national healthcare ratings organizations recently honored its OB-GYN services.

- Ranked 24th in the nation in obstetrics and gynecology, as well as high-performing in maternity care by *U.S. News & World Report*.
- The 2021 Maternity Honor Roll award from the California Health and Human Services Agency, Hospital Quality Institute and Cal Hospital Compare for reducing births via cesarean section in first-time mothers with low-risk pregnancies (the third consecutive year for the award).
- Recognized by *Newsweek* magazine as one of the America's best hospitals for maternity and newborn care for 2021.
- Baby-Friendly Designated birth facility from Baby-Friendly USA Inc., and the Baby-Friendly Hospital Initiative — sponsored by the World Health Organization and the United Nations Children's Fund — to encourage and recognize hospitals and birthing centers that offer optimal care for breastfeeding mothers and their babies.



Maheswari Senthil, MD, left, and Farshid Dayyani, MD, PhD, are passionate about improving treatment options for the growing number of patients with late-stage stomach cancer in the region.

Research Driven by Need

Cancer specialists design a clinical trial to defeat advanced stomach cancer, which is on the rise in Orange County.

WRITTEN BY SHARI ROAN
PHOTOGRAPHED BY KAREN TAPIA

More than a century ago, stomach cancer was one of the most common types of cancer in the United States. High rates were mostly blamed on consumption of non-refrigerated, highly salted foods.

Today, stomach cancer cases have plunged — but not everywhere. In Orange County, rates of the dangerous disease, also called gastric cancer, remain high for some ethnic groups, including Hispanics and Asians, and even among younger adults.

UCI Health gastric cancer experts Dr. Maheswari Senthil and Dr. Farshid Dayyani have made it their mission to address this worrisome local trend, even devising an innovative treatment that may extend the lives of gastric cancer patients with advanced disease.

“Not only do Hispanics have a higher incidence of gastric cancer, this disease often isn’t detected until it has spread into the abdomen,” says Senthil, a surgical oncologist who is a national expert in metastatic abdominal cancers and directs the cancer center’s peritoneal malignancies program.

“At UCI Health, we serve a large Hispanic population. The high incidence of the disease among them means we need other solutions.”

A variety of risk factors may be responsible for the increased rates among Hispanics and Asians, says Senthil, medical director of the UCI School of Medicine’s Center for Clinical Research. These risks include exposure to a stomach

bacterium called *Helicobacter pylori* (H. pylori) found in contaminated drinking water, genetic predisposition, diet, lifestyle, race or ethnicity.

Treatment options for patients diagnosed with late-stage disease, called gastric carcinomatosis, are limited. The standard treatment, intravenous (IV) chemotherapy, typically slows the cancer’s growth for no more than six months.

“This is a very challenging disease,” says Senthil, who on one recent day saw five patients with gastric carcinomatosis, four of whom were under age 50. “It just breaks my heart. We have to do something about it. The only way we’re going to advance treatments is through clinical trials.”

DESIGNING A NEW APPROACH

That passionate commitment led the surgeon and Dayyani, a medical oncologist, to create a clinical trial called STOPGAP, which takes a three-prong approach to treating late-stage gastric cancer.

Aparecida Bernjak, 76, is benefiting from their spirit of innovation.

For years, the retired nurse had coped with stomach pain and rounds of tests, such as endoscopies and colonoscopies, which failed to identify the cause of her discomfort. Finally, in 2021, she passed out at her Signal Hill home. Rushed to a nearby hospital, she was diagnosed with late-stage gastric cancer.

Bernjak was referred for treatment to the UCI Health Chao Family

Comprehensive Cancer Center, the only Orange County-based National Cancer Institute-designated comprehensive cancer center.

The cancer center clinical trial has given Bernjak, one of its earliest participants, a new lease on life. It also is advancing critical knowledge about gastric cancer.

“UCI Health has everything,” says Bernjak, who remains in complete remission with no evidence of cancer more than a year after her initial diagnosis. “They have all the clinics, the scans, the labs. It’s very convenient. I was never nervous about my treatment. I have been able to lead the same type of life.”

BREAKING THE PERITONEAL BARRIER

The STOPGAP treatment protocol was designed to deliver chemotherapy directly into the abdomen because evidence suggests that IV chemo alone can’t penetrate the peritoneum, or abdominal lining.

Typically, gastric cancer patients who respond well to initial IV chemotherapy may be eligible for the next step, high-dose chemotherapy infused through a port in the abdomen for at least three months, along with continued IV chemo, to shrink or eradicate the tumors.

Patients then undergo cytoreduction surgery to remove all visible signs of cancer from the abdominal cavity and the area is bathed in a heated solution of chemotherapy for about 90 minutes to kill any remaining microscopic cancer



KEY STATISTICS ABOUT STOMACH CANCER

How common is stomach cancer?

The American Cancer Society's estimates for stomach cancer in the United States for 2022 are:

- About 26,380 new cases of stomach cancer (15,900 in men and 10,480 in women)
- About 11,090 deaths (6,690 men and 4,400 women)
- Stomach cancer accounts for about 1.5% of all new cancers diagnosed each year.

Stomach cancer mostly affects older people. The average age of people when they are diagnosed is 68. About 6 of every 10 people diagnosed with stomach cancer each year are 65 or older.

The lifetime risk of developing stomach cancer is higher in men (about 1 in 96) than in women (about 1 in 152). But each person's risk can be affected by many other factors.

cells — a procedure named hyperthermic intraperitoneal chemotherapy. Afterward, patients receive monthly infusions of immunotherapy drugs — agents that prompt the body's immune system to recognize and fight a recurrence.

Bernjak was astonished to find herself navigating the treatments without severe side effects. "It sounds ridiculous to say,

WHO IS AT RISK?

Stomach cancer is more common in men than women and among other races and ethnicities than non-Hispanic whites. Age, diet and other stomach diseases, including *Helicobacter pylori* infections, can affect the risk of developing stomach cancer. The rate of new cases of stomach cancer was 7.1 per 100,000 men and women per year based on 2015–2019 cases.

RATE OF NEW CASES PER 100,000 PERSONS BY RACE/ETHNICITY & SEX

	♂ MALES	♀ FEMALES
All Races	9.3	5.3
Non-Hispanic White	7.6	3.7
Non-Hispanic Black	13.4	7.8
Non-Hispanic Asian/Pacific Islander	12.8	7.3
Non-Hispanic American Indian/Alaska Native	13.7	7.6
Hispanic	12.3	8.4

but I had a great time. They were treating something really bad, but I didn't suffer."

A PATH TO BECOMING DISEASE-FREE

"The hope is to turn incurable disease to curable disease," says Dayyani, medical director of the cancer center's Stern Center for Cancer Clinical Trials and Research and a nationally regarded expert in gastrointestinal cancers.

"The STOPGAP trial tries to lead patients on a path to surgery that might render them disease-free," he explains. "The problem is, if a cancer is so aggressive that it breaks through the best chemotherapy, that patient will not benefit from surgery. The cancer will come back before they can recover. So, we are treating the cancer with direct and IV chemotherapy to shrink it. Surgery is the last part — to remove whatever else is left."

Data from the phase 2 trial are expected in about two years. The home-grown study was made possible with funds from the Stern Center and seed money from the UCI Anti-Cancer Challenge, the cancer center's annual ride/run/walk fundraising event.

"We are closely tracking the steps trial participants go through to see if the treatment makes a meaningful difference in outcomes," says Senthil, who is conducting additional research using sophisticated tumor models to better match individual patients with beneficial medications.

"We will keep improving on what we learn. I'm very hopeful and strongly believe that we're going to find useful information that can be applied to patient care."

The STOPGAP trial represents the kind of collaborative, creative research that academic health systems excel in, Senthil says.

"UCI Health allows like-minded people who are skilled and passionate about what they do to come together and solve these complex problems," she says.

"To do a clinical trial like this you need a very strong surgical skill set — people who have knowledge about the cancer and its biology. You need medical oncologists who are equally skilled in managing patients with gastric carcinomatosis. That's the advantage of an academic health system. You can't replicate this care outside a health system like ours."

Bernjak, who receives regular immunotherapy infusions to further decrease the chance of disease recurrence, is thrilled with the care she received.

She was able to resume yoga practice, outings with her Pomeranian and gourmet cooking.

"I faced the situation," she says. "I'm happy and enjoying life." ■

Learn more about
gastrointestinal cancer care at
ucihealth.org/gicancer



UCI ANTI-CANCER CHALLENGE IS BACK IN FORCE

More than 3,000 exuberant cyclists, marathon runners and power walkers joined the sixth annual UCI Anti-Cancer Challenge at UCI's Aldrich Park on Oct. 8, raising \$935,000 to fund leading-edge research at the Chao Family Comprehensive Cancer Center. Every dollar raised by participants goes to support promising clinical research and innovations aimed at saving lives and bringing an end to cancer.



PHOTOS BY CARLOS PUMA



HIGHLIGHTING HEALTH AT GLOBAL VILLAGE

Throngs of people turned out for the UCI and UCI Health-sponsored Global Village festival at the city of Irvine's Great Park on Oct. 8. Many of them lined up for free flu shots while others toured the UCI Health Pediatric Eye Mobile and donated the gift of life at the UCI Health Blood Mobile.

PHOTOS BY JARED NOVAKOVICH

HEALTH CLASSES

Improve your well-being and prevent disease with our health classes. Most are free, but some do have fees. Most classes are being held online via Zoom until further notice.

Registration is required. All classes are one session unless otherwise noted.

Visit ucihealth.org/events or call 657-282-6357 for more information.

ACUPRESSURE FOR LABOR PAIN

Jan. 4, 2023, Feb. 1, Mar. 1 | 7-8 p.m.

ADVANCE DIRECTIVES

Nov. 17, Mar. 2 | Noon-1:30 p.m.

BREASTFEEDING

Nov. 3, Dec. 1, Jan. 5, Feb. 2,
Mar. 2 | 6-9 p.m.

HEALTHY LIVING

English: Nov. 8, 22, Dec. 6, 20, Jan. 3, 17, 24,
Feb. 14, 28, Mar. 14, 28 | 3-4 p.m.

LIVING WELL WITH HEART FAILURE

Dec. 12, Mar. 13 | 4-5:15 p.m.

NEWBORN CARE

Nov. 10, Dec. 8, Jan. 12, Feb. 9,
Mar. 9 | 6-8 p.m.

PARKINSON'S WELLNESS PROGRAM

Wednesdays | Noon-12:45 p.m.

PREPARED CHILDBIRTH (five classes)

Tuesdays | 6-9 p.m.
Nov. 29, Dec. 6, 13, 20, 27
Jan. 10, 17, 24, 31, Feb. 2
Wednesdays | 6-9 p.m.
Nov. 16, 23, 30, Dec. 7, 14
Feb. 1, 3, 15, 22, Mar. 1

PREPARING FOR SURGERY — MIND, BODY AND SPIRIT

Nov. 7, Dec. 5, Jan. 2, Feb. 6 |
Noon-1:30 p.m.

STROKE PREVENTION

English: Nov. 30, Jan. 25 | 4-5 p.m.
Spanish: Nov. 29, Jan. 24 | 4-5 p.m.
To register, call 866-STROKE-3
(866-787-6533).



THE A, B, C & D'S OF MEDICARE

Are you about to become eligible for Medicare or are you considering a change to your plan? Join us for a free, virtual class to hear about what's changing and learn about new PPO plans UCI Health will be accepting.

Nov. 9, 15, 22, 30, Jan. 18, Feb. 1 | 5-6:30 p.m.
Register at ucihealth.org/medicare or call 714-456-2210.

EVENTS

UCI Health and UCI are proud to sponsor community events that provide information about a variety of health issues. Many of our lectures and events are now being held in person.

NEWPORT BEACH LIBRARY 'MEDICINE IN OUR BACKYARD' LECTURE SERIES

Nov. 14 | Understanding Hearing Loss and the Latest Treatment Options — Hamid R. Djalilian, MD

The presentation begins at 7 p.m. at Newport Beach Central Library, 1000 Avocado Ave., Newport Beach. Doors open at 6:30 p.m. A Q&A will follow the physician's presentation. Visit nbplf.foundation/programs/medicine-in-our-backyard to register for these free lectures.

SUE & BILL GROSS STEM CENTER COMMUNITY SEMINARS

Nov. 15 | Molecules, Cells and Fluids for a Healthy Brain — Edward Monuki, MD, PhD; Albert La Spada, MD, PhD

This hybrid event will be held online and in person at Gross Hall, 845 Health Sciences Road, Irvine. Presentations begin at 7 p.m.

To register for this free seminar, email stemcell@uci.edu or call 949-824-3990.

GAVIN HERBERT EYE INSTITUTE COMMUNITY LECTURE SERIES

Nov. 8 | New lens technology and annual eye exams — T. Scott Liegler, OD

Jan. 24, 2023 | Thyroid eye disease: bulging eyes, double vision and dry eye — Lilangi S. Ediriwickreme, MD

Feb. 7 | Dry eyes: the latest treatment updates — Marjan Farid, MD

Mar. 7 | Macular degeneration: updates on stem cell therapies for retinal eye disease — Stephanie Y. Lu, MD; Mitul C. Mehta, MD

Visit eye.uci.edu/lectureRSVP.html to register for these online presentations, which begin at 7 p.m. For more information, please email ghei@uci.edu or call 949-824-7243.



SUPPORT GROUPS

ADVANCED HEART FAILURE & VAD
714-456-7514

BARIATRIC SURGERY
714-456-6185

BLADDER CANCER
714-456-2846

BRAIN INJURY
714-509-2524

BRAIN TUMOR
714-456-5812

BURN SURVIVORS
714-456-7437

CHRONIC LYMPHOCYTIC LEUKEMIA
tevans@cllsociety.org

DIABETES
diabetessupportgroup@uci.edu

HEAD AND NECK CANCER
714-456-2846

INFLAMMATORY BOWEL DISEASE
714-456-7057

**KOREAN WOMEN'S CANCER
SUPPORT GROUP**
714-456-8319

LIVER DISEASE
714-456-7642

LOW VISION
949-824-9771

MULTIPLE MYELOMA
800-452-2873, ext. 233

**NORMAL PRESSURE
HYDROCEPHALUS (NPH)**
714-456-6966

**OSTOMY ASSOCIATION OF
ORANGE COUNTY**
714-637-7971

PANCREATIC CANCER
714-456-7057

PARKINSON'S DISEASE
blagasse@hs.uci.edu

STROKE
866-STROKE-3 (866-787-6533)

**TRIGEMINAL NEURALGIA
ASSOCIATION**
714-944-3044

YOUNG ADULT CANCER
714-509-6311

To learn more about our support
groups, call the numbers listed
or visit ucihealth.org/events





PHOTO BY MICHAEL NEVEUX

David Webster relishes being able to eat anything he wants, take long hikes and live life free from debilitating inflammatory bowel disease.

A SECOND LEASE ON LIFE — AND A CHANCE TO HELP OTHERS

David Webster endured increasingly painful inflammatory bowel disease (IBD) for two decades. His large intestine was removed in 2009 and his rectum in 2020. Inspired by his care at UCI Medical Center and encouraged by Dr. Nimisha Parekh, medical director of the UCI Health IBD program, he returned to school and became a nurse in 2017. The Fontana resident works as a traveling nurse and is pursuing a master's degree. Now 47, Webster also is a volunteer UCI Health "GI buddy" who helps patients about to have their colon removed understand what to expect and to show them it is possible to live well with an ostomy bag.

“After years of testing, a missed diagnosis and treatments that weren't helping, I was referred to UCI Health and Dr. Parekh. She diagnosed me with Crohn's disease. I was about 30 and I had maintained a full-time job as national sales manager for a motorcycle supply company. But I was also battling this disease, having massive fevers, unable to eat, unable to sleep because I'd have to go to the bathroom every 45 minutes.

Eventually, I became so sick I was admitted to UCI Medical Center in late 2009. That's when IBD surgical specialist Dr. Steven Mills persuaded me that I needed a colectomy. I'd been afraid of surgery. The idea of a medical device hanging from my body scared me. I thought it would be life-changing in a negative way — that I wouldn't be able to do all the things I loved.

But surgery changed my life 100% for the better. I sleep through the night. I enjoy the outdoors: deep sea fishing, skeet shooting, hiking. I work out. After my first surgery, Dr. Parekh encouraged me to go into healthcare because she thought I could be an inspiration for people who were suffering as I had. She is an extremely positive person who has given me so much support. She and Dr. Mills assured me that surgery would change my life for the better — and she was right.

When Dr. Parekh asked me to become a GI Buddy, I jumped at the chance to take away people's fear of the unknown. There are so many misconceptions about what people who live with an ostomy bag can't do. I tell them my story, about how I wasn't able to live my life because I was so sick and afraid. And I tell them how my life changed after surgery, how I found my calling in helping patients. The surgeries have helped me do things I didn't think were possible.

I want them to know that they can take charge of their lives, too.

— David Webster

Learn more about the IBD program
at ucihealth.org/ibd



Enjoy life's best moments in good health

Whether you have an acute or chronic illness, need an annual physical exam or vaccinations for you and your children, UCI Health primary care physicians offer exceptional care to keep you and your family healthy. As part of Orange County's only academic health system, our primary care doctors work seamlessly with more than 500 world-renowned UCI Health specialists to deliver the highest level of care and treat even the most complex conditions. Also, with UCI Health, you and your family have access to same-day care options for primary care, including walk-in care locations, virtual care and in-home care.

Enjoy life's best moments in good health. Choose a UCI Health primary care doctor today.

Learn more at ucihealth.org/choose
or call 844-310-9750.



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