

A CLINICAL TRIAL FOR PATIENTS
WITH LOU GEHRIG'S DISEASE

PROBING THE IMPACTS OF
LEGALIZED MARIJUANA

UCI Health

SUMMER 2018

live well

SMARTER HEALTHCARE FOR SOUTHERN CALIFORNIA

A photograph of two women embracing in a park. The woman on the left is wearing a red sleeveless top and blue jeans, smiling warmly. The woman on the right is wearing a blue sleeveless top and black pants, also smiling and looking towards the first woman. They are standing on a green lawn with trees in the background.

SISTER TO SISTER

The gift of a
healthy kidney
gives sibling another
chance at life

FROM RESEARCH TO CLINICAL CARE, WE HAVE IT COVERED



As Orange County's only academic medical center, we play a unique role in meeting the health needs of our community. Our combination of high-value complex care provided by leading clinicians and UCI's cutting-edge research right here in our backyard means residents don't have to travel far for expert medical care. Our growing program in kidney transplantation is a case in point. People in need of a transplant no longer have to head to Los Angeles or beyond for this complex procedure. Our highly skilled transplant

team can perform this operation whenever matching kidneys are available. On page 6 of this issue of *Live Well*, the story about kidney transplant patients Xenia and Delia Morales underscores the devotion of our transplant team and the importance of our living donor program to helping others who are awaiting this life-saving procedure.

From our kidney transplant program to our National Cancer Institute-designated comprehensive cancer center and our neurosciences and digestive disease programs, UCI Health offers care and treatment that far exceed what community hospitals can provide. This is due in large part to our academic and clinical research that has far-reaching implications for public health. For example, on page 3, infectious disease expert Dr. Susan S. Huang discusses work that is reducing the spread of dangerous superbugs in nursing homes. Huang, a national leader in this arena, is spearheading research that may change how communities across the country respond to outbreaks. On page 10, learn about UCI neuroscientist Daniele Piomelli and his quest to better understand the medical properties and health impacts of cannabis. With the legalization of marijuana, he explains why Californians need unbiased research to clarify how marijuana use may impact lives.

As we grow our network of convenient, ambulatory care centers to improve access to our expert primary care physicians and specialists, we also strive to protect our patients. That's why we are proud of our eighth consecutive "A" hospital safety grade from the nation's leading safety watchdog group. Each day, our physicians — many of whom have been named Best Doctors in America® — our nurses and other healthcare professionals work tirelessly to keep you at the pinnacle of good health. Even with something as basic as advising you on how to protect your feet this summer (don't miss the story on page 5 on flip-flops!), our goal is to help you keep small ailments from becoming chronic problems. ■

Kind regards,

Richard J. Gannotta, DHA, FACHE
Interim CEO and Chief Operating Officer, UCI Health

UCI Health

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The information contained in this magazine is not meant to replace the advice of your physician.

YOU MAKE THE DIFFERENCE

Few things in life matter more than your health. If you or someone close to you has experienced UCI Health's personalized, research-driven care, then you know how Orange County's only academic medical center is improving the lives of people in our community and beyond.

We couldn't do it without you. Your philanthropic support drives clinical innovations like the ones you'll read about in the following pages.

If you would like to make a gift to thank a provider, honor the memory of a loved one or establish a lasting legacy, call 714-456-7350 or visit ucirvinehealth.org/giving

PREVENTING THE SPREAD OF SUPERBUGS TO THE MOST VULNERABLE

WRITTEN BY LAUREL DIGANGI

In the fight against multidrug-resistant organisms, or “superbugs,” UCI Health infectious diseases expert Dr. Susan S. Huang has long been a superwoman. Her groundbreaking clinical trial, published in the *New England Journal of Medicine* in 2013, demonstrated that a simple protocol known as “decolonization” could dramatically decrease superbugs in intensive care units.

The protocol involves cleaning patients’ skin and swabbing their nostrils with an antibacterial agent before admitting them to an intensive care unit.

“With decolonization, we reduced the superbug MRSA (methicillin-resistant *Staphylococcus aureus*) by 37 percent and reduced all bloodstream infections by 44 percent,” says Huang, director of epidemiology and infection prevention at UC Irvine Medical Center.

Thanks to Huang, decolonization is now considered best practice in all U.S. intensive care units to protect patients from MRSA, one of an alphabet soup of antibiotic-resistant superbugs. For patients who are elderly, sick or frail, contracting a superbug can be deadly. That’s why Huang is involved in two large-scale decolonization projects involving vulnerable patients — those in nursing homes, long-term acute care facilities and general medical and surgical units in the hospital. The studies are known as the Protect Trial and the SHIELD Orange County project.

The Protect Trial, now underway, involves 28 nursing homes in Orange County and southern Los Angeles County. Half the nursing homes are following routine bathing and hygiene procedures; the others are practicing decolonization. Because non-infected patients can be unwitting carriers of multidrug-resistant organisms, decolonization can reduce the spread of superbugs to others and prevent patient infections.

“People who carry these organisms are at higher risk for drug-resistant infections later,” says Huang, “especially if they have breaks in their skin, have undergone surgery or have bedsores. They’re also at a higher risk for developing pneumonia.”

The SHIELD project is a regional collaboration funded by the Centers for Disease Control and Prevention (CDC). Plugging regional data into a mathematical simulation model, Huang and her team identified 17 hospitals, 18 nursing homes and three long-term acute care facilities that together share the most patients.

These 38 facilities have adopted a decolonization intervention. The nursing homes and long-term acute care facilities switched to a chlorhexidine bathing soap and are applying an over-the-counter iodine-based swab to the nose. In hospital wards, the project targets patients who are already known to harbor superbugs. In the hospitals’ ICUs, all patients already receive the chlorhexidine bath and nasal swab as the standard of care.

“Before we began the SHIELD Project, we sampled people in these facilities and found that 64 percent of residents in nursing homes and 80 percent of the long-term acute-care patients had a multidrug-resistant organism,” she says. “These numbers are alarming when you consider the number of people we need to protect.”

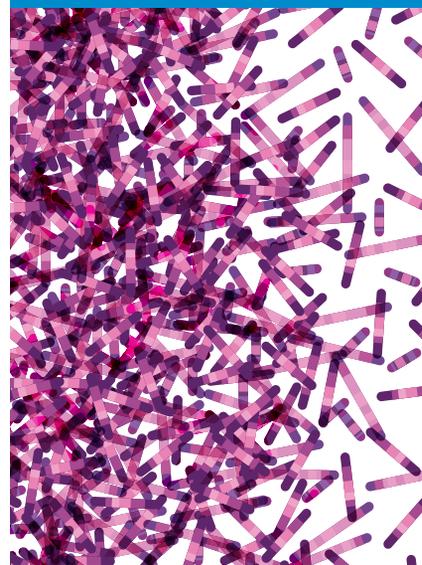
The problem, Huang explained, is that people are more likely to get multidrug-resistant organisms when they receive antibiotics that kill off susceptible bacteria. Moreover, patients in hospital, nursing home and long-term care settings require hands-on care, which can spread contagion.

Huang expects the Protect and SHIELD studies to show “these simple

SUPERBUG THREAT

- 4.1 million Americans reside in nursing homes.
- Nearly 70 percent of them are prescribed antibiotics each year.
- However up to 75 percent of these antibiotics are prescribed incorrectly.
- About 27 percent of U.S. nursing home patients carry a superbug.

Sources: Centers for Disease Control and Prevention, *American Journal of Infection Control*



interventions we’re implementing can make a big difference.”

Over time, she believes the studies can actually reduce Orange County’s drug-resistant organisms. “If we can control disease among high-risk patients, then it’s possible we will do good for the entire community,” she says. ■

To learn more about drug-resistant bacteria and infection control, visit ucirvinehealth.org/infectioncontrol





UCI HEALTH GETS HIGH MARKS FOR PATIENT CARE AND SAFETY

Top Leapfrog Safety Grade

UCI Health received an eighth consecutive "A" in The Leapfrog group's Hospital Safety Grade, which rates how well hospitals protect patients from errors, injuries and infections. The spring 2018 Hospital Safety Grade is compiled by the nonprofit patient safety watchdog organization.

The Leapfrog report is the first and only hospital safety rating to be peer-reviewed in the *Journal of Patient Safety*. The score is free to the public and designed to give consumers information they can use to protect themselves and their families when facing a hospital stay.

Critical-Care Nursing

Three intensive care units at UC Irvine Medical Center have received the silver-level Beacon Award for Excellence, a prestigious recognition of caregivers who successfully adhere to the highest standards of acute and critical care nursing.

The award from the American Association of Critical-Care Nurses was issued to the neurosciences, cardiac care and medical intensive care units in recognition of exceptional patient care and healthy work environments. Nearly 50 nurses in the three honored UC Irvine Medical Center intensive care units hold advanced specialty certifications.

Stroke Care

The UCI Health Comprehensive Stroke and Cerebrovascular Center has earned The Joint Commission's Gold Seal of

Approval® and the American Heart Association/American Stroke Association's Heart-Check mark for Advanced Certification for Comprehensive Stroke Centers.

It is the third time UCI Health has earned the designation since the Comprehensive Stroke Centers program was established in 2012.

To be eligible for advanced certification, hospitals must meet standards as a Primary Stroke Center and provide services such as advanced imaging capabilities, round-the-clock availability of specialized treatments and staff who possess the unique education and competencies to care for complex stroke patients.

Best Doctors

Nearly 90 UCI Health physicians were named Best Doctors in America® for 2017–2018. The honor, given to just 5 percent of U.S. doctors in a national survey of their peers, means UCI Health has more physicians trusted by other doctors than any other hospital in Orange County and the region. UCI Health honorees represent 30 medical specialties.

Best Doctors has a worldwide reputation for reliable, impartial results by remaining independent. Doctors cannot pay to be included in the Best Doctors database. The list is assembled through validated peer review, in which doctors who excel in their specialties are selected by their peers in the profession. The list is audited and certified by the Gallup organization.



Learn how we keep patients safe
at ucirvinehealth.org/patientsafety



STRAWBERRY-ACAI-CHIA SMOOTHIE BOWL

Cool as an ocean breeze, a fruit smoothie bowl offers a fast, tasty way to beat the summer heat. This good-for-you smoothie recipe is a favorite of registered dietitian Katie Rankell of the UCI Health Weight Management Program. It features fruit and healthy supplements such as acai berry powder and chia seeds. The suggested toppings further amp up the nutritional benefits and add a fun, artistic touch to your smoothie. Customize each to suit your own tastes, then find a spoon and enjoy!

INGREDIENTS

- 1½ cups halved strawberries, frozen
- ½ large banana, frozen
- 1 cup unsweetened hemp milk
- 1 tablespoon chia seeds
- 1 teaspoon acai berry powder
- 1 tablespoon honey

OPTIONAL TOPPINGS

- ½ large banana, not frozen
- 1 tablespoon chia seeds
- ¼ cup raspberries

Serves 2

DIRECTIONS

In blender, add strawberries, ½ frozen banana, hemp milk, chia seeds, acai berry powder and honey. Blend well. Divide into two bowls. Slice unfrozen ½ banana and arrange slices on top of each bowl, then sprinkle on additional chia seeds. Garnish with raspberries and blueberries.

NUTRITIONAL INFORMATION

Per serving (without toppings):

- 173 calories
- 44 calories from fat
- 5.2 g total fat
- 73 mg sodium
- 396 mg potassium
- 4.1 g protein
- 18 g sugars
- 28.9 g carbohydrates
- 4.7 g dietary fiber



The UCI Health Live Well blog has a library of recipes, many with videos, to help you eat healthier. Visit ucirvinehealth.org/eatwell

THE TROUBLE WITH FLIP-FLOPS

Flip-flops symbolize summer in Southern California. But the ubiquitous footwear can be a flop in some circumstances.

“These sandals are fine for a short walk to the beach,” said Dr. Andrew R. Hsu, a UCI Health orthopaedic surgeon who specializes in foot and ankle conditions. “But using flip-flops as your go-to shoe year-round can definitely lead to problems.”

There are many ways you can get into trouble with them.

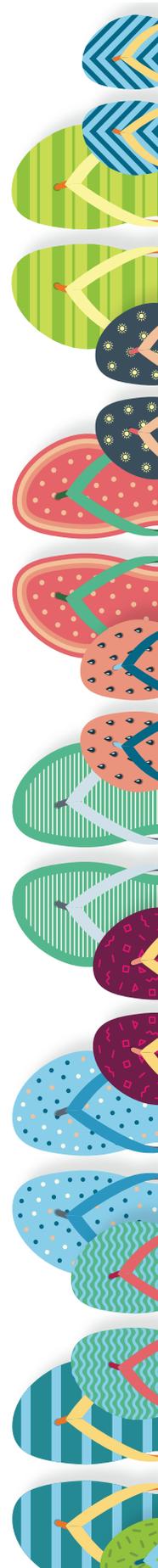
- These casual thong-style sandals — often made of rubber or plastic — can aggravate foot conditions such as plantar fasciitis, arthritis and tendinitis.
- Foot and toenail fungi are more easily contracted when wearing flip-flops, especially when wearers are walking in dirty, moist environments or in public places where others’ germs can flourish.
- Wearing flip-flops can create problems for people with diabetes, older people with thinning skin and people with rheumatoid arthritis or immunosuppressive disorders, causing blisters and sores. Diabetics, who often cannot feel these types of injuries, may be in particular danger because their small wounds or blisters can more easily become infected.
- Because feet in flip-flops are largely unprotected, toes can be stubbed or stepped on. Flip-flop wearers can slip on wet surfaces as well as on automobile pedals while driving.
- Walking too much on concrete while wearing flip-flops may cause stress fractures.

“Ideal footwear for people with any foot condition is stiff, well-cushioned and has a good arch built in,” Hsu said. “Unfortunately the vast majority of flip-flops are the complete opposite of that.”

Hsu recommends wearing sturdier sandals with better traction.



To learn more about foot and bone health, visit ucirvinehealth.org/orthopaedics







THE GIFT OF LIFE

Nadia Morales gave a healthy kidney to her sister, Xenia, then nursed her back to health and stood beside her on the path to wellness

WRITTEN BY NANCY BRANDS WARD
PHOTOGRAPHED BY LAUREN PRESSEY

Three days after Christmas in 2013, 23-year-old Xenia Morales experienced such severe chills that even layers of blankets couldn't keep her warm in the Huntington Beach home where she lives with her parents. With her pulse barely registering, her family rushed her to the closest emergency room.

"When they finally let me in, I saw her lying there with all these needles, lines, tubes everywhere," says her sister, Nadia Morales, then 27. "The doctor says, 'Do you know she's dying?'" and I felt this big crush in my heart."

Within months, Xenia sought the help of UCI Health nephrologists and later that year she had a new kidney, thanks to her sister — and donor — and the expanding UCI Health kidney transplant program.

Until the weekend she fell ill, Xenia had been healthy and busy, taking college classes and attending beauty school, plus working to pay tuition. She'd recently passed the state test for her cosmetology license and had accepted a job at a beauty salon. But on the Sunday before she was scheduled to start her job, her kidneys quit working.

Xenia's kidneys were unable to do their job of filtering waste and extra fluid from her blood, turning her blood the color of pink lemonade. She needed a transfusion of 10 units of blood, which is just about the total amount her body held. Doctors told her family that without emergency care she would have died within a few hours.

While there are many causes of kidney failure — from diabetes to heart disease to drug abuse — in Xenia's case, her kidneys hadn't developed properly after her premature birth at 8 months gestation. Yet no one was aware that her kidneys were much smaller than the normal size of a human fist, and their failure at age 23 came as a complete surprise.

As Xenia battled her illness and began kidney dialysis, the sisters became almost inseparable. In the intensive care unit and hospital, at doctor visits and dialysis treatments, Nadia never left her sister's side. Nadia encouraged her whenever Xenia felt like giving up.

Xenia Morales, left, and her older sister, Nadia, are inseparable.

Nadia also researched the advantages of peritoneal dialysis, which fills the abdomen with a special solution to clean the blood, and she convinced Xenia it would give her greater independence and quality of life. Nadia even acted as her needle-shy sister's caretaker by cleaning and maintaining the dialysis lines.

Inseparable before the ordeal, the two sisters are even closer. They tell the story together, both contributing different pieces of it and frequently finishing each other's sentences. Four months after Xenia's collapse, Nadia made the decision to give one of her own kidneys to her sister — and it truly became their story.

It's one that too few kidney failure patients can claim. In 2016, more than 30,000 U.S. kidney transplants were performed. That's a record high, but more than 100,000 people still languish on the list for a replacement kidney. The problem is a lack of kidneys from both deceased and live donors. In Orange County, the wait for a deceased donor kidney can be as long as 10 years.

"A live donor is gold," says Dr. Donald C. Dafoe, who is UCI Health's chief of transplant surgery. "If someone comes to us with a live donor, we can do that transplant within three to six months once all testing is complete."

After Nadia decided to donate one of her healthy kidneys, she turned out to be almost a perfect match, lining up with Xenia on five of six biomarkers. The more biomarkers that match, the less risk there is that the recipient's body will reject the donor kidney.

"When the transplant team nurse called to give me the good news," Nadia says, "I knew that God had his own plan."

The sisters went back and forth over the usual questions: Are you sure you want to do this? What if something happens and you need the kidney later on? What about the dietary restrictions you'll have to follow after surgery? But Nadia was committed.

On Dec. 14, 2014 — just months after learning of the match — the sisters headed to UC Irvine Medical Center in Orange for the transplant surgery.

The odds of successful transplants have improved greatly in recent years thanks to advances in drugs and aftercare, says Dafoe. These improvements also have expanded the number of candidates who qualify for transplants. Yet the need has also increased because of our aging population along with the soaring rate of type 2 diabetes, which often leads to serious kidney disease.

The UCI Health kidney transplant program is expanding to meet this mushrooming need and to ensure that area residents get top-notch care where they live. "We're on solid footing to become the face of transplant in Orange County," says nephrologist Dr. Uttam G. Reddy, medical director of the kidney transplant program. "Our outcomes are better than the national average — on par some of the top transplant programs in the country. That's the gold standard for me."

In addition, UCI Health's state-of-the-art outpatient dialysis program helps prolong the lives of people with kidney failure, including those who are waiting for a kidney donor or who aren't candidates for transplantation. The nephrology team also supports home peritoneal dialysis and hemodialysis, and it staffs an inpatient unit for acute dialysis at the medical center.

Even with the best care, dialysis isn't as good as a transplant. "The five-year survival rate for people on dialysis is only 50 percent," says Dr. Hirohito Ichii, the surgeon who transplanted Nadia's kidney into her sister in a seven-hour operation. "The prognosis and quality of life is much higher with transplant."

"It's also way more cost-effective in the long run," Dafoe added. "Comparing dialysis to transplant, transplant begins to pay off after three years. It's a win all around."

Although Xenia's body didn't reject Nadia's kidney, the road to recovery was filled with bouts of infection because of the ways in which transplantation can compromise the immune system. Healthy now, Xenia is pursuing a degree in psychology and hopes to work as a therapist helping patients cope with kidney failure. Both sisters are occasionally asked to share their experiences with people facing similar situations. Neither regrets their choices. And they couldn't be happier with the care they received at the medical center.

"The care at UCI was amazing," Xenia says.

"The transplant team makes sure you're really well taken care of," says Nadia, who works as an administrator for a restaurant company. "You can call 24/7, and they're waiting for you. They're like a big family."

Dafoe credits the program's improved outcomes and patient satisfaction to the coordination and commitment of everyone on the team. "The surgeons, nephrologists, social workers, dietitians, pharmacists, nurse coordinators, data analysts, quality specialists, administrative staff — they all are enthusiastic and compassionate," he says.

"We all know all the patients, their names, their faces," Ichii says. "And everyone knows the sweet Morales sisters."

The sisters even have a nickname for the transplanted kidney, "Nanichii." They combined "Nana," Xenia's name for her big sister when she was too young to pronounce Nadia properly, and Ichii.

Naming the transplanted kidney was a first for Ichii, but he approves. "They understand how important that kidney is," he says. "Maybe all patients should do that. It's an excellent way to appreciate the kidney keeping them alive."

Since passing the two-year mark after her donor surgery, Nadia no longer needs regular follow-ups with a specialist. But she still accompanies Xenia at her quarterly checkups with Reddy, who invariably greets them with a cheerful: "Hi guys, how's Nanichii?"

"Great," the sisters respond in unison. ■



Learn more about our program
at ucirvinehealth.org/kidneytransplant



“A LIVE DONOR IS GOLD.”

KIDNEY FAILURE BY THE NUMBERS

Source: National Institute of Diabetes and Digestive and Kidney Diseases

661,000

AMERICANS WITH KIDNEY FAILURE

468,000

PATIENTS ON DIALYSIS

193,000

KIDNEYS TRANSPLANTED

Source: United Network for Organ Sharing (2016)

33,606

KIDNEY TRANSPLANTS PERFORMED

27,628

FROM DECEASED DONORS

5,978

FROM LIVING DONORS

LIVING DONORS MEET THE NEED

Most transplanted kidneys come from people whose organs were donated upon death. Living kidney donations offer significant advantages: They have a lower risk of rejection and they function better and longer than kidneys from deceased donors.

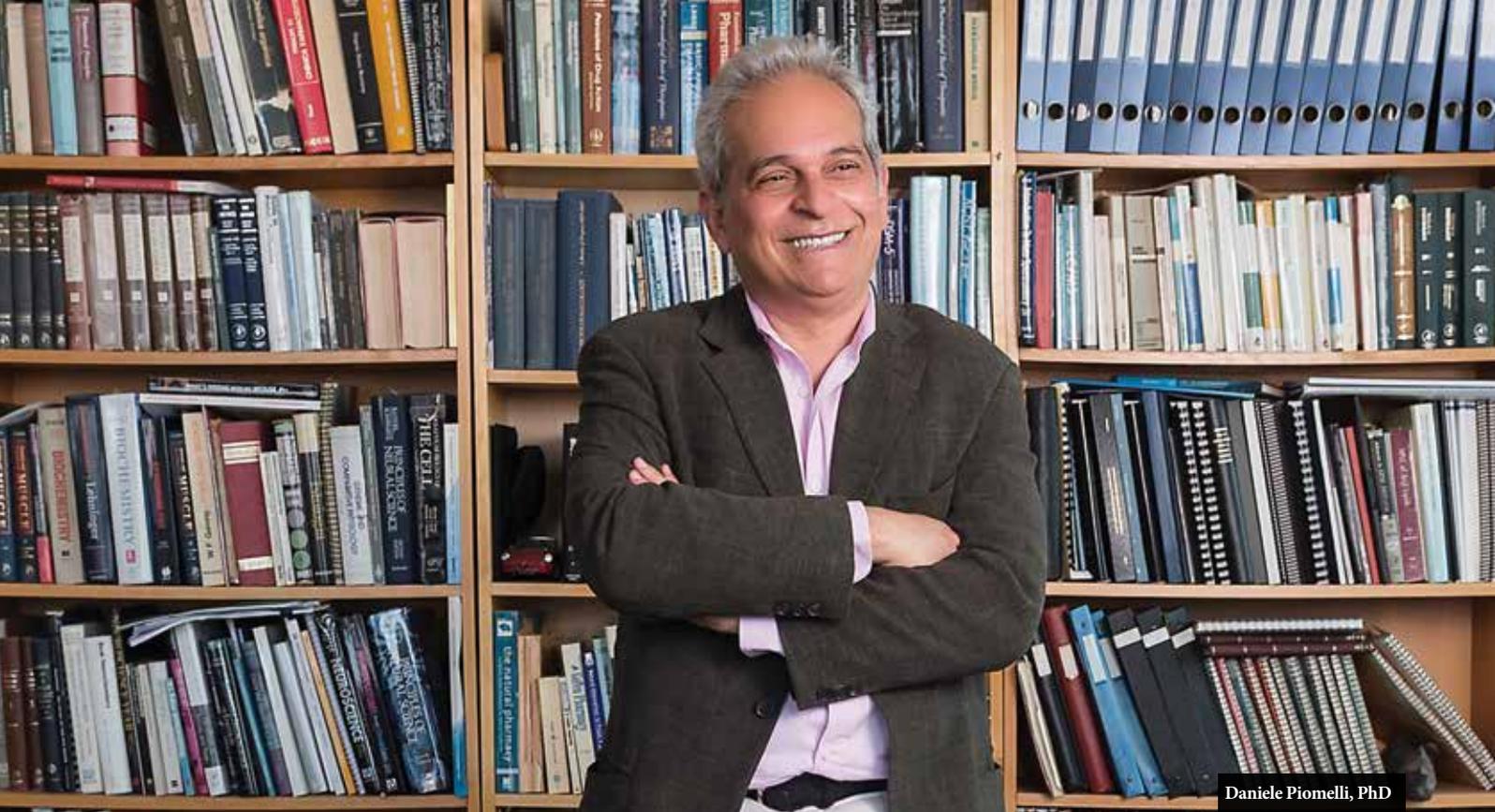
“Xenia Morales had a unique opportunity because her sister donated her kidney,” says nephrologist Dr. Uttam G. Reddy, medical director of the UCI Health kidney transplant program. “She could still be on dialysis if her sister hadn’t given her this gift of life.”

Xenia’s transplant worked well because her sister’s kidney was nearly a perfect match. But what if their blood types didn’t match, making the donated kidney incompatible with Xenia’s body?

Through its paired exchange program, UCI Health would have searched for a transplant candidate in a similar situation and arrange a donor swap. The program often links two, three or even more pairs of compatible people to get viable kidney exchanges.

Because the number of patients needing a kidney transplant far exceeds the availability of matching cadaver kidneys, UCI Health has launched a program to encourage living kidney donors.

A third of the kidney transplants performed last year were from living donors, Reddy says. “We want that to increase. I view dialysis as a bridge to transplant, and we want to keep that bridge as short as possible.”



Daniele Piomelli, PhD

LEGALIZING MARIJUANA LEAVES UNANSWERED QUESTIONS

Researchers at the newly formed Center for the Study of Cannabis at UCI will look for much-needed, factual information

WRITTEN BY SHARI ROAN | PHOTOGRAPHED BY MICHAEL DER

In 2016 California voters passed the Adult Use of Marijuana Act, which made cannabis legal for recreational use. Despite its passage, scores of questions remain about the impact of marijuana on individuals and society — from its health effects to its economic and environmental impact.

To meet the demand for accurate, unbiased information, UC Irvine has launched the Center for the Study of Cannabis. Researchers from the schools of medicine and law will work jointly on cannabis research. We asked Daniele Piomelli, PhD, who directs the new center along with School of Law Professor Robert Solomon, to explain the center's function and why it's so important.

Piomelli, a professor of anatomy and neurobiology and the Louise Turner Arnold Chair in Neurosciences, is well-suited to

the task. As a young researcher in Paris, he and his colleagues discovered a naturally occurring endocannabinoid chemical in the brain that attaches to the same cell receptors in the brain as marijuana's active ingredient, THC. The findings launched Piomelli's long career studying endocannabinoids.

What does the legalization of recreational marijuana mean for scientists?

The scientific community has been blindsided in many ways because of legalization and the changes in society regarding the perceived risks associated with cannabis. That poses a substantial number of challenges. Societal attitudes have changed at a much faster pace than science has. This is not unusual. Science is not typically fast in its pace. But there is a pressing need for research.

Voters have questions that can and should be answered through research. People wonder what cannabis can be useful for and what potential harm can come from it. We'd like very much to give the public the answers it now requests, indeed needs.

How can the center help?

UCI is one of the greatest institutions in the world, one that can and should tackle the need for research head-on and to take advantage of the fact that the state is poised to be a primary producer of cannabis in the United States. UCI has a strong School of Medicine and School of Law that can move forward hand-in-hand on cannabis research. We are also reaching out to sister institutions, UC San Diego and UC Davis, to research important topics such as the environmental impact of cannabis use and production. I think it's important for the public to appreciate that this research should continue unabated. We need to be aware of the obstacles to cannabis research and prevent diversion of research dollars mandated by Proposition 64 (which legalized recreational use of marijuana in California).

Why is it hard to conduct research on cannabis?

There are regulatory complexities. The drug is illegal at the federal level — it is classified as a Schedule 1 drug. So in order to be able to conduct research, one has to have a Schedule 1 license, which is not an easy process to obtain or maintain. One is constantly worried about the Drug Enforcement Agency coming and finding something wrong with the logbooks. Even with a Schedule 1 license, one can only study cannabis from a single authorized provider at the University of Mississippi. That is the only cannabis we can use, but real people use all sorts of different types of cannabis that are often stronger in THC content. We'd like to study the drug that is out there in the real world, but right now we cannot. As scientists, we hope that these obstacles will be removed in the coming years. Otherwise, research to identify the risks and benefits of cannabis will be seriously weakened. It's in nobody's interest to curb research that is so important to the health of Americans.

Can academic-based research break down some of the biases surrounding cannabis?

It is very surprising to find out how ingrained opinions are on this particular topic. Opinions are often not based in fact. Even among my fellow scientists, I've seen so many pass judgment without having the data. Scientists are humans. But it's time for us to remind ourselves of what we really know and what we think we know. If there are harms, we need to understand exactly what those harms are — based on data and analysis.

Why is research especially needed on cannabis and pain?

One thing that's urgent, from a public health perspective, is understanding the role of cannabis in treating chronic pain. Many studies have been conducted on this. The National Academy of Sciences has said there is "substantial evidence" that cannabis is useful to treat chronic pain in adults. In the context of the opioid epidemic, can cannabis be used to reduce the number of opioid overdoses and addictions? It is possible to conduct well-designed, controlled clinical trials to address those questions.

What are the most pressing health questions regarding cannabis?

The issue of usage by adolescents and pregnant women is something close to my heart. Unfortunately, the data we have are insufficient to conclude whether the use of cannabis during pregnancy is detrimental to the fetus and has long-term effects. The use of cannabis in adolescence is very important because the adolescent brain is still developing. The impact of all psychoactive drugs is always stronger in an adolescent than in an adult. We also must address the question of driving under the influence of cannabis. We need to understand better how cannabis influences driving and operating heavy machinery, and we need to find ways of better assessing impairment in drivers. Our law enforcement and state regulations essentially are drawn up based on alcohol impairment. Alcohol and cannabis are very different. Alcohol is only very partially translatable to cannabis. We need a fresher approach. ■



Daniele Piomelli visits his lab on the UCI campus in Irvine.



TACKLING THE IMPOSSIBLE

A clinical trial creates hope for patients with ALS

WRITTEN BY SANDI DRAPER | PHOTOGRAPHED BY SHANE O'DONNELL

Lisa Wittenberg, who has ALS, is surrounded by cheering friends and family while participating in the recent Los Angeles Marathon.



Life expectancy for people diagnosed with ALS, a neurodegenerative disorder better known as Lou Gehrig's disease, is two to five years. And those years are filled with steady decline, beginning with muscle weakness and progressing to the loss of limb control and the ability to speak, swallow and breathe.

With a prognosis like that, it's hard to imagine any hope — that is until you speak to Lisa Wittenberg of Trabuco Canyon. Wittenberg, 46, is enrolled in a promising clinical trial at UCI Health that uses a patient's own stem cells to treat ALS, or amyotrophic lateral sclerosis.

"I don't think most people with ALS have hope, but I do," says Wittenberg, who was first diagnosed about a year ago. "I don't know the last time the ALS community has had hope like this. It's a terminal disease, but this trial may help slow down the progression."

The Phase 3 double-blind clinical trial of the cell therapy, called NurOwn®, is led by UCI Health neurologist Dr. Namita Goyal, who has been a lead investigator in several ALS clinical trials. The trial is sponsored by BrainStorm Cell Therapeutics, developer of NurOwn and adult stem cell technologies for neurodegenerative diseases.

"More than 50 drug trials for ALS have failed," says Goyal, an associate professor of neurology in the UCI School of Medicine. "Most trials end after Phase 2, when they are unable to show that the drug can slow disease progression. The fact that the current BrainStorm trial has been approved for Phase 3 is very encouraging."

The study, supported by the UCI Sue & Bill Gross Stem Cell Research Center and the California Institute for Regenerative Medicine, is part of a larger effort to enroll 200 patients at six centers nationwide, with trial participants randomly assigned to receive the stem-cell treatment or a placebo.

For Wittenberg, the process began with the removal of 100 milliliters — just under half a cup — of bone marrow by Dr. Edward L. Nelson, chief of hematology and oncology at UCI Health. The bone marrow was sent to a research center where its mesenchymal — or adult — stem cells were isolated, expanded and treated to convert the cells so they can secrete neurotrophic growth factors. A month later, on Feb. 27, Wittenberg received an injection of the treated cells or a placebo into her spinal fluid — a process that will be repeated two more times, two months apart.

If she received the treated stem cells, her body's reaction to the injections is thought to peak at about eight weeks. "If I'm not getting any better, I may have gotten the placebo," Wittenberg says. "Still I'm very happy to have UCI right in my backyard. My dream is to have this clinical trial be the answer so that we all

have a chance to fight this beast of a disease."

ALS progresses as neurons, for still unknown reasons, begin to die. The BrainStorm treatment works by prompting the secretion of neurotrophic growth factors that are thought to promote neuron growth and blood vessel health, as well as to reduce inflammation in the spinal fluid.

"ALS patients from around the world have contacted us to participate in this study," Goyal says. "They know this clinical trial is one of the furthest along." She says the BrainStorm therapy showed a clinically significant improvement in slowing the disease progression with no serious side effects in the Phase 2 study. "Since ALS is a rapidly progressive disease, progress is being able to show we've slowed the rate of decline."

To be eligible for the trial, patients must be 18 to 60 years old, have had symptoms for less than two years and meet pulmonary function test criteria.

"Clinical trials cannot guarantee a cure but they give patients feelings of empowerment and hope, and make their journey much better," Goyal says. "It gives them purpose and a mission. Often their morale changes when they are accepted into a clinical trial. It's awesome to be part of a team that can do that."

Wittenberg, meanwhile, is getting around in a wheelchair and remains relentlessly upbeat. She and her family (husband, Joel, a high school teacher, and sons Thomas, 16, and Andrew, 13) recently traveled to Maui and are planning an Alaska cruise. She also participated in the March 18 Los Angeles Marathon, where family members and supporters who call themselves "Lisa's Squad" took turns pushing her wheelchair and raising money for the ALS Foundation.

Wittenberg went to Washington, D.C., in mid-May for the ALS Advocacy Conference, where she educated members of Congress.

"I talked about the BrainStorm trial. I'm hoping that my symptoms are being reversed and that Congress can fast-track Food and Drug Administration approval, and the so-called compassionate-use approval of the treatment," she says.

A compassionate-use designation would allow other patients to use an as-yet unapproved drug when no other treatments are available.

If all that sounds ambitious for anyone — much less an ALS patient — Goyal isn't surprised. "Lisa Wittenberg is like the majority of ALS patients. They know how terrible the disease is. I've heard patients say things like, 'We do difficult every day. Today we're hoping to do the impossible!' These patients are really committed." ■

To learn more about ALS, visit ucirvinehealth.org/als 

HEART & STROKE WALK

UCI Health teams turned out in force for the 2018 Orange County Heart & Stroke Walk held March 24 at Angel Stadium of Anaheim. The event raised more than \$1.9 million to fight heart disease.



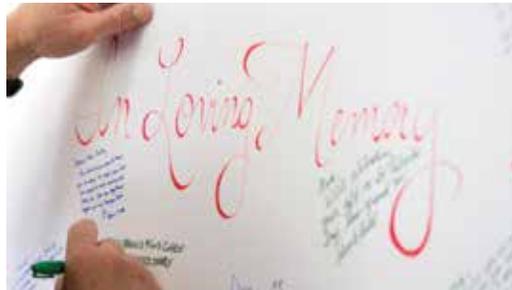
The UCI Health cardiovascular team included, from left, Jose Hernandez, Nathalie De Michelis, Olga Barragan, Dr. Dawn Lombardo, Sonam Shirzadegan. Hernandez received the American Heart Association's Lifestyle Award for helping others make lifestyle changes, even as he improved his own health.



The UCI Health stroke team walkers included, from left, Joy Po, Dr. Sara Stern-Nezer with daughter Velouria, and stroke program manager Dana Stradling.

HONORING WILLED BODY DONORS

A memorial celebration hosted by the UCI School of Medicine in March honored individuals who have made a profound contribution to medical education and scientific research as Willied Body Program donors.



Friends and family members filled memory boards with heartfelt thoughts of their deceased loved ones, whose gifts will have enduring impact on the health of others.



Boon Ja Yoo (right), founder and chairwoman of the Somang Society, was honored at the UCI School of Medicine Willied Body Program memorial celebration by Hye-Won Shin, director of Korea Relations for the UCI Office of Global Engagement, on behalf Chancellor Howard Gillman, for touching many lives through the work of her organization. The Somang Society promotes well-being, well-aging and well-dying, helping people better prepare for the last stages of life.

18th ANNUAL LECTURE EXPLORES CERVICAL CANCER RESEARCH

Dr. Douglas Lowy, deputy director of the National Cancer Institute, shared insights on “Basic and Applied Research in the Global Control of Cervical Cancer,” as featured speaker at the 18th Annual Allen and Lee-Hwa Chao Lectureship in Cancer Research. The lecture series was established at the UCI Irvine Chao Family Comprehensive Cancer Center by a gift from the late Hsi-Hsiung Chao’s four children. The annual event aspires to enhance perspectives on cancer for clinicians, faculty, researchers, students and the community at large through interesting and thought-provoking lectures by world-renowned leaders in the field of cancer.



(From left) Dr. Elizabeth Chao, Chao Family Comprehensive Cancer Center Executive Director
Dr. Rick Van Etten, Dr. Douglas Lowy, Phylis Hsia, Susan Lew, MS.

LASER TREATMENT SHOW-AND-TELL

The UCI Health Beckman Laser Institute & Medical Clinic’s open house brought together researchers, business leaders and community members to learn about the institute’s powerful technology.



Institute director of dentistry Petra Wilder-Smith, left foreground, describes her work to guests Mike Colaco, partner at Auctus Global Capital, and Dennis Werth, senior vice president of business units at MKS Instruments Inc.



Amaan Mazhar, Modulated Imaging vice president of research and development, demonstrates his company’s noninvasive imaging technology to guest Joe Robinson.

DONORS SUPPORT ASPIRING PHYSICIANS

The second annual UCI School of Medicine Scholarship Dinner brought generous benefactors together with grateful medical students and graduate research fellows for lively conversation earlier this year. Medical student Jamie Miller, who spoke at the event, thanked UniHealth Foundation and its president and chief operating officer, Michael Koch, for an award that will help her pursue her dream to become an obstetrician/gynecologist who practices in Orange County.



HEALTH CLASSES

Learn how to improve your health or prevent disease by taking a class. Most classes are free to all, but some have fees. Where indicated, classes are offered in both English and Spanish. All classes are held at UCI Health locations throughout Orange County.

Please note: There is a small fee to park at UC Irvine Medical Center, which is located at 101 The City Drive South, Orange, CA 92868.

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

For more information, visit ucirvinehealth.org/events or call 877-UCI-DOCS (877-824-3627).

BREASTFEEDING

June 7, June 28, Aug. 2, Sept. 6
6–9 p.m.

Gruningen Medical Library
UC Irvine Medical Center
Building 22A, Room 2105

HEART FAILURE

Aug. 6 | 2–3:30 p.m.
UC Irvine Douglas Hospital
3rd floor, Room 3005



JOINT REPLACEMENT, HIP OR KNEE

Every Monday, except on holidays

June 4, 11, 18, 25 | 2–3 p.m.
July 2, 9, 16, 23, 30 | 2–3 p.m.
Aug. 6, 13, 20, 27 | 2–3 p.m.

UC Irvine Douglas Hospital
3rd floor, Room 3001



MEDITATION FOR HEALTH SERIES

(four classes)

June 4, 11, 18, 25 | 6:30–7:30 p.m.
Sept. 10, 17, 24, Oct. 1 | 6:30–7:30 p.m.

UC Irvine Douglas Hospital
3rd floor, Room 3005

NEWBORN CARE

June 8, July 13, July 27, Sept. 14
6–9 p.m.

UC Irvine Medical Center
Building 56, Room 113

PREPARED CHILDBIRTH

(series of five classes)

June 20, 27, July 11, 18, 25 | 7–9:30 p.m.

June 21, 28, July 12, 19, 26 | 7–9:30 p.m.

June 21, 28, July 12, 19, 26 | 7–9:30 p.m.

Sept. 5, 12, 19, 26, Oct. 3 | 7–9:30 p.m.

Sept. 6, 13, 20, 27, Oct. 4 | 7–9:30 p.m.

UC Irvine Medical Center
Building 56, Room 113



PREPARING FOR SURGERY — MIND, BODY AND SPIRIT

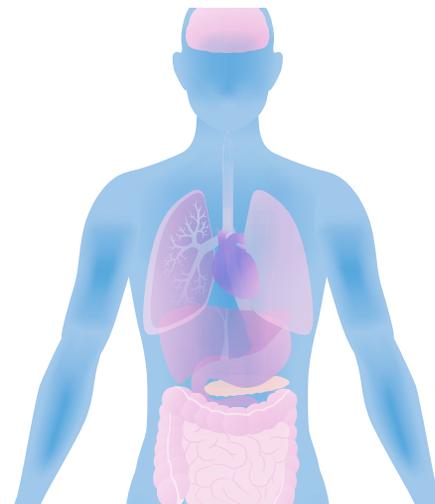
June 4, July 2, Aug. 6, Sept. 4
Noon–1:30 p.m.

UC Irvine Douglas Hospital
3rd floor, Room 3001

UNDERSTANDING LIVER DISEASE: LIVER TUMORS AND CANCER

June 12 | 6–7 p.m.

Building 22C, Room 1502-B
To register, call 714-456-7642.



UCI Health has on-demand video libraries to help you learn about your health. To obtain an Internet access code, call Patient Education at 714-456-8434.



EVENTS

UCI Health is proud to sponsor free community events that support a variety of health conditions and challenges. Listen to a lecture or attend a conference.

GAVIN HERBERT EYE INSTITUTE COMMUNITY LECTURE SERIES

Learn about the causes, symptoms and treatments of eye-related conditions at our 2018 lecture series.

Sept. 17 | 7 p.m.

Getting the Red Out: Controlling Eye Irritation, Dr. Marjan Farid and Dr. Kavita Rao

Nov. 5 | 7 p.m.

Regaining Your Eyesight, Dr. Matthew Wade
Lectures are held at the institute, 850 Health Sciences Road, Irvine. To RSVP or learn more, contact ghei@health.uci.edu or 949-824-7243.

SAVE THE DATE:

PARKINSON'S DISEASE SYMPOSIUM

Oct. 13 | 8 a.m.-1 p.m.

UC Irvine Student Center
311 W. Peltason Drive, Irvine
For more information, call 949-824-0190.




SUPPORT GROUPS

ART FOR THE SOUL

714-456-2846

BARIATRIC SURGERY SUPPORT GROUP

888-717-4463 or
714-456-7800, ext. 1967

BRAIN TUMOR EDUCATION/SUPPORT GROUP

714-456-5812

BURN SURVIVORS SUPPORT GROUP

714-456-7437

HEART FAILURE SUPPORT GROUP

714-456-5887

INFLAMMATORY BOWEL DISEASE SUPPORT GROUP

714-456-7057

KOREAN WOMEN'S SUPPORT GROUP

714-456-5057

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800-227-2345

MULTIPLE MYELOMA SUPPORT GROUP

800-452-2873, ext. 233

SUPPORT FOR ORAL, HEAD AND NECK CANCERS

714-456-2846

TRIGEMINAL NEURALGIA ASSOCIATION SUPPORT GROUP

714-730-1600

YOUNG ADULT CANCER SUPPORT GROUP

714-456-7057

Learn more about our support groups online at ucirvinehealth.org/events or call the number listed. 



Photographed by Michael Der

HOLDING MY HEAD HIGH

For a long time, life wasn't all that kind to Breanna Janssen. Spending a great deal of her youth in foster care left her without much stability. Then a severe case of acne that began in early adolescence robbed her of her self-esteem. But Janssen has navigated her way to a fulfilling life. Now 31, a mother and a senior at Cal State Fullerton, Janssen went to the UCI Health Dermatology Center for acne scar treatment. Recognizing the emotional pain caused by her acne, the veteran dermatologist Dr. Christopher Zachary treated both body and soul.

“The first signs that I had of acne were around seventh grade. It started on my forehead, but then it spread to the rest of my face, chest and back. I was taken from my uncle when I was 13 and put in the foster care system in Riverside, where my acne remained untreated. On a visit, one of my aunts saw how bad it was and took me to a dermatologist at Loma Linda. I was prescribed Accutane, and I was beyond thrilled to begin getting the acne under control.

Unfortunately, the damage was already done. It was cystic acne and had caused scarring. I can still remember bouncing from foster home to foster home and school to school and the kids taunting me. I had other foster kids tell me I was disgusting. Once, when a cyst on my forehead broke open, one of the foster kids said, 'Hey, your face is leaking.' Classmates would call me pizza face to make their friends laugh. I was very depressed.

I eventually aged out of the foster care system and the scars faded ever so slowly, but I wasn't able to shake the things people had said to me. I decided I wanted to heal from my past and contacted Dr. Christopher Zachary at UCI Health. I wanted to see how much laser treatment for my scars would cost. I wanted to stop living in the depression and do something about the scars.

From the moment I met Dr. Zachary, he was amazing. He asked me why I was there and what I was hoping to gain. I told him a little bit about my past and how I wanted to save money for laser treatment. He wasn't going to let me leave the office without services, and he immediately put my consultation fee to use that day.

Even though he said my scars weren't that bad, he understood how deeply rooted my problem was and that it had little to do with how my skin looked that day. He surprised me with four pro bono visits of micro-needling to promote collagen growth and dermal filler injections for the deeper-pitted scars.

From that day on, I began to feel better about myself and my appearance. Now I walk around with my head held high, knowing I am doing something to change my scars — inside and out — and that I have the best team on my side during my journey. ”



To learn more about treatment for acne and other skin problems, visit ucirvinehealth.org/dermatology

Need a new doctor?

We can help.



You don't have to wait for open enrollment season to select a new primary care physician. You can switch to a UCI Health doctor at any time. Here's how:

1. Visit ucirvinehealth.org/choose to view our physicians and locations.
2. **Call your health plan** and let them know you'd like to switch to the medical group that includes the physician you want.
3. Once you're ready, call your physician's office to **make an appointment**.

If you have a **PPO insurance** or **Medicare**, simply call the physician's office to make your appointment.

Still need help switching to UCI Health?
We're happy to assist you.

 ucirvinehealth.org/choose

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12| A CLINICAL TRIAL GIVES ALS PATIENTS HOPE



10| STUDYING EFFECTS OF CANNABIS



6| EMBRACING A SUCCESSFUL KIDNEY TRANSPLANT