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WINTER 2026

UCLA HEALTH

Magazine

A New Era of Transplant Medicine

UCLA Health's pioneering transplant teams are redefining what's possible for patients — not just hope, but new beginnings.

Volume 46, Issue 01
uclahealth.org

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Winter 2026
Volume 46 · Issue 1

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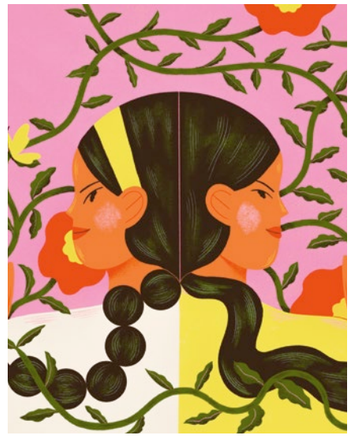
JOHN MCCOY



CLARA SUPER DUPER

NEWS & NOTES

ALEXANDRA FOLEY

GIL ASKEW / UCLA HEALTH

"I want to appeal to all the senses to relax and ground my patients."

Huy Vo

The power of collaboration and innovation makes UCLA Health a leader in transplant medicine.

advancing a

NEW ERA

At UCLA Health, our mission unites exceptional patient care, leading-edge research and world-class medical education to achieve one shared vision of healing humankind.

Every breakthrough begins with collaboration. Scientists, physicians and health care professionals come together to ask bold questions and seek answers that improve outcomes for our patients and communities around the world. Through research, we learn more about the disease process to refine treatments and discover new cures that redefine what's possible in modern medicine.

This issue of UCLA Health Magazine (formerly *U* Magazine) celebrates the remarkable progress we are making in transplant research and medicine, an excellent example of our mission in action.

INNOVATION THAT SAVES LIVES

UCLA Health's solid-organ transplant program is recognized as a national center of excellence. Supported by leading research and a robust institutional infrastructure, we consistently rank among the top institutions in the United States for both the number of transplants performed and the exceptional outcomes achieved.

Patient outcomes for many organ types at UCLA Health exceed national averages. The success of our liver transplant program is particularly striking, with survival rates on the order of 90%, significantly higher than in the early eras of transplantation. The UCLA liver transplant program traces its roots to 1984, when Dr. Ronald Busuttil performed the first UCLA Health liver transplant. Over the decades, the team has grown to incorporate not just surgery, but a full array of specialists in immunology, infectious disease, transplant psychiatry, internal medicine, pediatric specialists and more, allowing us to handle the most complex cases.

Our teams embrace technologies and treatments rarely available elsewhere, advancing the field while giving patients hope and new opportunities in life.

Last year, UCLA Health made history with the world's first human bladder transplant, a groundbreaking achievement that opens new possibilities for patients living with severe bladder dysfunction, cancer and pain.

We are also pioneering progress in transplantation through advanced organ preservation techniques, ensuring that more organs remain viable for longer periods. For example, since its FDA approval in 2022, our Liver Transplant team has used normothermic machine perfusion (NMP) — a revolutionary technology that keeps donor livers warm and functioning outside the body during transfer. NMP expands the donor pool and improves outcomes, especially for complex or higher-risk patients.

In kidney transplantation, we are using robotic-assisted surgery to expand access for patients once considered too high risk due to high body mass indices. Our teams are also refining renal transplant protocols to reduce or even eliminate the need for lifelong immunosuppressive medications, while strengthening our Kidney Exchange Program to connect more patients with compatible donors.

TRANSFORMING THE FUTURE OF TRANSPLANTATION

Looking ahead, UCLA Health will take a major step forward with the creation of the UCLA Organ Transplant Institute — a comprehensive, state-of-the-art center dedicated to advancing transplantation science, patient care and education. Set to open in the coming years, the Institute will integrate research, clinical care and training to improve outcomes, enhance quality of life and pioneer the next generation of transplant innovation.

The future of transplant medicine is also being shaped by the California Institute for Immunology and Immunotherapy, made possible through a transformational $120 million gift commitment from inventor, surgeon and philanthropist Dr. Gary Michelson and his wife, Alya. Other founders from the academic, business and philanthropic communities include Meyer Luskin, Dr. Eric Esrailian, Dr. Arie Belldegrun, Sean Parker and Michael Milken. In addition, the state of California allocated $200 million toward UCLA's acquisition of the renovated Westside Pavilion mall, which is the home of our research park.

The Michelsons' vision established two research entities — one focused on rapid vaccine development and the other on harnessing the microbiome to improve human health. An additional $20 million endowment supports young scientists exploring bold new directions in immunotherapy, human immunology and vaccine discovery. This research will deepen understanding of transplant mechanisms, prevent complications like organ rejection and graft-versus-host disease, and pave the way for long-term immune tolerance without dependence on immunosuppressive drugs.

TOGETHER, WE KEEP ON RISING

These innovations in transplant research and care reflect UCLA Health's unwavering commitment to improving not just the length, but also the quality, of life.

None of this progress would be possible without the support of our donors, alumni and patients. Your generosity fuels discovery, advances care, trains future leaders and ensures that UCLA Health continues to provide compassionate, world-class care to all who need it.

Together, we are transforming medicine — and shaping a healthier future for all.

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Associate Vice Chancellor for Research, UCLA

Together, we are transforming medicine — and shaping a healthier future for all.

OPPOSITE: January 7th, 2025, Los Angeles, California. The Pacific Palisades fire burns near Los Angeles, California, with huge plumes of smoke seen from Santa Monica Beach. *(Photo by Ward DeWitt / iStock Images)*

HEALTH EFFECTS LINGER A YEAR AFTER THE L.A. FIRES

Long-term threats remain to physical, mental and community health.

By
Nicole Chien

JAN. 7, 2026, MARKS ONE YEAR SINCE WILDFIRE erupted over the Pacific Palisades. By month's end, more than 10 wildfires — including the Palisades, Eaton, Hurst, Kenneth, Hughes and Sepulveda fires — had ignited, burning more than 55,000 acres of land, destroying nearly 16,000 homes and claiming approximately 440 lives.

One year later, UCLA Health experts say long-term threats remain to lung health, mental well-being and overall community wellness.

"This was a catastrophic event that changed much of Los Angeles — its community, its landscape and our health," says David Eisenman, MD, professor-in-residence at the David Geffen School of Medicine at UCLA and the Fielding School of Public Health.

"We are, not surprisingly, still suffering the consequences in many ways," he says. "Families have not returned to their homes, and high levels of pollutants remain in communities. It's a tough place to be a year later."

The wildfires triggered widespread declines in air quality, primarily affecting individuals with prolonged exposure or pre-existing respiratory conditions. Smoke from burned vegetation, combined with airborne toxins from human-made materials, contaminated homes and increased exposure to particulate matter.

For many residents, this exposure marked the beginning of ongoing health challenges. While many people experienced short-term upper-respiratory symptoms (coughing, sore throat, itchy eyes and wheezing), others reported lingering effects.

"Initially, I saw a spike in patients presenting with exacerbations or flare-ups of their lung condition, which was most commonly asthma or COPD (chronic obstructive pulmonary disease)," says May-Lin Wilgus, MD, pulmonologist and associate clinical professor at UCLA Health. "But I think there were a lot of people who did not seek medical care at the time and later experienced symptoms."

Many of her patients had continued exposures, she adds. "They returned to smoke-damaged homes or encountered high levels of heavy-metal contamination."

Dr. Wilgus advises communities to prepare for future wildfires by improving indoor air quality with HEPA (High Efficiency Particulate Matter) air filters, and generally raising awareness about the health risks.

"We are treating patients who may have been affected at our wide network of pulmonology clinics throughout the region," says Dr. Wilgus. "Throughout Los Angeles, we need to be more aware and prepared, as well as support ongoing research to help reduce these impacts."

"Throughout Los Angeles, we need to be more aware and prepared, as well as support ongoing research to help reduce these impacts."

Mental health has emerged as a primary long-term concern, as residents continue to cope with wildfire-related trauma.

"People most closely affected — such as those who lost their houses or belongings — often experience the greatest impact," says Emanuel Maidenberg, PhD, clinical professor of psychiatry and biobehavioral sciences at the David Geffen School of Medicine.

"This is a really traumatic event," he said. "People may experience slower recovery because the reminders are ever present, and their lives have changed."

In addition to the trauma of the fires themselves, many residents still face housing instability and other challenges — "disruption to children's schooling, significant stress around navigating insurance claims and rebuilding homes — all while families are still trying to process the trauma," Dr. Eisenman says. "We would expect to see elevated rates of depression, post-traumatic stress disorder and anxiety among people who were evacuated from the fires."

Dr. Maidenberg says that as visible reminders of the wildfires — such as scorched land and damaged homes — diminish, community recovery will progress, particularly with the support of expanded mental health services.

"Over time, people will talk about it less, and we will think about it less often," he explains. "But I think we are all a little bit more cautious, apprehensive and mindful of the initial shock, as well as the evolving emotions of sadness, fear and loss."

To expedite learning about the long-term health effect of the wildfires, Dr. Eisenman and Arash Naeim, MD, chief medical officer for clinical research at UCLA Health and a member of the UCLA Health Jonsson Comprehensive Cancer Center, established the UCLA Wildfire Impacted Communities Research Registry.

To date, the registry includes approximately 4,440 participants, all of whom were Los Angeles residents during the wildfires. By enrolling in the registry, participants can take part in studies examining the short- and long-term health effects of the fires on themselves and their families.

"The registry allows us to better understand the health needs of patients and our community, and to conduct the studies needed to support them now and in the future," Dr. Eisenman says. "There will be other fires."

One study examines the health impacts on residents who stayed behind to protect their homes against the fires, rather than immediately evacuating.

"We expect that individuals who stayed behind to defend their homes will experience less fire-related property damage," says Dr. Eisenman. "At the same time, we anticipate that these individuals will face more health consequences from staying behind.

"We are highlighting the trade-off that people face when deciding to defend their home."

The wildfires have underscored the importance of resilience and unity, says Dr. Eisenman. The support of UCLA has been pivotal to this progress.

"During the Palisades fire, faculty and staff across UCLA were affected," Dr. Eisenman says. "The administration moved quickly to support staff, while the academic community worked to gather data and use it for the betterment of the community.

"The wildfires continue to teach us that, in the end, we must come together," he says. "Learning how to evacuate safely, prepare as a community, and support each other during a disaster is crucial — and coming together makes the whole community stronger." ●

TEN YEARS OF SERVING WOUNDED VETERANS

UCLA Health Operation Mend is a founding partner of the national Wounded Warrior Project Warrior Care Network.

By **Nicole Chien**

IN AUGUST 2008, SGT. 1ST CLASS (E-7) Anthony Mitchell — then 38 years old and serving as a U.S. Army infantry senior sergeant and team chief — was traveling with a convoy to the city of Gardez, Afghanistan, when an improvised explosive device tore through the patrol.

It started as a routine mission, Mitchell manning the gun turret on the rear vehicle, scanning the rural terrain for nearby threats.

Then, in an instant, two consecutive explosions destroyed the vehicle, hurtling his body backward and changing the course of his life forever.

"My head was exposed, and they were shooting, passing right by my head," Mitchell recalls. "The ammo can pushed my body backwards into the turret and I was stuck like that — still fighting, directing Afghan soldiers with minimal ammo — and then I blacked out."

When Mitchell — the sole survivor from his vehicle — regained consciousness, he was in a hospital in Germany, where he was greeted by a military chaplain.

"Just a few moments ago, you weren't with us," Mitchell recalls the chaplain saying, as he offered him a small care package marked with the words: "Wounded Warrior Project."

Mitchell did not know it yet, but that care package would soon introduce him to a decades-long journey with UCLA Health Operation Mend and the Wounded Warrior Project, offering him healing and hope.

A PARTNERSHIP OF COMMITMENT

Mitchell is one of more than 1,200 warriors who have received life-changing care through UCLA Health Operation Mend — the only program in the nation dedicated to providing free specialized surgical and psychological treatment for post-9/11 veterans and their families.

In July 2025, Operation Mend celebrated a decade of partnership with the Wounded Warrior Project and the Warrior Care Network, alongside health care programs for veterans at Massachusetts General Hospital, Emory Healthcare and Rush University.

"When the Wounded Warrior Project invited Operation Mend to have our first conversations about building a network, all four academic medical centers and the Wounded Warrior Project leadership came together, and we committed to a level of collaboration unlike anything we had seen before," says Jo Sornborger, PsyD, executive director of UCLA Health Operation Mend. "This translated into us building a network, setting our egos aside, and creating the best practices that we could commit to our warriors — and that has grown substantially in breadth and depth over the past 10 years."

Today, the Warrior Care Network partnership has provided care to more than 6,000 warriors, improving access to physical and mental health treatment nationwide.

"One of the hallmarks of our program at Operation Mend is that we make sure that all warriors have access to care," says Dr. Sornborger. "Many warriors have told our team that, for the very first time, we've offered them hope — something they haven't experienced before. And so, the trust that we've developed is phenomenal."

MITCHELL'S JOURNEY TO RECOVERY

Before coming to UCLA Health, Mitchell had undergone 37 surgeries, including a left knee replacement and multiple failed right knee replacements that led to amputation and a prosthetic leg. He also endured a spinal cord injury, traumatic brain injury, sciatica in both legs, loss of sensation in his hands and feet, and the loss of his gallbladder from a laceration caused by the turret crank.

But when Mitchell and Jocelyn — his wife and primary caregiver — eventually joined Operation Mend for care in January 2019, they were quickly encouraged by the compassion and support of their care team.

"I got to UCLA, and for the first time, I sat down with somebody who actually made sense of what was going on," says Mitchell. "It just put me on my knees. It really humbled me that there are people out there who care because when you come here, the doctors engage you."

Since joining Operation Mend, Mitchell has received eight life-changing surgeries, including bilateral shoulder rotator cuff and meniscus repairs, bicep injections and carpal tunnel procedures on both hands and wrists. Mitchell and his wife — high school sweethearts now married for 32 years — also participated in Operation Mend's intensive PTSD treatment program.

Through every step of his treatment, Mitchell says, he has been deeply involved in his care plan, highlighting the team's openness, expertise and emphasis on communication. He especially appreciates their attentiveness and compassion for the warrior community.

"The pace has slowed down, but the progress has sped up since I've been here," says Mitchell. "Everything the doctors said they would do, they have done — and done it well. I have benefited from every surgery, whether it be incremental or not, and it's helped me live a better life. I'm forever appreciative of that, and so is my family."

More than physical healing, the program has helped Mitchell reconnect emotionally, transforming his outlook on life.

"I was never really good about speaking on my emotions. Being a drill sergeant, I kind of had a gruff approach," explains Mitchell. "So, after coming here and doing the initial assessment, UCLA Health did more for me in three days than I had accomplished in the past 10 years … I had to adopt that same kindness, get out of my shell, and be more of a listener."

"It wasn't just me coming in for surgery and then going home," he says. "I went as an individual and came back as a family member."

ABOVE: Anthony Mitchell and his wife, Jocelyn. *(Photo courtesy of Anthony Mitchell)*

MOVING FORWARD AND HELPING OTHERS

As Operation Mend and the Wounded Warrior Project continue to grow their partnership, Mitchell encourages fellow warriors to reach out for help and take advantage of resources.

"There is nothing to be embarrassed about. There is nothing to be afraid of. Put your whole heart into it and use your best intentions," he says. "As much as this was a repair, it was also a tool — I didn't feel like I was in the world by myself anymore."

As a father to one son, a fellow Army veteran, Mitchell also emphasizes the importance of including family members and caregivers in the healing process.

"Your family will heal with you," says Mitchell. "Operation Mend has the tools for every issue, for every situation. You just have to apply yourself, show up and be willing to participate."

Dr. Sornborger agrees. "It is worth putting your trust into the Warrior Care Network," she says. "The gift that warriors give to us is their trust, and we do not take that lightly. We know what it takes to come to one of our medical centers and share their experience, psychological injuries and trauma. That takes a tremendous amount of courage, and it is worth it."

"As much as this was a repair, it was also a tool — I didn't feel like I was in the world by myself anymore."

And that deep sense of care stems from the unwavering compassion of both the Operation Mend and Wounded Warrior Project teams.

"The amount of dedication and respect that our teams have for our warriors is so consistent and so deep — and that to me is extraordinary," says Dr. Sornborger. "The entire team is dedicated to our mission to serve warriors and caregivers with support, joy, respect and honor.

"We always say, 'Once a patient of Operation Mend, always a patient.'"

Mitchell shares that sentiment wholeheartedly.

"I can say with a smile on my face that this change of mindset has opened many doors, and I have Operation Mend to thank for that. You're not a lost cause — you just have to use the right tools," he says. "And I am so proud of the team members who have made themselves available as true patriots to take care of those who serve well." ●

***Nicole Chien** is a contributing writer at UCLA Health.*

First human bladder transplant

A UCLA Health surgical team has performed the first-in-human bladder transplant.

THE SURGERY WAS SUCcessfully completed at Ronald Reagan UCLA Medical Center on May 4, 2025. The team was led by Nima Nassiri, MD, a urologic transplant surgeon and director of the UCLA Vascularized Composite Bladder Allograft Transplant Program, with assistance from Inderbir Gill, MD, founding executive director of USC Urology.

"Bladder transplantation has been Dr. Nassiri's principal academic focus since we recruited him to the UCLA faculty several years ago," said Mark Litwin, MD, former UCLA Urology Chair. "It is incredibly gratifying to see him take this work from the laboratory to human patients at UCLA, which operates the busiest and most successful solid-organ transplant program in the western United States."

"This first attempt at bladder transplantation has been over four years in the making," Nassiri said. "For the appropriately selected patient, it is exciting to be able to offer a new potential option."

The patient had lost most of his bladder during a tumor removal, leaving the remainder too small and compromised to work. Both of his kidneys were also subsequently removed due to renal cancer in the setting of pre-existing end-stage kidney disease. As a result, he was on dialysis for seven years.

The biggest risks of organ transplantation are the body's potential rejection of the organ and side effects caused by the mandatory immune suppressing drugs given to prevent organ rejection.

"Because of the need for long-term immunosuppression, the best current candidates are those who are already either on immunosuppression or have an imminent need for it," Nassiri said.

Nassiri, now assistant professor of urology and kidney transplantation at UCLA, and Gill collaborated for several years to develop the surgical technique. The recovery of the kidney and bladder from the donor was performed at OneLegacy, Southern California's organ procurement organization. All parts of the procedure, including surgery and postsurgical monitoring during the transplantation, were aligned with the highest current clinical and research standards.

During the complex procedure, the surgeons transplanted the donated kidney, following that with the bladder. The new kidney was then connected to the new bladder using the technique that Nassiri and Gill pioneered. The entire procedure lasted approximately eight hours.

"The kidney immediately made a large volume of urine, and the patient's kidney function improved immediately," Nassiri said. "There was no need for any dialysis after surgery, and the urine drained properly into the new bladder."

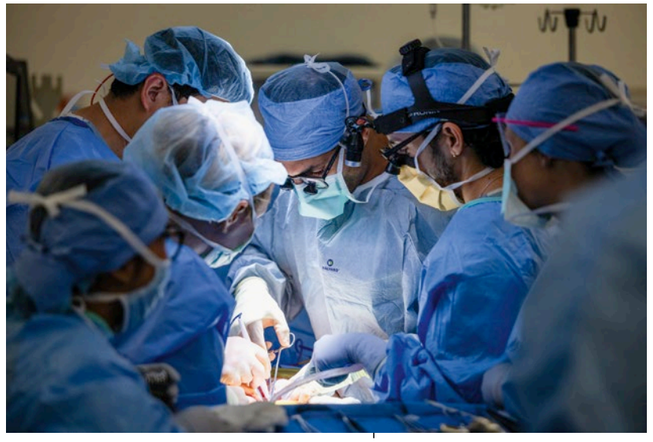
Current treatment for severe terminal cases of bladder dysfunction or a bladder that has been removed due to various conditions includes replacement or augmentation of the urinary reservoir. These surgeries use a portion of a patient's intestine to create a new bladder or a pathway for the urine to exit the body.

While these surgeries can be effective, they come with many short- and long-term risks that compromise a patient's health such as internal bleeding, bacterial infection and digestive issues.

LEFT: Dr. Nima Nassiri with patient Oscar Larrainzar *(Photo by Nick Carranza / UCLA Health)*

OPPOSITE, TOP: Patient Oscar Larrainzar underwent the first human bladder transplant at UCLA. *(Photo by Nick Carranza / UCLA Health)*
OPPOSITE, BOTTOM: Dr. Nima Nassiri and team perform the first human bladder transplant. *(Photo by Nick Carranza / UCLA Health)*

"This first attempt at bladder transplantation has been over four years in the making."



"A bladder transplant, on the other hand, results in a more normal urinary reservoir, and may circumvent some short- and long-term issues associated with using the intestine," Nassiri said.

As a first-in-human attempt, there are naturally many unknowns associated with the procedure, such as how well the transplanted bladder will function immediately and over time, and how much immunosuppression will ultimately be needed. Bladder transplants have not been done previously, in part because of the complicated vascular structure of the pelvic area and the technical complexity of the procedure.

UCLA Urology has long been at the frontier of urologic transplantation, with pioneering research in kidney transplantation and now, bladder transplantation. The procedure was performed as part of a UCLA clinical trial. Nassiri hopes to perform more bladder transplants in the near future.

— Enrique Rivero

Rare mutation in autism risk gene connects family with scientist

An email to renowned autism investigator Dr. Daniel Geschwind is leading to new science.

EVER SINCE FRANKLIN Henry was a baby, doctors had diagnosed him with one condition after another, including Tourette syndrome and a range of disorders: autism spectrum, bipolar, obsessive-compulsive, oppositional defiant.

Repeated tests over the years couldn't narrow the diagnosis. Yet Joe and Karen Henry, his parents, believed something specific explained their son's explosive moods and compulsively repeated speech.

"We knew from the get-go that it was not regular autism," Joe said.

Franklin was a young adult when a fifth genetic test finally gave his parents a name for their son's condition: NR4A2-related neurodevelopmental disorder, from an extremely rare mutation on the NR4A2 gene.

Armed with the book "Genetics for Dummies," Joe dove into the scientific literature. A study on rare mutations that contribute to autism spectrum disorder (ASD) led him to email its author: Daniel Geschwind, MD, PhD. Dr. Geschwind is a distinguished professor of human genetics, neurology and psychiatry at the David Geffen School of Medicine at UCLA, a faculty member in the Eli and Edythe Broad Center of Regenerative Medicine and Stem Cell Research and director of the UCLA Institute for Precision Health.

Nearly a decade ago, Dr. Geschwind and his colleagues were the first to identify NR4A2 as an autism risk gene. When mutated, it caused "a highly penetrant form of syndromic ASD consisting of ID [intellectual disability], language delay, and ASD-like behavioral and cognitive deficits." Researchers also noted the need to identify more individuals with the mutation.

Email correspondence between Dr. Geschwind and Joe provided an opening for just that. Joe and Franklin had their blood drawn at home in Medford, Oregon and delivered to Los Angeles.

Franklin is the first patient in a new study by Dr. Geschwind's research group to understand how NR4A2 affects brain development, and ultimately, to develop therapeutics.

"Our interests are very aligned," said Dr. Geschwind. "The Henrys want to understand this disorder, and so do we."

AUTISM GENETICS

Autism research had once been confined to psychiatry and psychology without much basic neuroscience. That changed with Dr. Geschwind's focus on investigating autism as a biomedical disorder.

Families have been an integral part of his work since his lab's founding 27 years ago. It was a group of parents who convinced him of a "huge unmet need to bring genetics and neurobiology to the table," recalled Dr. Geschwind.

Supported by the National Institutes of Health, they created the Autism Genetic Resource Exchange and launched the modern era of autism genetics.

Biological samples from more than 2,000 families — most with two or more children on the autism spectrum — available to researchers anywhere, have helped scientists to identify more than 200 autism risk genes.

Dr. Geschwind likens the new information to pieces of a jigsaw puzzle.

"We can begin to see parts of the image," he said. "But we don't see the whole thing yet. There's still a lot of gene discovery to go."

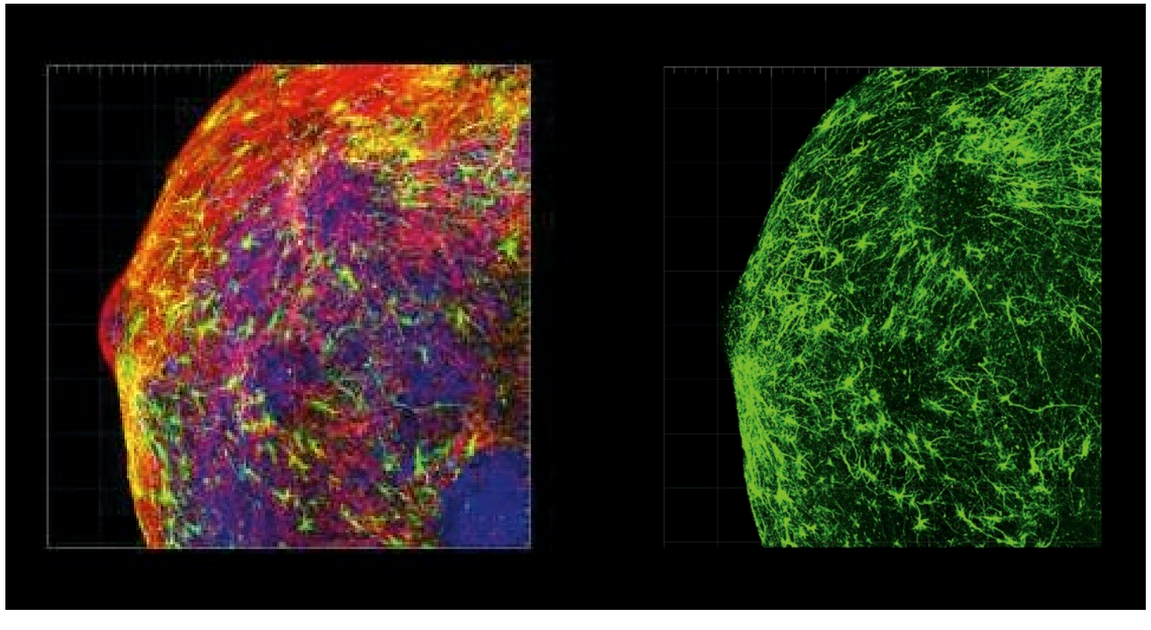
NR4A2 AND A FAMILY

The first hints at the impact of Franklin's mutated NR4A2 gene were when he was late to reaching milestones like rolling over, crawling and talking.

Later, he could not verbalize what was bothering him, leading to constant screaming. For 18 years, Joe and Karen did not spend one night apart from Franklin and his younger brother, Theodore.

> "I love my kid how he is. My enthusiasm is to just help out the greater cause."

LEFT: Joe Henry and his son, Franklin, are contributing to rare gene research in the Geschwind Lab. *(Photo by Jim Craven)*



LEFT: Gene expression can be studied in an organoid model that mimics a neurotypical human forebrain. Green represents neurons and red astrocytes. *(Courtesy of Dr. George Chen | UCLA Health)*

While Franklin's childhood was difficult, his young adulthood saw marked behavioral improvements.

These days, he has a job at a local market and is one of Medford's most well-known citizens. He regularly watches all city council meetings and local newscasts; joins a group of retired lawyers for their weekly lunches; and walks the town for miles, chatting with everyone he meets.

BRAIN ORGANOIDS

NR4A2 and other risk genes can provide a roadmap to autism mechanisms. Step one is to study what happens when the gene is knocked out or reduced — but the rarity of the genes, Dr. Geschwind said, makes it "really hard to get patient lines."

That's where Franklin's mutated NR4A2 gene comes in.

Cells from his blood sample were reprogrammed to an embryonic state and then grown into organoids that mimic the cerebral cortex.

The organoids, floating in a Petri dish, are tiny and beige — "not particularly exciting," according to George Chen, PhD, an assistant project scientist in Dr. Geschwind's research group. But they convey an enormous amount of information about brain development.

The study will focus on the organoids' first 200 days, analogous to a brain developing in utero. Dr. Chen and his colleagues can assess changes in individual cells and their interactions with other cells for a detailed look at the mutation's effects.

Seeing how each risk gene contributes to neurodevelopment will form "a better picture of what genes are critical at which time points," Dr. Chen said.

Any understanding of NR4A2-related neurodevelopmental disorder requires at least three patients, and preferably more, Dr. Geschwind cautioned. Through his connections, Joe has introduced the research group to other families and linked them with other investigators studying the gene.

While families and the Geschwind Lab kickstarted the journey to a greater understanding of autism's genetic basis, it was the crucial support of both federal and private funds that propelled it forward.

"We were able to work with Mr. Henry because we had philanthropic support to take patient samples and create patient lines," said Dr. Geschwind, "as well as 27 years of infrastructure that's been built by NIH grants."

FUTURE TREATMENTS

The Geschwind Lab's ultimate aim is to develop a therapeutic treatment for NR4A2-related neurodevelopmental disorder.

"We're in an unbelievably exciting time in biomedical research, where we can actually model brain diseases in a dish," said Dr. Geschwind. "We're on the precipice of extraordinary opportunities."

But for Joe, getting involved in research was not so much about finding a cure for Franklin.

"I love my kid how he is," he said. "My enthusiasm is to just help out the greater cause."

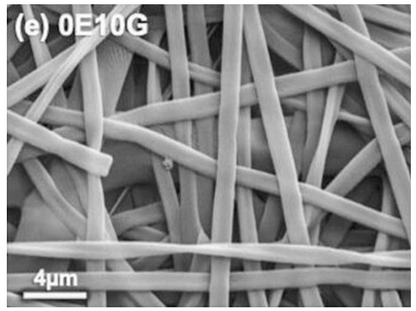
In addition to his son's condition, he points out, NR4A2 may have associations with a range of other diseases, including Parkinson's and Alzheimer's.

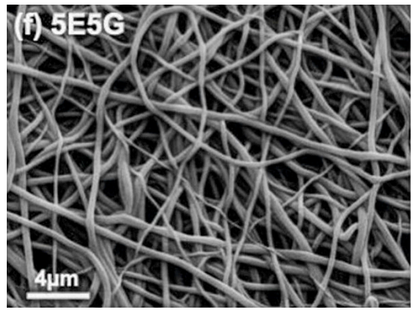
"My son's legacy may be that he's helped to stop those diseases in their tracks."

— Mary-Rose Abraham

UCLA-developed biomaterials address challenges of lower urinary tract surgery

Biodegradable scaffolds and suture patches mimic LUT mechanics, promoting healing and reducing complications.





LEFT: Representative scanning electron microscopy (SEM) images of electrospun scaffolds for lower urinary tract surgical reconstruction *(Sturm, Renea M et al., July 2025)*

TO ADDRESS CHALLENGes in repairing and replacement of lower urinary tract (LUT) tissues, Renea M. Sturm, MD, FAAP, assistant professor of urology at the David Geffen School of Medicine at UCLA, has led the development of an innovative biomaterial scaffold and adhesive patch.

Both are elastic and biodegradable, overcoming limitations of current materials used for these procedures.

Both efforts reflect Dr. Sturm's strong underlying belief in the need for elastic biomaterials inspired by the LUT's unique form and function. However, many materials or tissues that have been previously used to augment, support or replace LUT tissue lack that viscoelasticity.

"The bladder and urethra are organs that cycle multiple times a day, and thousands of times throughout a lifetime," she says. "And it's extreme cycling; the bladder routinely goes from empty to holding 400 ml."

The scaffolds, subject of a recently published article, were developed with Nasim Annabi, PhD, associate professor of chemical and biomolecular engineering at UCLA.

They incorporate a combination of a gelatin, to improve handling and biomechanics, with an elastin-like peptide, a protein with intrinsic disorder encoded at the molecular level that increases the elasticity of many tissues.

> "We wanted to ensure tissue support, but also flexibility."

These features are harnessed to mimic the natural viscoelasticity of the urinary bladder and urethra, allowing them to engage in cyclic extension with minimal energy loss.

"They also provide biologic and structu.ral cues for tissue regeneration as the scaffolds degrade over time," says Dr. Sturm.

Team co-leader Ali Khademhosseini, PhD, CEO of the Terasaki Institute, and former professor of bioengineering, chemical engineering and radiology at UCLA, had begun work on a biodegradable, flexible adhesive patch (BLAP) for urinary bladder suture reinforcement.

The results of that effort, also published this year, are unique for their development of a tensile-matched patch with a functionalized adhesive surface. It binds with tissues in a similar manner to that used by mussels to adhere in moist environments.

BLAP, too, addresses a glaring lack of flexibility with suture reinforcement, as the staples and other material used on suture lines can't expand or contract with the urinary cycle. The patch aims to prevent tissue failure at suture lines — a cause of complications and readmissions following complex LUT surgeries.

"We wanted to ensure tissue support, but also the flexibility to allow LUT organs to have a catheter removed and return to function more rapidly than current techniques," explains Dr. Sturm.

The materials have been extensively characterized to determine the precise formulations that most closely resemble urinary tract target tissues, degradation and suturability.

These were evaluated in vitro using human LUT cell lines, followed by biocompatibility assessment in animal models. The team has recently expanded the biomaterial formulations and are completing implantation in functional models.

"One of our next steps includes adding specific proteins," Dr. Sturm says. "They can be released from the scaffold layer in a timed or patterned fashion to further support microenvironments that help establish functional tissues."

"Biomimetic, suturable, and extensible electrospun scaffolds for lower urinary tract surgical reconstruction," *Advanced Healthcare Materials*, September 14, 2025

"Biodegradable, flexible adhesive patch for urinary bladder suture line reinforcement," *Applied Materials Today*, March 6, 2025

Inflammation triples depression risk for older adults with insomnia

UCLA researchers say poor sleepers may benefit from treatments targeted for inflammation-related depression.

CHRONIC INFLAMMAtion, already tied to heart disease and cancer, may also worsen the emotional toll of poor sleep. A new UCLA Health study found that older adults with insomnia who experience inflammatory exposure face triple the risk of developing depressive symptoms compared to sound sleepers.

The study, published in the journal JAMA Psychiatry, is the first to examine the mechanistic link between inflammation, insomnia and risk of depressive mood among older adults.

As humans age, we experience increasing risk of chronic inflammation as our cells and immune system break down. This can be further exacerbated by illness, stress, unhealthy habits, pain and various other factors that can elevate inflammation. Additionally, more than 1 in 10 adults over 60 years old in the U.S. experience major depression each year, which can exacerbate other health problems such as cognitive decline, disability and overall mortality, according to previous research.

Inflammation and insomnia have each been linked to depression risk, whether causally or biologically, but no study to date has examined whether older adults with insomnia are more vulnerable to depressive symptoms when experiencing elevated inflammation.

The UCLA study led by psychiatrist Michael Irwin, MD, sought to determine whether there was a mechanistic link between insomnia, inflammation and depression among older adults.

The randomized clinical control trial enrolled 160 adults ages 60 and over in Los Angeles of whom 53 had insomnia and 107 were healthy sleepers. The healthy and insomnia patients were randomly divided into two treatment groups: exposure to inflammatory challenge vs. placebo. Dr. Irwin and colleagues assessed for depressive mood in both groups after inflammatory exposure using the Profiles of Mood States depression subscale. Participants were also evaluated for depressive symptom severity and inflammatory cytokines in blood samples.

Inflammatory challenge induced increases in inflammation and depressive symptoms. Further, in older adults who were exposed to inflammatory challenge, a three-fold greater increase was found in depressive mood and symptoms in those with insomnia as compared to healthy sleepers. Participants with insomnia were also depressed for far longer after inflammation was induced, showing depressed mood for six hours or longer compared to transient increases in healthy sleepers.

"Insomnia not only robs older adults of rest but also primes their immune system to make them uniquely vulnerable to depression when faced with inflammation," said Dr. Irwin, who also directs UCLA Health's Cousins Center for Psychoneuroimmunology and is a member of the UCLA Health Jonsson Comprehensive Cancer Center. "Treatments targeted at this inflammation-related depression may prevent depression and benefit these patients to improve their overall quality of life."

> "Insomnia not only robs older adults of rest but also primes their immune system to make them uniquely vulnerable to depression when faced with inflammation."

Dr. Irwin said further research is needed to determine if these findings are generalizable to younger populations with insomnia. Additionally, further research is needed to validate these results among non-white populations which have a disproportionate risk of insomnia and depression compared to white populations.

— Will Houston

"Inflammatory exposure and depression in older adults with insomnia: A randomized clinical control trial," *JAMA Psychiatry*, July 16, 2025

ISTOCK IMAGES

California program successfully scales emergency department addiction treatment statewide

CA Bridge initiative demonstrates emergency rooms can effectively treat opioid use disorder.

A COMPREHENSIVE study shows that California's CA Bridge program has successfully implemented opioid use disorder treatment services across more than 80% of the state's emergency departments, reaching over 165,000 patients and providing nearly 45,000 instances of buprenorphine treatment from July 2022 through December 2023 alone.

The initiative proves that emergency departments can serve as a critical entry point for addiction care when provided with proper funding, training and patient navigation support.

"EDs are a strategic point of entry into the addiction care system," said Elizabeth Samuels, MD, lead author of the study and researcher at UCLA. "Our findings demonstrate that with technical assistance, training and funding, adoption and services provision are high."

Emergency departments treat large numbers of people with opioid use disorder, but most health systems fail to provide evidence-based addiction care. Nationally, only 5.7% to 11.5% of emergency department patients with opioid use disorder receive medications for opioid use disorder, life-saving medications that reduce overdose deaths and improve treatment outcomes.

CA Bridge represents the largest state-based emergency department addiction treatment initiative in the United States, offering a potential roadmap for nationwide implementation.

Researchers analyzed data from 252 California hospitals participating in CA Bridge from July 2022 through December 2023. The program provided hospitals with $120,000 in funding, technical assistance and training to hire patient navigators, support clinical champions and establish addiction treatment pathways.

ISTOCK IMAGES

Using grant reporting data and California's controlled substances prescribing database, researchers tracked patient navigator encounters, buprenorphine treatments and subsequent care engagement across rural, urban, public and private hospitals.

The program achieved remarkable reach and effectiveness. From June 2022 through December 2023 at CA Bridge participating hospitals, patient navigators engaged patients with opioid use disorders in over 165,671 emergency department visits. Patient engagement at public hospitals was about 80% higher than private hospitals. Provision of buprenorphine treatment at public hospitals was about 50% higher than private hospitals.

About 36% of patients who received a buprenorphine prescription in the emergency department had a follow-up prescription within 40 days. Patients received a median 58 days of uninterrupted treatment within one month of receiving a buprenorphine dose in the emergency department.

> "Our findings demonstrate that with technical assistance, training, and funding, adoption and services provision are high."

The success of CA Bridge demonstrates that emergency departments can be transformed into effective sites for initiation of addiction treatment and linkage to maintenance care, but researchers emphasize the need for sustainable financing and quality measures to support nationwide dissemination.

Future work should focus on understanding implementation strategies used by high-performing sites, developing standardized quality metrics for emergency addiction care, and exploring similar initiatives for other substance use disorders including methamphetamine and alcohol.

— David Sampson

"Increasing emergency department patient navigation and buprenorphine use: A model for low-barrier treatment," *Health Affairs*, September 2, 2025

ISTOCK IMAGES

Virtual reality shows promise in easing stress for cardiac patients, UCLA Health study finds

New research from UCLA Health suggests that virtual reality (VR) may offer a promising tool to ease psychological stress and support heart health.

LIVING WITH CARDIOVAS-cular disease often takes a serious emotional toll — and with stress known to worsen heart health, there's growing interest in low-risk, innovative ways to help patients cope. New research from UCLA Health suggests that virtual reality (VR) may offer a promising tool to ease psychological stress and support heart health.

In a pilot study involving 20 patients from UCLA's cardiology clinic — either living with or at risk for cardiovascular disease — participants engaged in a 30-minute VR relaxation experience featuring colorful, immersive visuals and soothing audio. These patients were considered to have above average levels of stress, with nearly half having a history of anxiety or depression, conditions commonly linked to coronary artery disease or recovery from serious cardiac events.

> "Stress is a significant and under-addressed contributor to cardiovascular risk."

After a VR session, many patients experienced a significant impact to their psychological state. Many described a calming sense of "distance from stress" and indicated that they lost track of time or felt as if they were "floating."

Physiological measurements also supported these experiences. Participants in the study, published in JMIR Cardio, showed a statistically significant drop in their STAI-S (State-Trait Anxiety Inventory-State) scores, a validated tool for measuring current anxiety; decreased heart rates; and signs of increased vagal tone — a marker of parasympathetic nervous system activation, which helps the body relax and recover from stress.

"These findings demonstrate the potential of harnessing immersive technologies to meaningfully reduce stress in cardiac patients," said Tamara Horwich, MD, cardiologist and professor of medicine at the David Geffen School of Medicine at UCLA, and corresponding author of the study. "At a time when we're increasingly embracing new mind-heart-body approaches to care, this offers a safe, low-risk and effective tool to support both emotional well-being and heart health."

Further, she added: "Stress is a significant and under-addressed contributor to cardiovascular risk. Our study supports the broader use of behavioral cardiology tools like VR to complement traditional treatment, so patients feel calmer and more connected to their own healing process."

— Alana Prisco

"Novel virtual reality intervention for stress reduction among patients with or at risk for cardiovascular disease: mixed methods pilot study," *JMIR Cardio*, August 6, 2025

An interventional cardiology trailblazer, the UCLA physician-scientist also inspired colleagues with his kindness, curiosity, and an enduring passion for medicine.

Remembering Dr. Jonathan M. Tobis

By Lauren Ingeno

FOR MORE THAN 40 YEARS, JONATHAN M. TOBIS, MD, was an expert in matters of the heart.

The pioneering interventional cardiologist helped to define an emerging field of medicine, including performing the first digital left ventricular and coronary angiograms in the world, before joining the Division of Cardiology at the David Geffen School of Medicine in 1999.

"Everything that he worked on in his career is something that is making a major difference in taking care of patients

HSIAO-RON CHEN

LEFT: Dr. Tobis and his wife, Dr. Nancy Greep. BOTTOM: As a young man, with siblings David (left) and Heather. OPPOSITE: During the summers of 2017 and 2018, Dr. Tobis camped out at 12,000 feet on Mt. Whitney for his study on the links between patent foramen ovale and acute mountain sickness. *(Photos courtesy of the Tobis Family)*

throughout the world — that is the legacy he is leaving," said Ravi Dave, MD, director of interventional cardiology at UCLA Health.

But it was Dr. Tobis' own heart that his patients, colleagues and family will remember most.

"Regardless of what was happening in the cardiac catheterization lab, whether he was having a good or bad day, he would always have the biggest smile that would light up the room," said Dr. Dave, who met Dr. Tobis at UCLA. "He was an incredibly kind human being."

Dr. Tobis died at home in September after a two-year battle with kidney cancer. He was 77. He is survived by his wife, Nancy Greep, MD, two sons and two granddaughters.

Beyond his scientific and clinical contributions to the field, Dr. Tobis was also a beloved teacher and mentor, an adventurous outdoorsman and an athlete with a passion for travel.

Among his many hobbies, "he loved to backpack in the Sierra Nevada mountains," remembers his son, Scott Tobis, MD. "He was an amateur astronomer and a voracious reader of history."

Dr. Tobis remained active well into his seventies. And he continued working until the very end of his life.

"I love being a doctor," Dr. Tobis said in 2024, one year after receiving his cancer diagnosis. "I love taking care of patients, helping people. I would be bored if I didn't do this."

THE SON OF A PHYSICIAN, DR. Tobis was born and raised in Brooklyn, New York. He attended Amherst College, graduating in 1969 with honors in chemistry. He earned his medical degree from Albert Einstein College of Medicine in 1973 and came to Southern California in 1975 for residency at UC Irvine.

While at UC Irvine, his research ushered the cardiac catheterization laboratory into the digital age and made a lasting impact on the field of interventional cardiology.

At the time, an angiogram — a diagnostic test that uses X-rays to look at the heart's blood vessels — required film that needed to be developed and viewed on a specialized machine, making it logistically complicated to share information between clinicians.

Dr. Tobis and his mentor, the late Walter Henry, MD, used animal models to investigate whether they could digitize this process and allow for real-time imaging and simpler information sharing.

In the early 1980s, Dr. Tobis performed the first digital left ventricular and coronary angiograms in the world. The innovation transformed the practice of angioplasty, a procedure that opens narrow or blocked arteries.

"Now you could do an angioplasty and get the results back immediately on the computer," Dr. Tobis said in a 2024 interview.

Dr. Tobis went on to help develop the field of intravascular ultrasound imaging, which led to the safer placement of lifesaving stents to prevent heart attacks. In recognition of his seminal work in the field, he was named a prestigious Master Fellow of the Society of Cardiac Angiography and Interventions (MSCAI).

"That particular procedure has really changed the way we practice," Dr. Dave said. "It has been a game changer in our field and has resulted in significantly better outcomes for patients."

WHEN HE WAS NOT IN THE HOSpital, Dr. Tobis loved to recharge in nature.

He summited Mt. Whitney — the tallest peak in the continental U.S. — twice. In 2017, he decided to combine his scientific and personal interests. Stationed for a week at 12,000 feet on the mountain, Dr. Tobis would chat with hikers and see if they were interested in enrolling in a clinical study about altitude sickness.

Hikers who enrolled in the study were evaluated at a nearby hospital for patent foramen ovale (PFO), the most frequent congenital cardiac lesion. It has been linked to stroke, migraines and other conditions.

PFO was one of Dr. Tobis' primary research focuses, and he treated 1,300 patients with PFO closures. The Mt. Whitney study led by Dr. Tobis found that hikers with acute mountain sickness were more likely to have a PFO.

"It seemed just fascinating to me that here was this condition that we knew about anatomically, from medical school," he said in an interview earlier this year, "but had no appreciation of the multiple manifestations and clinical syndromes that were associated with it."

Dr. Tobis also loved traveling to Italy, and his most recent adventure was learning to speak Italian. Colleagues admired his ability to prioritize joy and leisure while juggling a demanding career.

"He gave me the idea that it is okay to have a fun side — to enjoy a great moment with friends and talk about things unrelated to medicine," Dr. Dave said. "He would leave on short trips, and I think that was his secret weapon. He would come back fully recharged and full of ideas."

For several generations of junior-level faculty, Dr. Tobis was a teacher, a mentor and a living legend.

"His passion for UCLA Cardiology, his patients, his mentees and other faculty was obvious," said Priscilla Hsue, MD, chief of the Cardiology Division, who met Dr. Tobis when she joined the David Geffen School of Medicine in 2024.

"Dr. Tobis was a legend in interventional cardiology. He was able to evolve with the times, and then to bring that knowledge to his patients and his mentees. That's really amazing."

And despite the long hours it took to achieve his many academic accomplishments, his wife and children were always his top priority, said his son, Dr. Scott Tobis "He absolutely loved to spend time with his family."

Dr. Tobis' extensive body of research and decades of patient care was recognized at a symposium in 2024. The event, sponsored by UCLA Health and the David Geffen School of Medicine, also celebrated a large gift in his honor, which will create an endowed chair in his name upon Academic Senate approval.

"I've had a wonderful career and enjoyed what I did," Dr. Tobis said ahead of the symposium. "I think I helped a lot of people. I have no regrets." ●

In lieu of flowers, Dr. Tobis and his family wish that donations be made to UCLA Health to continue his research projects. Visit engage.ucla.edu/fundraiser/6672488.

Against All Odds, a Lifesaving Lung Transplant

One man's challenging health journey led him to the UCLA Health lung transplant team as a last resort. It would take all their skill and willpower to heal him.

By Mary-Rose Abraham

JOHN MCCOY / UCLA HEALTH

EARING WHITE SPOTLIGHTS BEAMED ONTO the roaring crowd as Dead & Company ended their four-hour set on a Saturday night.

Larry "Tony" Arena had already been on his feet for much of the concert. He lined up with 16,000 others to leave The Sphere in Las Vegas. It was nearly midnight and still 84 degrees on The Strip. People packed the air-conditioned pedestrian bridge to The Venetian Hotel.

Tony, 54, increasingly fell behind the exiting crowd. He could only walk about 10 feet before needing to sit down. Even the portable oxygen machine slung across his shoulder wasn't helping.

"I couldn't breathe at all," Tony recalls.

Foot traffic in the long passageway thinned out; soon, it was just Tony and his college buddy Mike. What should have been a brisk, 10-minute walk to the hotel took them over an hour.

After Tony and his wife, Kamren Arena, drove back to their San Diego-area home, he twice coughed up blood. They went to the local hospital, where over the next several days, his condition worsened.

On July 3, 2024, an ambulance transported Tony up to Ronald Reagan UCLA Medical Center where he was admitted in respiratory failure and approved for a double lung transplant. The wait for the organs needed to save his life had begun.

SINCE JUNE 1990, MORE THAN 1,780 PAtients have received a lung transplant at UCLA Health, placing it among the top 10 centers nationwide. And despite many high-risk cases, patients overall go home far quicker: a median of 13 days after transplant, compared with 19 days nationally.

But these numbers only begin to capture the scope of the transplant program at UCLA Health, which leads the nation with 24,000 solid-organ transplants since its beginnings.

Clinician–scientists at the David Geffen School of Medicine at UCLA, supported by research dollars from the National Institutes of Health, have transformed lung transplantation worldwide.

A novel device that began as a paper napkin sketch has radically improved ECMO (Extracorporeal Membrane Oxygenation), technology that keeps patients alive while on the transplant waitlist.

In addition, research breakthroughs have expanded the pool of viable donor organs. UCLA Health led the largest clinical trial in the study of ex vivo lung perfusion, the platform that allows organs to live outside the body longer.

"The UCLA team are not the people who come in, do their work and go home," says Abbas Ardehali, MD, director of the UCLA Health Heart and Lung Transplant Program. "We continue to ask questions. Why? What? How can we do better?

"This is what we do every day: not only charting new territories but offering lifesaving therapy."

In the following days, the transplant team would need to call on that skill and willpower to heal Tony. Like many other patients needing new lungs, his challenging health issues complicated an already fraught procedure. UCLA Health was his last resort.

"The UCLA team are not the people who come in, do their work and go home. We continue to ask questions: Why? What? How can we do better?"

TONY WAS ADMITTED TO 4ICU, THE MEDICAL intensive care unit on the 4th floor of the hospital in Westwood. It wasn't the first time he was critically ill.

In late summer 2012, the general contractor spent a day pulling weeds at a worksite with his son. Two days later, he couldn't lift his right arm. When he tried, the pain was so intense that he cried in the shower.

An MRI and a consultation with a hematologist followed. Tony was diagnosed with an aggressive form of the blood cancer Non-Hodgkin lymphoma. He and Kamren had married just six weeks earlier.

The treatment was intense: six months of chemotherapy and a stem cell transplant from his sister, who was fortunately a match. In less than a year, Tony and Kamren were able to travel again.

His cancer was cured and all seemed well. But around 2018, Tony developed a persistent, dry cough so intense, it would double him over. He was so fatigued, he had to close his contracting business.

A pulmonologist determined that Tony's stem cell transplant had resulted in graft-versus-host disease (GvHD). The transplanted cells were attacking his body, and significantly scarring his lungs.

Tony would likely need a lung transplant, but surgeons at his local medical center weren't comfortable taking him on because of his health complications. He was referred to UCLA Health, which routinely accepts patients who are deemed too sick or too elderly for a lung transplant and turned down by other medical centers.

Dr. Ardehali explains that surgery on a patient with GvHD presents "a challenge because of their overall state of immunosuppression" and risk for infections. In his 28 years with UCLA Health, he has performed lung transplants on at least a dozen patients with the unusual condition.

"It's because of the expertise that we have — the ICU, the critical care team — the whole package comes together to provide care for patients who pose significant challenges."

A TEAM OF SPECIALISTS GATHERED FOR their weekly Thursday morning meeting to consider whether Tony and other patients should be added to the national transplant waiting list. On the call was Tony's pulmonologist, Grant Turner, MD, MHA.

The flare-ups of Tony's lung issues were unpredictable. Dr. Turner recalls that when he listened through the stethoscope, it "sounded like ripping the Velcro on a pair of shoes. I heard crackles all throughout his lungs."

Tony was still healthy enough then that he didn't need an immediate transplant. But Dr. Turner had him undergo all the necessary tests in case his condition deteriorated: bloodwork, ultrasounds, screenings for pulmonary hypertension and coronary artery disease.

ABOVE: Phlebotomy technician Heather Mercado draws Tony Arena's blood ahead of his pulmonology appointment at Ronald Reagan UCLA Medical Center on Oct. 16, 2025. *(Photo by John McCoy / UCLA Health)*

Next were appointments with an infectious disease physician, cardiologist, psychiatrist, nephrologist, nutritionist, dentist, social worker and financial counselor. Completing them all took three months.

It was many of these same specialists who discussed Tony's case during that morning meeting, more than a year after he was referred to UCLA Health. Dr. Turner presented a detailed overview of his condition. Then Dr. Ardehali called on each person to provide an assessment.

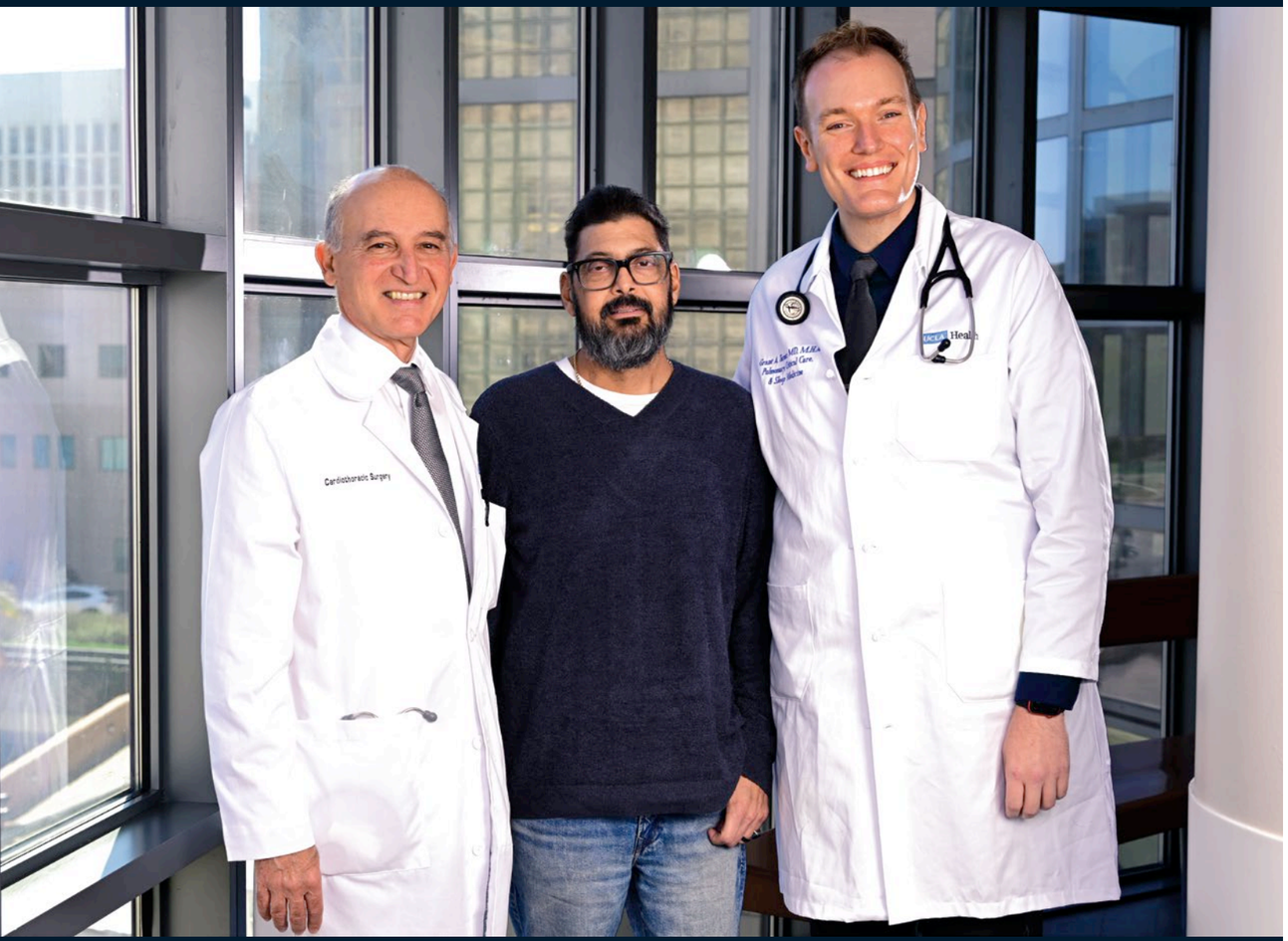
Incorporating everyone's perspective helps to strike a delicate balance.

"Our goal is to make sure that every patient has the best chance of survival and getting through the surgery," says Dr. Ardehali, also a professor of surgery and medicine in the medical school.

"But we are also cognizant that we are entrusted with a valuable resource: the scarce donor organs. If we give one to a patient who doesn't survive, it means that it was taken away from somebody else."

By the end of the meeting, Tony had been added to the waiting list for a donor lung.

“Organ transplantation is one of the miracles of modern medicine. It’s so gratifying for the team to see how a procedure so dramatically impacts one’s life.”



MATCHING DONORS TO RECIPIENTS IS A complex process. Dr. Ardehali explained that among the parameters are blood type and body size.

As Tony saw it, “There are benefits to being average height. You have a wider selection.”

For the most part, though, “How sick you are determines when you are matched with a donor,” Dr. Ardehali says.

But even with a match, only visualization — a careful examination of the organ — determines if the transplant proceeds.

A little more than two weeks after Tony was admitted, a donor lung was found. He was prepped for surgery.

Dr. Ardehali’s colleagues on the transplant team went to the hospital where the donor had been brought.

The lungs were the second organ to be removed from the donor’s body (after the heart). It was a deep red, unlike a pinkish healthy lung, and filled with fluids, a sign of pneumonia throughout. It was decided not to transplant.

Tony was more than disheartened as he continued to wait in the ICU.

“I remember being scared,” says Tony. “I remember praying a lot to God at night, asking him to watch over me.”

Having Kamren and his 83-year-old father, Dominick Arena, by his side comforted him, as did the bond he formed with a 4ICU nurse, Mark Ramos, RN, CCRN. They talked about everything from sourdough bread to family to religion.

But the wait was “torture,” as Kamren describes it.

“You stare at every doctor, every time they walk by, because you think: Are they going to come in and give you an offer?”

FIVE DAYS LATER, TONY’S BLOOD OXYGEN levels were critically low. He was moved up to 7ICU, the cardiothoracic intensive care unit, and placed on ECMO.

A catheter on the right side of his neck branched into his heart and lungs, efficiently delivering oxygenated blood. That kept him alive.

Even with tubes running throughout his body, Tony was able to talk and frequently walked around the ICU. That kept him eligible for a transplant.

“If you’re not able to be active, then it’s unlikely you’ll have a good outcome afterwards, even if the lung itself is great,” Dr. Turner says.

Two days after he went on ECMO, Tony was once more matched with a donor lung.

He was again prepped for surgery. Kamren and Dominick sat outside in a courtyard, silently watching as helicopters landed on the roof of the hospital, wondering if one of them was delivering the lifesaving organ.

In the operating room, Dr. Ardehali opened Tony’s chest like a clamshell. His fibrotic lungs were stiff and barely able to expand, pooled blood coloring them a dark red.

ABOVE: Alfredo Ramirez, respiratory therapist, checks Tony Arena's lung function in the Pulmonary Function Lab at Ronald Reagan UCLA Medical Center on Oct. 16, 2025. *(Photo by John McCoy / UCLA Health)*

Dr. Ardehali removed Tony’s lungs, slipped in the inflated donor lungs and connected airways and vessels. The new lungs began to expand and collapse and took on a pinkish color as blood began to flow.

Dr. Ardehali also repaired a hole in Tony’s heart. As a cardiothoracic surgeon, he was able to operate on the heart as well during the transplant procedure.

The surgery that had been estimated to take six hours was complete in just four and a half. Dr. Ardehali came out to the waiting room and reassured Kamren and Dominick that the surgery went well. They both started crying and hugging him.

“Nowhere in medicine can you do something that has this much of an impact in such a short period of time on an individual’s life,” says Dr. Ardehali. “Organ transplantation is one of the miracles of modern medicine. It’s so gratifying for the team to see how a procedure so dramatically impacts one’s life.”

He is quick to point out the true heroes in transplantation: the donor and the donor’s family.

“The courage to donate organs so they can save others is a testament to their resilience,” Dr. Ardehali says. “At a time of tragedy, they do something good for the community and society as a whole.”

In the ICU, Dr. Turner has seen the journey of a donor organ “from the other side of things,” he says.

“The families are bereft and beside themselves from some horrible, traumatic accident — but still give the gift of life to other people.”

THOUGH TONY DOESN’T REMEMBER MUCH while on ECMO, he does have a singular, strong memory: A vision of blue angel wings bearing a message that Kamren and Dominick were the hands that would help him heal.

That vision came true as they stayed with him around the clock for the critical first three months post-transplant.

LEFT: Tony Arena with Dr. Abbas Ardehali, left, and Dr. Grant Turner, right. *(Photo by John McCoy / UCLA Health)*

“I remember being scared. I remember praying a lot to God at night, asking him to watch over me.”

RIGHT: Tony Arena waits to undergo testing in the Pulmonary Function Lab at Ronald Reagan UCLA Medical Center on Oct. 16, 2025. *(Photo by John McCoy / UCLA Health)*

JOHN MCCOY / UCLA HEALTH

New home for transplant medicine innovation

UCLA Health is an undisputed leader in the field of solid organ transplantation, a lifesaving procedure for patients with end-stage organ failure.

For countless people, a transplant is the only option for survival. Despite advancements in medical science, there remains a significant gap between the number of patients needing transplants and the availability of donor organs.

To help bridge this gap, UCLA Health will establish the UCLA Organ Transplant Institute, a state-of-the-art center dedicated to advancing transplantation science, patient care and education.

Set to open in the coming years, the Institute will provide comprehensive transplant services, foster innovative research and offer extensive education and training programs.

Tony had to re-learn two basic reflexes: breathing and coughing. Both were painful because of the incision that was healing across his chest.

"As weird as it sounds, I went from 'couldn't stop coughing' to 'couldn't cough at all'," Tony says.

Dr. Turner explained that Tony's intercostal muscles between each of his ribs had atrophied and he needed to re-expand them with deep breathing. The nerves that would normally prompt him to cough and clear his airway had been permanently severed.

"We force them to cough a lot," says Dr. Turner, also an assistant clinical professor of medicine in the medical school. "They don't really feel like it, but that mucus is sitting down there, and it has to get out one way or the other."

Nurses gave Tony a very firm teddy bear to hug. It supported the incision to lessen the pain. It also pushed his diaphragm in, forcing air out and helping Tony cough.

"God, I hated the bear," he recalls.

Tony was discharged from the hospital just 12 days post-transplant. Kamren rented a nearby apartment so they could meet regularly with Dr. Turner for the next two months. In September, they finally returned home.

On Tony's 55th birthday — the first one after transplant — they put in an offer on a new home by the sea. Tony was able to enjoy "simple things like walking on the beach without needing oxygen," he says.

"Being able to breathe and have a conversation without coughing is life-changing."

A LITTLE MORE THAN A YEAR after transplant, Tony and Kamren drove up to Westwood for his periodic tests and consultation with Dr. Turner.

The exam room in the pulmonology clinic was chilly, so Marisol Oreas, LVN, brought Tony a blanket and heat packs. She clamped an oximeter to his index finger. A few seconds later, the monitor read 100 — his blood oxygen level was at its peak.

Dr. Turner joined them. After spending so much time together before, during and after transplant, there was a close bond and an easy camaraderie. Kamren first wanted to know if it was safe to go camping.

"Maybe you should try glamping instead," joked Dr. Turner.

He checked Tony's lungs. No wheezing or crackles to be heard.

"Sounds great!" Dr. Turner says, removing his stethoscope.

Tony's main issue now is a common one: side effects from the medications to keep the donor lung from being rejected. And because they lowered his immunity, he was also battling a viral infection. Dr. Turner adjusted the dosage on the current drug and introduced a new one.

He encouraged Tony to work out at the gym — off-peak hours to reduce the risk of infection — and planned to meet him again in another six weeks.

As they got ready to head back to San Diego, Kamren reflected on Tony's challenging health journey which had brought them to UCLA Health.

"The transplant team is super passionate," she said. "This is their thing, and it makes you feel like they care so much about you. It's not just one doctor; it's the whole team. They all know you. And I think that's so special." ●

"Being able to breathe and have a conversation without coughing is life-changing."

RIGHT: Tony Arena with his wife Kamren Arena. *(Photo by John McCoy / UCLA Health)*

Rewriting the Future

UCLA Health's retroactive tolerance protocol offers life without antirejection drugs, even when performed years after transplant surgery.

By Sandy Cohen

CLARA SUPER DUPER

Like a duckling following a mama duck, Karina Avina has always been close to her older sister, Rosa Rivera.

OPPOSITE: **Rosa Rivera, left, donated a kidney and stem cells to sister Karina Avina.** *(Photo by John McCoy / UCLA Health)*

In high school, that included the soccer team; when Rosa joined, Karina wanted to play as well. She was excited about wearing cleats and shin guards, as her big sister did. All Karina needed was a physical exam to clear her for play.

That's when she got the first inkling that something was amiss with her health.

During the routine exam, Karina learned her blood pressure was high enough to require medication. The following year, a bout with strep throat revealed an even more serious diagnosis.

"That's when they told me, 'You have chronic kidney disease,'" Karina recalls. She was 16 years old. With Rosa by her side, the two sisters broke down in tears.

Doctors at UCLA Health told Karina she'd eventually need a kidney transplant, and that Rosa would have to wait until she was 25 to be tested as a possible donor to ensure she didn't have any health problems of her own.

Karina had no choice but to start dialysis a few years later, which meant plugging herself into a machine that restricted her movements.

"I had to be hooked on every night," she says. "I had to be home. I had to be in bed, in the room."

What Karina didn't know then was that she would eventually take part in a groundbreaking study that could change the field of organ transplantation forever: She would be among the first in the world to participate in a "delayed tolerance" protocol.

Pioneered by UCLA Health, the protocol eliminates the need for antirejection drugs to preserve transplanted organs — even years after transplant surgery.

Kidney transplants are life-changing. They can restore health and liberate those with kidney disease from exhausting and time-consuming dialysis treatments.

But they come with a lifelong regimen of immunosuppressive drugs to prevent the immune system from attacking the new organ as a foreign invader. These medications are essential to maintain the transplant, but they can cause serious complications, including increased risk of cancer, infection, diabetes, hypertension and heart disease.

And, ironically, they're especially toxic to the kidneys. Immunosuppression drugs are filtered through the kidneys, eventually overwhelming and overtaxing the organ they were prescribed to protect.

Even with the best drugs, about half of kidney transplants are lost to chronic rejection in 15 to 20 years, according to the National Kidney Foundation. For the patient, this means having to go back on dialysis or undergo a second, or even a third, transplant.

For Karina, Rosa and their other five siblings, hearing this information was devastating. Karina was still a teenager. How many kidneys would she need over her lifetime?

Rosa and her brother David Ledesma decided they would be the first two donors. That would cover Karina for 30 years. But what about after that?

"Is she going to be really low on the list because she'd already gotten a kidney?" Rosa recalls wondering. Ledesma, it turned out, wasn't eligible.

Meanwhile, UCLA Health was advancing technology that would allow kidney transplant recipients to forego immunosuppression drugs altogether.

Building on science developed at Stanford University, UCLA Health renal transplant surgeon Jeffrey Veale, MD, has dedicated himself to furthering a transplant protocol known as tolerance. This protocol primes the organ recipient's immune system to recognize the new kidney not as an interloper but a natural part of themselves.

Tolerance is a significant advancement in organ transplantation because it eliminates the need for immunosuppressive drugs. It means, as Dr. Veale says, a transplant recipient could have "one kidney for life."

CLARA SUPERDUPER

"Many patients feel amazing after being freed from dialysis after transplant," he says. "But they feel 'cured' after being freed from immunosuppression drugs after tolerance."

It takes a multidisciplinary team of experts across diverse specialties to facilitate this process, including nephrology, urology, hematology and radiation oncology, among others.

"It requires a lot of interplay between different divisions," says transplant nephrologist Erik Lum, MD, medical director of the kidney transplant tolerance program. "This really demonstrates the strength of a place like UCLA Health. You can't do this just anywhere."

The first tolerance transplant procedure at UCLA Health was performed in 2020, supported by nearly $2 million from the nonprofit OneLegacy Foundation.

Nine well-matched sibling pairs signed on for the protocol, which called for a stem-cell infusion shortly after transplant surgery.

In the months that followed, the transplant patients were monitored to check for mixed chimerism. Upon seeing long-term results, doctors would reduce and ultimately eliminate the antirejection medication.

The initial nine tolerance patients experienced the transplant and stem-cell infusion as two parts of one procedure. Today, seven are totally off antirejection drugs and the other two are on track to join them.

But Dr. Veale had always planned to take the tolerance procedure further. In January of 2025, he received a $6.7 million grant from the California Institute of Regenerative Medicine to further explore the mechanisms of tolerance. The hope was to make it available to people who had already received transplants.

Dr. Veale wanted to investigate the possibility of delayed immunological tolerance. Could someone who had a kidney transplant years earlier still develop tolerance by receiving an infusion of their organ donor's stem cells? Could the process work retroactively?

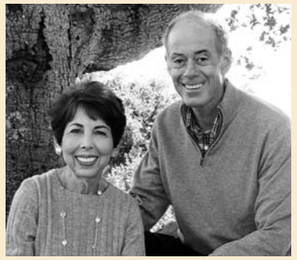
"There's thousands of people who have already been transplanted," Dr. Veale says. "So doing a delayed protocol opens up tolerance and immunosuppression freedom to so many more patients."

Rosa knew nothing about the tolerance protocol when she finally turned 25 and was able to give her sister a kidney. Karina was 23 and had been on dialysis for more than two years. As ready as she was to feel better, she had mixed feelings about Rosa undergoing surgery on her behalf.

"I love that she wanted to do that, but it also kind of makes you feel guilty," Karina says. "Because, yeah I'm going through this, but I

They paved the way for countless kidney transplantations. Next stop? Immune tolerance

WHEN CONNIE FRANK ARRIVED as an undergraduate student at the University of Illinois, she dreamed of becoming a doctor. During the trial period of her first college chemistry class, however, Frank got cold feet. She dropped the course, abandoned her plans to study medicine and earned a degree in English instead. "When I look back on it now, I am really not sure why I didn't pursue it," Frank said. "For many years, I had great regret about that."



Connie Frank and Evan Thompson. *(Photo courtesy of Connie Frank and Evan Thompson)*

Nevertheless, Frank succeeded in helping countless patients — not as a physician but as a philanthropist and health care advocate who has given millions to causes ranging from kidney transplantation to bone diseases. "It's been pointed out to me by friends and doctor–friends that what I'm doing in my philanthropy is as much or more than if I had become a doctor," Frank said. "I hope I have impacted a lot of patients' lives and a lot of doctors' lives, too."

Most recently, Frank and her husband Evan Thompson made a transformative gift to immune tolerance research at UCLA Health. Their investment will advance the quest to eliminate immunosuppressant medications for organ transplant recipients. Frank and Thompson are longtime supporters of the university and Jeffrey Veale, MD (FEL '06), professor of urology and director of the Kidney Transplantation Exchange Program at the David Geffen School of Medicine at UCLA.

Dr. Veale is overseeing a clinical trial that achieves immune tolerance by infusing transplant recipients' bodies with stem cells from their organ donors. The protocol tricks the immune system into accepting the transplanted organ so that the recipient can live without antirejection drugs. Dr. Veale first approached Frank and Thompson with his vision for immune tolerance in 2019. His progress and enthusiasm, combined with their commitment to improving quality of life for transplant recipients, motivated the pair to get involved. "I think Dr. Veale did one or two immune tolerance cases which were successful, and he was quite energized by the promise of what could happen," Thompson recalled. "So we said, 'OK, we're on board. Tell us what you have to do to make this a viable program.'" "This research was no longer just pie-in-the-sky theory," he added. "He had actually done it."

> "I hope I have impacted a lot of patients' lives and a lot of doctors' lives, too."

Antirejection drugs have many potential side effects that can cause cancer, infections and heart disease, and over time these drugs may also damage the transplanted organ. The UCLA team continues to pioneer new ideas to improve immune tolerance. They are revolutionizing the field of transplant medicine and plan to offer this immune tolerance protocol to liver, lung and heart transplant patients in the future.

ABOVE: Dr. Jeffrey Veale has dedicated himself to furthering the tolerance transplant protocol. *(Photo by Adam Amengual)*

don't want to put her through pain or take anything from her."

Rosa recalls: "There were times when she would tell me, 'I feel bad.' But I was like, 'We're gonna do this. There's no backing out now.'"

The sisters each had surgery on Oct. 10, 2023. Transplant surgeon Jeremy Blumberg, MD, removed Rosa's kidney and H. Albin Gritsch, MD, transplanted it into Karina.

When nurses wheeled Rosa in to see her sister the next morning, she could already tell something was different.

"You could see it in her face," Rosa remembers. "She looked so good." Doctors said Karina's lab results indicated the kidney was already working well.

Karina felt the effects of the transplant immediately, even as she started on a multipill daily regimen of antirejection drugs to maintain the new organ.

"I was feeling so bad, having my failing kidneys and being on dialysis. And after getting Rosa's, it was just like whoop, everything was better," she says.

The process brought them even closer.

"Growing up, I was always the one like right behind her," Karina says. "That was the dynamic in high school. Then we were more like friends, then besties, and then the surgery happened."

About six months later, Karina's nephrologist, Dr. Lum, introduced a new variable: he told her about the UCLA Health study exploring delayed tolerance — and the possibility of quitting her daily pill regimen of immunosuppressive medication for good.

UCLA is the first institution in the world to perform the delayed immune tolerance procedure.

A study like this, on patients who had received a kidney transplant from a living donor within the last five years, had never been attempted before.

There were concerns that introducing the stem cells later would trigger the immune system to reject the new cells, "and, God forbid, also kick out the living-donor kidney they had for years," Dr. Veale says.

Karina wasn't sure if she should try the delayed tolerance procedure as it hadn't been proven yet. She was finally feeling better and didn't want to mess anything up.

Both she and Rosa were skeptical — but at the same time, captivated by the idea of not needing another transplant in Karina's lifetime.

"It feels like in the beginning you have a win and a loss — you get the life of that kidney, but it doesn't last forever because of the medication," Karina says. "And then it's like, what if you keep your sister's kidney, no medicine, and you won't have to eventually have [another transplant]... why wouldn't you try?"

Rosa was concerned about her sister having to deal with another medical treatment: "She was going through so much, and she had already expressed how she was so ready to be done."

Both sisters understood there was no guarantee the procedure would work, though a few others had undergone it at the time.

"I remember telling Karina, 'Let me pray about it,'" Rosa says. "I came back to her and said, "I'm fully confident this is going to work. Like, there's no other option, it's going to work.'"

A year after the transplant surgery, the sisters decided to move forward.

As with the standard tolerance procedure, transplant recipients receive 10 radiation treatments to prepare for the stem-cell infusion. Their organ donors give themselves injections to push stem cells into their bloodstream, then have those cells extracted.

The organ recipient receives the infusion, and if durable chimerism forms, they can leave their immunosuppression drugs — and all the complications from those drugs — behind.

Rosa drove Karina from their Lancaster home to UCLA Health every day for the hours-long infusions and radiation treatments that would prepare her body to receive Rosa's cells.

> "Patients feel 'cured' after being freed from immunosuppression drugs after tolerance." –Dr. Jeffrey Veale

Those sessions were "when Karina got me into Korean drama," Rosa says.

"It was a whole newfound interest for me, too," Karina says. "[Those shows] are what got me through it."

Afterwards, Karina continued to go for regular lab work with Dr. Lum. Each visit confirmed that things were looking good.

He started decreasing her medications. Weekly appointments became monthly. In July, she stopped taking the medications altogether.

In September, she married her longtime boyfriend, who had been with her throughout the whole ordeal.

"I'd held onto the [antirejection] medicine, even after they told me to stop. The day after my wedding, I was moving stuff and I finally threw everything away," Karina says.

"The daily big block of pill organizers? I threw it away."

Since 2015, Dr. Veale has envisioned a world in which immunosuppression drugs after transplants are obsolete, because tolerance has become the norm.

"In addition to Dr. Veale's role as a transplant surgeon at UCLA, we think of him as a visionary and an innovative force capable of changing the transplant experience for patients," Frank said. "Just think of all the people who are alive because they have received a kidney, lung, heart or liver transplant. That in itself is an amazing thing that medicine can stand up and applaud themselves for; however, it is important to look at what is being done and to see how we can do it better."

After seeing the immune tolerance program's profound impact on the field of kidney transplantation, Frank and Thompson — who established the Connie Frank Kidney Transplant Center at UCLA Health in 2015 — were attracted to the idea of expanding efforts to incorporate other organs as well. "Kidney transplants have certain aspects that make it a more likely success," Thompson said. "But the promise, which is mind-boggling, goes well beyond kidneys. And that's one of the things about Dr. Veale. His vision is unlimited — but not in an unreasonable way." While collaborating with Dr. Veale on multiple projects, Frank and Thompson have developed a close bond with the transplant surgeon. They have agreed to help fund his immune tolerance studies for at least five years.

> "This meaningful contribution will continue to uplift medical leaders and enhance the lives of patients for generations to come."

"I'm so thrilled to be partnering again with Connie and Evan — two brilliant people with such a deep passion and respect for this work," Dr. Veale said. "Thanks to their generosity, we have the potential to free countless people from the lifelong burden of these immunosuppression drugs." In terms of direct involvement, Frank explained that their main job is to provide emotional and financial support for the doctors and scientists delivering these vital services.

Faculty have been known to seek their expertise in other areas as well. Frank's keen eye for design elevates every health care facility she touches, while their collective business acumen has helped researchers keep resource management top of mind. "The budget is really important," Thompson said. "One of the most significant reasons why startups fail is because ... they just don't have the money to provide all the services that they need in order to make that idea work, or they run out of money too soon because it takes longer than they anticipated to succeed."

Frank and Thompson are hopeful that the results of this clinical trial will empower other health care professionals to make further improvements and discoveries in their respective disciplines. "That's the history of medicine," Thompson said. "That's what happens. And I think that's going to happen here too."

Johnese Spisso, MPA, president of UCLA Health, CEO of the UCLA Hospital System and associate vice chancellor of UCLA Health Sciences, credited Frank and Thompson for the pivotal role they have played in transforming the field of organ transplantation. "I cannot overstate the value of their phenomenal service to this institution and the health care community at large," Spisso said. "This meaningful contribution will continue to uplift medical leaders and enhance the lives of patients for generations to come."

If she could travel back in time, Frank would tell the college freshman who dropped her chemistry course that there are many paths, and the one she ended up taking "worked out just fine." "I am pleased that Evan and I have supported a variety of projects that have improved the patient experience," Frank said. "There's a certain amount of pride in knowing that I am able to help people who I may never meet."

— Christi Carras

ABOVE: The day after marrying her longterm boyfriend, Karina finally got rid of her leftover antirejection medication. *(Photo courtesy of Karina Avina)*

For that to happen, though, the procedure must become available beyond kidney transplants from living donors. More than 85% of the 48,149 organ transplants performed in the United States in 2024 came from deceased donors, according to the U.S. Department of Health and Human Services.

Even before UCLA Health performed its first tolerance procedure, Dr. Veale had an eye on making tolerance possible for people receiving organs from deceased donors. That would be the "pinnacle achievement" in transplantation, he says.

In collaboration with OneLegacy, UCLA Health scientists developed technology to extract stem cells from deceased organ donors.

"There is an opportunity at UCLA to do something that's never been done before — a deceased-donor transplant using not just the deceased donor's organ, but also the deceased donor's stem cells to achieve tolerance," Thomas Mone, former CEO of OneLegacy, said at the outset of the project in 2020. "That is immensely more complex than doing this with a living donor, which is complex enough."

But Dr. Veale is getting closer. Delayed tolerance is the next step — "a stepping stone to deceased donors," he says.

Six other patients have undergone the delayed tolerance procedure so far, and all have been successful — they're either completely off or tapering off antirejection medications as they look toward an immunosuppression-free future.

In 2026, UCLA plans to make the protocol available to people who had a living-donor kidney transplant up to 20 years ago, Dr. Veale says.

"This opens it up to patients who have been transplanted in the past and to patients who were transplanted elsewhere," Dr. Veale says. "Delayed tolerance is all outpatient, so the expenses are much, much less.

"And it opens this up beyond kidney transplant. Now we could potentially achieve tolerance with liver, heart or lung transplants."

That's still on the horizon — but within sight.

"We now know this works in a delayed fashion. Now we've collected deceased donor stem cells, and we know it works," Dr. Veale says. "The two pieces just have to come together."

Now 26 and in perfect health, Karina is looking forward to doing all the things she couldn't before. A self-described "chef at heart," she's finally free of the food restrictions that came with her immunosuppressive medications: "Being able to eat and drink with no restriction is the best thing.

"It opens a lot," she says. "It's still kind of scary, because anything my body feels, I'm like, 'Wait, do I have to call the hospital?' So it's still kind of scary to do anything, but it does give more possibility and hope."

Rosa is excited, too, about Karina's future. And, of course, the sisters are closer than ever.

"She was a part of me before," Karina says. "But now she made it literal."

This is the kind of story that keeps Dr. Veale laser-focused on his passion: making tolerance available to all transplant patients, so they can live without the complications caused by immunosuppressive drugs.

"You can almost tangibly touch it or see it," he says. "It's just down the road." ●

HOW ARE PESTICIDES AND PARKINSON'S DISEASE LINKED? ONE DOCTOR'S RESEARCH SPANS 25 YEARS

Dr. Beate Ritz's research in California's Central Valley highlights the role of the environment in the neurodegenerative disorder.

By Mary-Rose Abraham

WHILE BEATE RITZ, MD, PHD, WAS UNDERgoing training in psychiatry in Germany, her 62-year-old department chair developed Parkinson's disease. It progressed rapidly.

"When I naively asked what causes Parkinson's," Dr. Ritz recalled, "everybody said, 'We don't know.'"

That question began more than 25 years of research into the neurodegenerative disorder for Dr. Ritz.

She would eventually narrow her focus to one of California's hubs of agriculture: the Central Valley.

Her Parkinson's Environment Genes (PEG) research has shown associations between environmental exposures — both pesticides and air pollution — and increased risk for developing Parkinson's disease, an important step toward determining its causes.

She is a distinguished professor of epidemiology in the UCLA Fielding School of Public Health and a professor in the department of neurology at the David Geffen School of Medicine at UCLA.

Dr. Ritz's work is increasingly critical as Parkinson's — for which there is no cure and only symptomatic treatment — is the fastest-growing neurological disease worldwide.

PESTICIDES EXPOSURE

Examining the environment as a possible cause for Parkinson's began in the late 1980s, with "frozen addicts."

After injecting a synthetic heroin, these individuals were found to have severely limited movement and speech. The drug was contaminated with a chemical similar to paraquat dichloride — a commonly used herbicide.

Dr. Ritz employed a unique resource — California's Pesticide Use Reports — that allowed her to precisely gauge the pesticides being sprayed on acres of fruits and vegetables in the Central Valley.

The compounds would then find their way into people through inhalation or ingestion (contained in dust or well water).

That exposure to paraquat was associated with an increased risk for Parkinson's disease, Dr. Ritz's studies found.

Since then, several animal models have shown paraquat causing disease symptoms. "We are now basically convinced that paraquat can cause Parkinson's," Dr. Ritz said.

Additional analyses of hundreds of pesticides found that more than 10 were directly toxic to the neurons that produce and release the neurotransmitter dopamine. Her team is now analyzing which combinations of pesticides are particularly toxic.

ALEXANDRA FOLEY

LEFT: Dr. Beate Ritz studies links between pesticides and Parkinson's disease in the Central Valley. *(Photo by Alexandra Foley)*

AIR POLLUTION

Dr. Ritz's latest studies have expanded to the role of air pollution.

As with pesticides, there are associations between increased disease risk and exposures to traffic-related pollutant markers such as carbon monoxide and the fine particulate matter found in dust.

Air pollution contains metals and is known to increase inflammation — both implicated in the immune dysfunction that partially drives Parkinson's disease.

Another connection concerns the nose. A majority of those who develop Parkinson's disease lose their sense of smell prior to diagnosis.

Dr. Ritz theorizes that an effect of pollution is that nanoparticles cross the nasal epithelium. They make their way to the olfactory bulb, then into the brain, and may therefore contribute to the development of Parkinson's.

But she cautions that understanding air pollution's effects on neurodegenerative diseases can be challenging.

That's especially true when considering the varied influences of pollution sources, co-exposures, comorbidities and personal vulnerabilities.

PATIENT REGISTRY

When Dr. Ritz embarked on research into Parkinson's disease, there was no way to measure its incidence or prevalence in California.

So she lobbied for a patient registry, joined by advocacy groups and colleagues in neurology such as Jeff M. Bronstein, MD, PhD. The state passed a law in 2004 — finally funded in 2017 — that providers must report every patient with Parkinson's.

For the three counties in the Central Valley, nearly 1,000 registered people with the diagnosis have enrolled in UCLA studies. A similar number — neighbors and community members without the disease — have volunteered to act as control subjects.

The registry has made the science possible and given the community a sense of agency, especially as "they feel they are suffering quietly and alone," according to Dr. Ritz.

To inform the community of their contributions to progress, her team sends annual Christmas cards explaining their findings and summarizing what's new in the field of Parkinson's disease and patient care.

POLICY CHANGES

As Dr. Ritz and her team study the links between pesticides exposure and Parkinson's disease, the hope is to progress from merely associating the two to establishing causation.

Dr. Ritz believes that delving deeper into cellular mechanisms will help in that effort, so "we actually see fingerprints of exposures on the human body."

Whether causation can also lead to changes in policy — including reducing pesticide use around communities — is another question.

Regulating insecticide is a cost-effective measure to reduce the burden of Parkinson's disease, Dr. Ritz found in an analysis. But there are likely only two ways that industry will act, she pointed out.

"One is an outright ban, a long process of convincing the Environmental Protection Agency," Dr. Ritz said.

California is much more open than the rest of the U.S. to pesticide regulation and to integrated options for pest management. But the state must also balance the sometimes-contradictory interests of the agriculture industry and community health.

Another route is legal action. Dr. Ritz is an expert witness in several lawsuits that allege paraquat exposure contributed to Parkinson's disease.

Paraquat has been sprayed since the 1960s. Its use has even increased, as weeds become resistant to other herbicides.

More than 70 other countries have already banned it because of dangers to human health. However, legal and policy issues surrounding its use continue to be debated in the U.S. to this day. ●

Dr. Ritz theorizes that an effect of pollution is that nanoparticles cross the nasal epithelium.

IN MEMORIAM

Ronald Moy, MD, dermatologist, surgeon and longtime leader in the field of dermatologic surgery, died June 23, 2025. He was 68 years old. Dr. Moy served as chief of dermatologic surgery and co-chief of the UCLA Health division of dermatology. He founded Moy, Fincher, Chipps Dermatology in 1992 and mentored dozens of fellows and hundreds of students throughout his career. A former president of the American Academy of Dermatology and American Society for Dermatologic Surgery, he authored more than 200 scientific publications and advanced Mohs surgery education nationwide. He volunteered his dermatologic services at the Venice Family Clinic for over 25 years.

AWARDS & HONORS

E. Dale Abel, MD, PhD, and colleagues were awarded a Synergy Grant by the European Research Council.

S. Thomas Carmichael, MD, PhD, professor of neurology, was elected to the National Academy of Medicine.

Enrico Castillo, MD, associate professor of clinical psychiatry, was named an Emerging Leader in Health and Medicine Scholar by the National Academy of Medicine.

Anna S. S. Gukovskaya, PhD, director of the pancreatic research group, was awarded the George E. Palade Prize by the International Association of Pancreatology.

Linda Liau, MD, PhD, chair of neurosurgery, was awarded the J.E. Wallace Sterling Lifetime Achievement Award in Medicine from the Stanford Medicine Alumni Association.

Drew Moghanaki, MD, chief of thoracic oncology in radiation oncology, was named a fellow by the American Society for Radiation Oncology.

Paul W. Noble, MD, was elected to the National Academy of Medicine

Vincent Rowe, MD, chief of vascular and endovascular surgery, was elected president of the Society for Clinical Vascular Surgery.

Mina Sedrak, MD, associate professor of medicine, was awarded the Young Investigator Award from the King Hussein Cancer Research Foundation.

Peter Tontonoz, MD, PhD, distinguished professor of pathology and laboratory medicine, was awarded the Basic Research Prize by the American Heart Association.

Gail Wyatt, PhD, distinguished professor emeritus of psychiatry, was awarded the Humanitarian Award from the Association of Black Women Physicians.

Visionary alum makes historic contribution to UCLA School of Nursing

By Jacqueline Mazarella

Alumnus Joe C. Wen ’98 immigrated to the United States as a teenager with his family from Taiwan. Here, he worked to help his family and pay his tuition while he earned a bachelor’s degree in economics at UCLA and then a master’s degree in business administration from the University of Southern California. In 2003, he launched his first business — a paper trading company — and that business evolved into Formosa Ltd., a multinational conglomerate with holdings across several industries, including venture capital; lending; real estate holding, development and management; and forest products manufacturing and trading. Last year, Wen and his family made a $30 million commitment to the UCLA School of Nursing that will advance the school’s excellence and impact by supporting nursing education, elevating student achievement and driving innovation in research.

In recognition of the generous donation, the largest in the nursing school’s 76-year history, the school has been renamed the UCLA Joe C. Wen School of Nursing. It’s the first UCLA school named for an Asian American.

According to Wen, it was his parents, Mary and Steve, who taught him the importance of giving back to community.

“My family joins me in this commitment to support the UCLA School of Nursing’s mission to strengthen excellence in education and the health care system,” Wen said. “This transformational gift will help create a global academic research powerhouse and think tank for future nursing leaders, and I am honored to support this great cause. Most importantly, the gift will have an immediate and profound impact on communities here in Southern California — especially in today’s challenging health care landscape — by funding research and advancing AI technology in health care.”

TODD CHENEY / UCLA PHOTOGRAPHY

(From left) Alexander Wen, April Wen, Lin Zhan, Joe C. Wen, Johnese Spisso and UCLA Health Chief Nursing Executive Karen Grimley at the kickoff celebration for the UCLA Joe C. Wen School of Nursing.

The commitment, said UCLA Chancellor Julio Frenk, a globally renowned scholar and champion of public health, represents both an acknowledgment of the importance of nurses — the largest segment of the health care workforce — and a farsighted vision of nursing’s future.

“Nurses are the backbone of health care. In the span of our lives, a nurse is often the first and last person we see, a constant presence in our most vulnerable moments,” Frenk said. “This extraordinary gift from Joe C. Wen and his family honors that vital role. It expands our ability to educate the next generation of nurse leaders and faculty, those who will care for people across their lifetimes and help fulfill UCLA’s mission to improve lives through education, service and innovation in health.”

Founded in 1949, the UCLA School of Nursing is a robust research enterprise and one of the nation’s premier centers for leading-edge education, with degree programs ranked among the top 10 by *U.S. News & World Report*. Wen’s philanthropy will ensure UCLA’s role in meeting the health care needs of California and the nation by supporting the school’s four educational programs, serving approximately 600 students. Degree programs range from baccalaureate, for students seeking entry-level professional nursing roles, to doctoral, for those pursuing work in advanced nursing practice and research.

Community engagement is integral to the school’s mission to improve health, wellness, quality of life and nursing care for people locally and around the world. Nursing students and faculty regularly serve throughout Los Angeles, providing free health care to unhoused and underserved populations through initiatives like UCLA Health’s Homeless Healthcare Collaborative and service at the nonprofit Care Harbor. Internationally, the school maintains cooperative academic and research programs with institutions across Asia, Africa and Europe.

“I am profoundly grateful to Joe and his family for understanding the value of nursing with this incredible gift,” said Lin Zhan, PhD, RN, dean of the nursing school. “This historic and visionary investment enables us to continue our legacy of innovation, leadership and excellence; to prepare exceptional nurses and leaders across health care ecosystems; and to elevate the school to fulfill our mission and goals.”

In October, more than 40 nursing administrators, faculty, staff and students attended a retreat, Elevating Nursing to a Higher Level of Excellence: Strategic Priorities. They were tasked with discussing the best utilization of this funding. The group met to prioritize the school’s existing strategic goals, including deepening community engagement; leading research and science; innovating sustainable educational programs; maintaining and generating resources to support scholarship, research and teaching; and building a culture of inclusive excellence.

The UCLA Joe C. Wen School of Nursing will continue its collaborative partnership with UCLA Health, which employs nearly 6,000 nurses across California and plays a key role in developing qualified nurses who are knowledgeable in evidence-based, technology-enabled, patient-centered care.

“I am grateful to Joe and his family for their support of nursing excellence at UCLA. Their philanthropy holds special importance for me as I began my own career in health care as a critical care and trauma nurse,” said Johnese Spisso, MPA, president of UCLA Health, CEO of the UCLA Hospital System and associate vice chancellor of UCLA Health Sciences, at an October event to celebrate the gift announcement. “The generosity of Joe and his family have positioned us for success and will propel us forward.”

Wen and his family, who live in Orange County, have made several major philanthropic contributions to the University of California. Avid supporters of UC’s health system, their giving includes a 2024 commitment that led to the creation and naming of the UC Irvine Joe C. Wen School of Population & Public Health. With the latest commitment to the UCLA School of Nursing, the family has committed $100 million to the UC system since 2022.

“UCLA is the nation’s No. 1 public university, the UCLA School of Nursing is ranked among the top 10 nursing programs in the nation and UCLA Health is consistently ranked among the top hospitals in the nation,” Wen said. “I am inspired by my alma mater, which has shaped our overwhelming belief in educational institutions as change agents for human health.” ●

This story is adapted from an article that appeared on UCLA Newsroom. For more information, contact Mallory Gompert at: mgompert@mednet.ucla.edu

***Jacqueline Mazarella** is a writer for UCLA Health Sciences Development.*

TODD CHENEY / UCLA PHOTOGRAPHY

(From left) April Wen, Joe C. Wen and Alexander Wen.

Food-forward medicine and the future of the UCLA Health System Board

By Allie McFarland

September 18, 2025, marked a delicious new chapter for the UCLA Health System Board. The board gathered for its 13th annual meeting, which focused on nutrition in health care, at the UCLA Meyer and Renee Luskin Conference Center.

Johnese Spisso, MPA, president of UCLA Health, CEO of the UCLA Hospital System and associate vice chancellor of UCLA Health Sciences, opened the program with a warm welcome to guests and an overview of the health system's accomplishments in the past year, including its ongoing expansion initiatives. She also announced that Beth C. Friedman '87, a longtime friend of UCLA Health, has officially been named board chair.

President Spisso described a new direction for the board under Friedman's leadership. Members will have greater opportunities to engage with faculty and receive firsthand updates on happenings at UCLA Health. Said Spisso, "Beth brings not only significant experience and insight but also a bold vision for what this board can become: a dynamic force connected to UCLA Health's mission and impact."

Following the opening remarks, attendees enjoyed presentations from an elite group of nutrition experts. Dariush Mozaffarian, MD, PhD, director of the Food is Medicine Institute at Tufts University, was the evening's guest lecturer. Trained as a cardiologist, Dr. Mozaffarian sees nutrition as the paramount tool for good health. He currently leads investigations into best practices for food intake and nutrition. In addition, through the institute, he studies the economic impact of poor eating habits and influences policymaking.

Vijaya Surampudi, MD, MS (FEL '15), clinical chief of the UCLA Division of Clinical Nutrition, spoke next. She highlighted the health system's unique multidisciplinary offerings in the nutrition space. Dr. Surampudi talked about how she started to champion nutrition when it became clear to her that diet was inextricable from wellness and key in helping her patients reach their health goals.

ABOVE: (From left) Drs. Steven Tan, Vijaya Surampudi and Dariush Mozaffarian; Beth Friedman; Johnese Spisso; Drs. Zhaoping Li, Jonathan Jacobs, John C. Mazziotta, and Steven M. Dubinett. *(Photo by Todd Cheney)*

RIGHT: Panelists Drs. Steven Tan, Dariush Mozaffarian, Vijaya Surampudi and Jonathan Jacobs take the stage for a lively discussion around nutrition and health. *(Photo by Vince Bucci)*

Following was Jonathan Jacobs, MD, PhD '15 (RES '15), co-director of the Goodman-Luskin Microbiome Center at UCLA and director of the UCLA Microbiome Core. Dr. Jacobs characterized the role of the microbiome, which is made up of the microbial organisms that inhabit the gastrointestinal tract, in immunity and the functioning of organ systems. He believes the science is pointing to microbiome-based precision nutrition to optimize food intake and health.

Steven Tan '93, MD '97, MTOM (RES '00), an assistant clinical professor in the Division of Clinical Nutrition, was the final presenter. An expert in both internal medicine and traditional integrative medicine, Dr. Tan challenged the audience to rethink their definition of health — to consider it is an active process of balance, rather than absence of disease.

The program culminated with a panel discussion between the presenters, moderated by Zhaoping Li, MD, PhD (FEL '94), holder of the Lynda and Stewart Resnick Endowed Chair in Human Nutrition, director of the UCLA Center for Human Nutrition and chief of the Division of Clinical Nutrition. The group delved into hot topics in nutrition, including GLP-1 medications, such as Ozempic and Wegovy; protein intake; and the effectiveness of dietary supplements.

President Spisso retook the stage after the conversation to thank the speakers and audience members for their participation. A reception followed, where attendees were able to mingle and celebrate the next era of the UCLA Health System Board. ●

ABOVE: UCLA Health President Johnese Spisso delivers opening remarks. *(Photo by Todd Cheney)*

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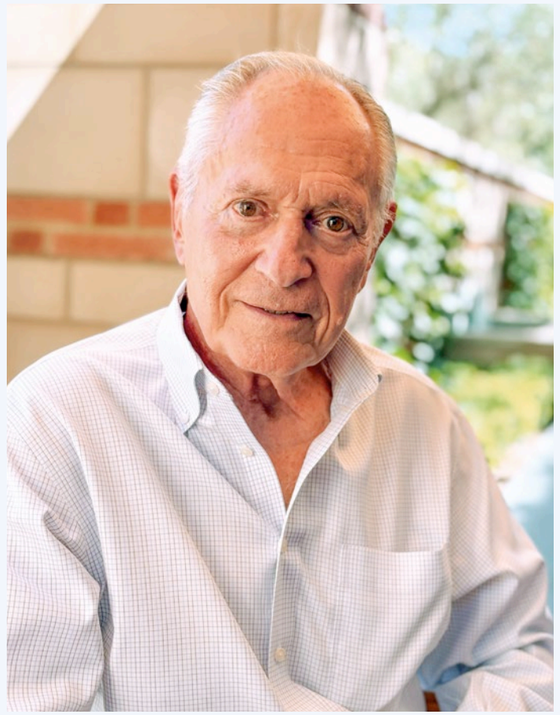
***Allie McFarland** is a senior writer for UCLA Health Sciences Development.*

Curiosity fuels dedication to helping others

By Jacqueline Mazarella



JACQUELINE MAZARELLA

Arnold Porath.

Nearly 40 years ago, Arnold Porath accepted an invitation to sit in on a board meeting for the Ronald Reagan UCLA Medical Center. Since then, he has served in almost every capacity on that board and helped to create its ethics committee. He has helped establish fellowships and programs benefiting UCLA's patients, physician–scientists and community. Fueled by curiosity and dedicated to making an impact, Porath focuses on advancing medical ethics, end-of-life care and orthopedic research.

Why has he been so passionately committed to UCLA's mission? "It's the people," Porath said.

One of the first people with whom Porath partnered was Neil S. Wenger, MD '84, MPH '89. The two men helped found the UCLA Health Ethics Center to promote excellence in patient care through environments where moral insight, sensitivity and commitment flourish. In 2008, Porath helped create the Clinical Ethics Fellowship Program with James Hynds, LLB, PhD, the center's clinical ethicist, to educate and train individuals who shared their vision.

Fellows develop the skills to apply core ethical principles to clinical decision-making, and thereby support clinical teams navigating ethically complex cases. Graduates have gone on to lead medical ethics programs internationally, reshaping policy and care worldwide.

Porath also champions the work of Thanh Neville, MD '05, MS '12, another member of the Ethics Committee. She introduced him to the UCLA 3 Wishes Program, a palliative care initiative, which she founded and directs. In this program, clinicians elicit and implement meaningful end-of-life experiences for patients and their families, with an average cost of just $35 per patient. "On the first anniversary of the program, I remember a presentation to medical staff and donors, and family members got up to speak," Porath said. "It was unbelievable to hear them, that there could be any pleasant thing, any joy. Their loved ones died, but what they experienced with the program — it just changed everything."

In 2024, the Arnold Porath From the Heart Fund was established, led by palliative care doctors Emily Martin, MD, MS '20, and Daniel Karlin, MD '12 (RES '16). The palliative team provides symptom management, emotional support and care coordination for patients and loved ones navigating a life-altering diagnosis. Porath's philanthropy expands capacity, programming and bereavement services. Encouraging clinicians to "think with their heart," the program supports providers in extending their compassion through meaningful acts, such as a special meal in the hospital or a thoughtful gift. Families facing the financial burden of a serious illness (such as loss of income) can access financial support through the fund.

This year, Porath pledged an additional $500,000 to From the Heart, bringing his lifetime contributions to UCLA Health to over $1.8 million.

"The most important thing I have is the love of being curious," Porath said. "It's about observing a need; can I do anything, fix anything? Big or small, whatever it is, can I make an impact?"

Porath has been a longtime supporter of David McAllister, MD, professor and chief of sports medicine in the UCLA Department of Orthopaedic Surgery. McAllister's biomechanics research team has pioneered research to better diagnose, treat and prevent ACL and other knee ligament injuries common in young athletes. Porath helped create a biomechanics postdoctoral fellowship program to support the training of young investigators to make new discoveries and become potential thought leaders in the field.

Porath hopes that his actions will lead others to discover how they can make a change. Inspired by his mother, who "couldn't give a million dollars, but could give a lot of $10s," his curiosity helps him uncover possibilities.

"It's taking care of your community; it's about being a part of the whole," Porath said. "Maybe one person will find out what's available to them so that they can make a little difference, too." ●

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***Jacqueline Mazarella** is a writer for UCLA Health Sciences Development.*

DONATIONS & GIFTS

UNITING FOR GYNECOLOGIC CANCER RESEARCH

UCLA BROAD STEM CELL RESEARCH CENTER

Lynn Booth (left) and Dr. Sanaz Memarzadeh.

A team of philanthropists has joined forces to support the work of Sanaz Memarzadeh, MD, PhD '08 (RES '00, FEL '03), gynecologic oncology surgeon, director of the G.O. Discovery Lab at the Eli and Edythe Broad Center of Regenerative Medicine and Stem Cell Research at UCLA, and professor at the David Geffen School of Medicine at UCLA. Lynn Booth of The Otis Booth Foundation, Marcia L. Millen, and Patricia and Kenneth Pingree all made notable contributions to the UCLA Broad Stem Cell Research Center. Booth also made a donation to the Division of Gynecologic Oncology. The funds have advanced Dr. Memarzadeh's efforts to develop groundbreaking treatments for ovarian cancer and other poorly understood gynecologic cancers.

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DRIVING THE FUTURE OF ALZHEIMER'S DISEASE TREATMENT

Mimi Frengs '75 was a wife, mother, teacher and artist. When she was diagnosed with Alzheimer's disease, her husband of 50 years, Phil '73, was devastated but determined to do something positive. In 2014, he combined his passion for automobile racing with meaningful philanthropy. He founded Racing to End Alzheimer's, a nonprofit that raises crucial funds for clinical care. In February 2025, Phil generously contributed $70,000 from the foundation to the UCLA Alzheimer's and Dementia Care Program. He has given more than $300,000 to this initiative over the years. While Mimi sadly passed away in April 2025, Phil says, "Her legacy of compassion will live on through our family's commitment to helping others with Alzheimer's disease."

JOSH FREEMAN

Phil Frengs (second from left) presents a check from Racing to End Alzheimer's to Dr. David Reuben, medical director of the UCLA Alzheimer's and Dementia Care Program, at a Bruin basketball game.

For more information, contact Linda O. Gonzalez at: 310-869-8611

GOLFING AND GIVING "FORE" A CURE

Last summer, Pennymac and the Kurland Family Foundation brought together a community of sponsors and donors for the fourth annual Stanford L. Kurland Memorial Golf Classic to fund vital research in the UCLA Neuro-Oncology Program. They raised $2.6 million toward a cure for glioblastoma, the most common and deadliest type of brain cancer. Stan Kurland, the founder of Pennymac, was diagnosed with glioblastoma in 2020. Until his passing in 2021, he was a patient of Timothy Cloughesy, MD, PhD, (RES '91, FEL '92), director of the UCLA Neuro-Oncology Program. Grateful for the expert care that Stan received at UCLA, his family, friends and colleagues carry on his commitment to finding a cure for the disease. Their efforts over the past four years have resulted in more than $10 million donated to the neuro-oncology program — an inspiring testament to a man whose bravery and generosity touched the lives of so many.

COURTESY OF THE KURLAND FAMILY FOUNDATION

(From left) Dr. Timothy Cloughesy, Dr. David Nathanson, Sheila Kurland and David Spector.

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ESTHER MASHOUF

(From left) Esther, Juliana and Daria Mashouf.

GRATEFUL FAMILY BOLSTERS SPECIALIZED PROGRAM

Daria, Esther, Juliana and Luca Mashouf made a contribution of $133,125 through Mozaik Philanthropy Inc. to help launch the Small Bowel Endoscopy Program within the Vatche and Tamar Manoukian Division of Digestive Diseases. Jenny S. Sauk, MD, director of the UCLA Center for Inflammatory Diseases, was instrumental in establishing the program and recruiting F. Otis Stephen '92, MD, an internationally known clinician with expertise in the diagnostic techniques and treatment of complex conditions of the small bowel, to lead it. The program broadens available care for patients with gastrointestinal bleeding, cancers and those being treated at the center. "Dr. Sauk and the IBD department at UCLA have changed my life and improved my quality of living," Esther said. "My family and I are forever grateful to Dr. Sauk and her team for their commitment to providing the best quality care for patients with Crohn's disease like me."

For more information, contact Laurel Zeno at: lzeno@mednet.ucla.edu

Calming the Mind

One nurse anesthetist provides integrative modalities to boost relaxation and connection between patients and practitioners.

GL ASKEW / UCLA HEALTH

By Huy Vo

I WENT INTO NURSING BECAUSE I WANTED TO CARE FOR people. Being able to hold space for others at their most vulnerable feels profoundly human to me.

My early nursing experiences were in palliative care at UCLA Health. Then I worked in the ICU. But I found myself drawn to the technical side of medicine (my bachelor's was in chemistry), so I went to graduate school to become a nurse anesthetist. I graduated in 2014 and have been working in that capacity at UCLA Health ever since.

Anesthesia offers the opportunity to work with one patient at a time and to really provide a safe place for them before they go into surgery. The clinical atmosphere can be unnerving, with the bright lights and beeping monitors. We have everything in place to make our patients physically safe, but we may not be tending to their emotional safety.

Some patients are really nervous before receiving anesthesia. Just to be there with them and take a few breaths together can help ground us in the moment.

I also started inviting my colleagues to join in and take a few conscious breaths together, just to help contextualize what we're doing, as opposed to getting lost in what can sometimes feel like an assembly-line experience. The pace of modern medicine can sometimes feel dehumanizing, for patients and for staff.

You've got a lot of cases and things are moving fast. You want to just slow down, take a breath and remember where you are and what you're doing. It's important to take a moment to intentionally connect to the humanity at the heart of our work.

I started thinking about how I could humanize the experience even more for my patients. In 2017, I started bringing a singing bowl into work with me. Tibetan singing bowls are metal vessels that make a resonant sound when struck. You can really feel the vibrations — it's soothing and brings you into your body and right into the present moment.

At first, I just brought a small one. I had a lot of trepidation about it, because I just wasn't sure how it would be received by staff or even the patients. But to my surprise, the patients loved it, and so did my colleagues.

I started offering little sound baths for all my patients. I like to strike the singing bowl above their chest before beginning the anesthesia drip. It envelops them in soothing sound right as the medication begins to take effect.

I've had a longstanding spiritual practice — yoga and meditation — and I'm deeply interested in the nature of consciousness. I think that's partly what drew me to working in anesthesiology. So I've always been interested in different healing modalities that help us connect with ourselves and the broader field of consciousness.

With the success of the singing bowls, I was inspired to explore what else might create more ease and grounding in a medical setting. I studied somatic experiencing, a therapeutic model that leverages physical sensations to calm the mind. I started bringing essential oils with me to work, because they engage the sense of smell and studies show lavender soothes the nervous system. I learned how to fold towels into animal shapes, and I'll dab one with lavender oil and hand it to a patient who seems to need extra comfort.

I also got a little light projector, which broadcasts images of swirling galaxies on the hospital room ceiling. I might play music, too.

GL ASKEW / UCLA HEALTH

I want to appeal to all the senses to relax and ground my patients.

In 2020, I was introduced to polyvagal theory, which describes how the nervous system functions and how we return to regulated states. It helped me see that many of the modalities I was already using are rooted in a polyvagal-informed perspective.

These practices engage the body's natural calming pathways: lavender oil stimulates the olfactory system, which communicates directly with brain regions that help balance the nervous system. The middle-frequency sounds of singing bowls and music activate vagal pathways through the auditory system. The vibration of the bowl provides soothing somatic input, and even speaking in a warm tone recruits the ventral vagal circuits that underlie human connection. Together these are small but powerful science-backed ways of bringing the nervous system back into balance.

As I continued my training, I developed a deeper understanding of how to engage these ventral-vagal pathways — that sense of safety and connection — with my patients and colleagues to create a regulated, attuned space.

Initially it was just for patients to help with anxiety, but through my somatic experiencing and polyvagal training, I started to realize these modalities help to co-regulate everyone's nervous system. Now I hold monthly sound baths for perioperative staff. And I'm in yoga teacher training right now, so I plan to add some yogic elements to those monthly gatherings.

I hope to participate in a study to examine the effects these integrative modalities have on patients. Anecdotally I've noticed that they require less medication when sound, scent, light projection and breathing are part of their pre-anesthesia care.

I'm grateful to have had the opportunity to speak about this work at Stanford University and the Integrative Medicine Collaborative at UCLA Health. I'd love to see all the nurse anesthetists across the institution use singing bowls before administering medication.

Bringing these modalities into my work has been transformative. It really is all about connection for me. To discover how to feel a deep and profound connection with patients, and even my colleagues, on this energetic level — even in a space like the hospital — it's everything. It just feels so nourishing and nurturing. ●

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