A CELL-BY-CELL MAP OF HUMAN BREAST TISSUE

USING STEM CELLS TO TREAT PARKINSON'S DISEASE

UCI Health

WINTER 2023

live well

EXCEPTIONAL HEALTHCARE FOR SOUTHERN CALIFORNIA

Standing Up to Prostate Cancer

Precision surgery has a San Clemente man conquering the waves with gusto.

A CULTURE OF QUALITY AND SAFETY

Our new medical complex, UCI Health — Irvine, will begin serving patients next year, offering the most advanced diagnostic and therapeutic technologies at a campus meticulously designed to promote health and healing. When the Joe C. Wen & Family Center for Advanced Care opens in spring, followed by the Chao Family Comprehensive Cancer Center and Ambulatory Care building in summer, patients will have access to the highest level of care that only an academic medical center can provide.

Dedication to quality and safety is embedded in the UCI Health tradition and will always be a top priority at every location. That commitment continues to be recognized nationally. This fall, we were named a five-star hospital and a top 10 performer in the 2023 Bernard A. Birnbaum, MD, Quality Leadership annual ratings by Vizient Inc. Our medical center ranked among the nation's top 10 comprehensive academic medical centers for inpatient care. The UCI Health outpatient care network also ranked among the top 10 ambulatory systems.

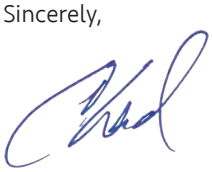
These standards are key to our unique mission as the primary provider of complex care in the region. We are home to the only National Cancer Institute-designated comprehensive cancer center based in Orange County, and its only Level 1 adult trauma center and regional burn center, as well as our nationally recognized UCI Health Digestive Health Institute.

We recently received our fifth Magnet recognition from the American Nurses Credentialing Center, the highest national award for professional nursing practice. We are also honored to have achieved the fall 2023 Leapfrog Hospital Safety Grade of A, our 18th top grade since 2014 for our dedication to patient safety and superior care standards.

In this issue of *Live Well*, we invite you to read about our advances in robot-assisted prostate surgery (page 6) and vaginal cancer surgery (page 12). We are proud of our devoted physicians and surgeons who refuse to settle for the status quo and instead push the boundaries of medicine to enhance their patients' lives. Our first-rate cancer program continues to grow and improve access with the recent acquisition of GenesisCare radiation oncology centers (page 4).

On page 10, learn about our novel research that is showing promise to treat Parkinson's disease. And don't miss the story on page 18 describing the heartwarming work of ophthalmologist Dr. Donny Suh, who has made it his life's mission to help children with vision problems who otherwise wouldn't get treatment. Seeing our patients thrive is the ultimate reward.

Sincerely,



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SCIENTISTS CREATE A ROAD MAP TO UNDERSTAND BREAST HEALTH

WRITTEN BY SHARI ROAN

UC Irvine researchers who helped create the first comprehensive cellular map of the human female breast say it will greatly improve our understanding of breast diseases and may help identify future targets for breast cancer therapies.

Dubbed the Human Breast Cell Atlas, this national project already has produced some startling findings that raise questions about breast function over a lifespan. The study, which is supported by the Chan Zuckerberg Initiative, was published in June in the science journal *Nature*.

One focus of the Chan Zuckerberg Initiative is to map every cell in the human body, says Devon Lawson, PhD, associate professor of physiology and biophysics at the UCI School of Medicine and co-author of the breast atlas. "The idea was that if you can understand what normal cells are doing in tissues, you can understand how things can change and go wrong. We now have this map of healthy breast tissue — of every type of cell, where they are and what they do."

She and co-author Kai Kessenbrock, PhD, associate professor of biological chemistry, had already been conducting breast cell research when they met Nicholas Navin, PhD, a cancer geneticist at the University of Texas MD Anderson Cancer Center, at a Chan Zuckerberg Initiative conference. They formed a team, received a grant and began analyzing normal human breast tissue more than seven years ago.

Over that period, they analyzed tissue from women of various ages and ethnicities and profiled more than 714,000 cells. While the human body has about 200 types of cells, only 12 are found in normal breast tissue. The atlas highlights these 12 major cell types and their 58 biological cell states.

"Biologically, the breast is of interest for both normal function and disease functions," says Lawson, noting its basic function is to secrete milk but that the organ's cells also are prone to cancer.

Epithelial breast cells, which can give rise to cancer, have been studied extensively, but the atlas also focuses on other cells, such as lymphatic cells, vascular cells, B cells and mast cells. The study also revealed that 16.7% of normal breast cells were types of immune cells, which experts had not realized were so abundant.

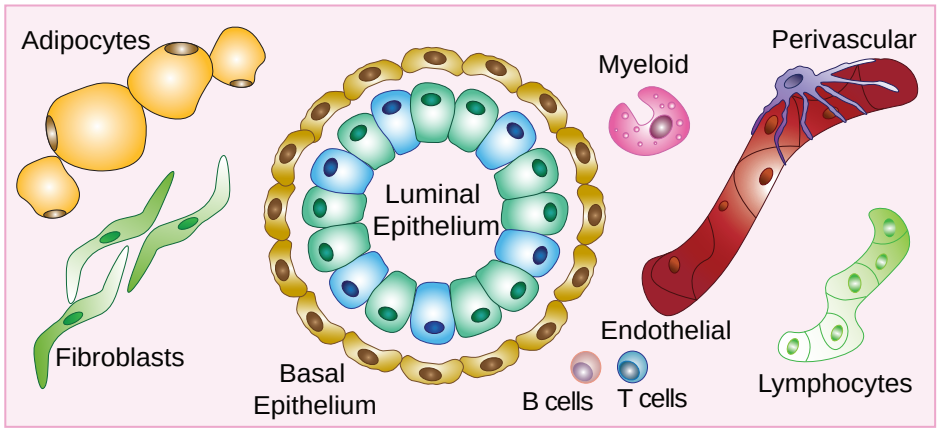
"We were surprised that there were so many immune cells," Lawson says. "What are they doing there? We have some good ideas that they may function to maintain normal breast homeostasis — for example, how the breast grows in pregnancy and then shrinks again. A lot of our future work will be to assess what these immune cells do."

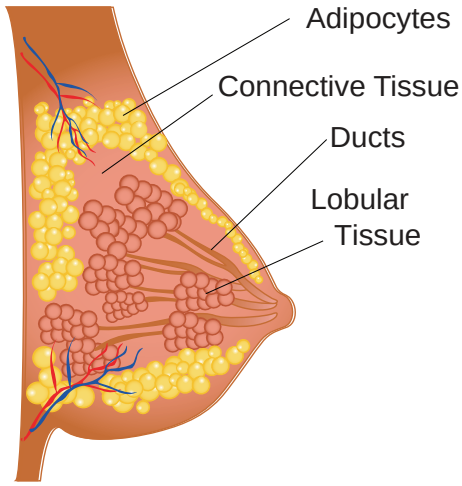
Their findings are of particular value for Black women, who are at higher risk for aggressive triple-negative breast cancer. The atlas showed that Black women have higher frequencies of several epithelial and immune cell states that may play a role in their predisposition for triple-negative breast cancer. Lawson says further research is needed to investigate the biological implications of these observed differences.

Lawson cites the UCI Health Chao Family Comprehensive Cancer Center's emphasis on genomic sequencing, which enabled their team to perform the advanced work needed for the breast tissue studies.

"The technology is advancing so quickly, every year there are new ways to sequence faster and better," she says. "UCI has put a lot of effort and resources into genomics, which enabled us to push forward with the most cutting-edge approaches." ■

CELL TYPES OF THE HUMAN BREAST





Learn more about breast health services at ucihealth.org/breast

UCI Health leaders and nursing team members celebrate their fifth prestigious Magnet designation.

UCI HEALTH RECOGNIZED FOR QUALITY AND SAFETY

UCI Health has been recognized as a five-star hospital and a top 10 performer nationally in the 2023 annual ratings by Vizient Inc. UCI Medical Center ranked among the 10 top comprehensive U.S. academic medical centers for inpatient care. The UCI Health outpatient care network also ranked among the top 10 ambulatory systems nationwide.

Vizient's Bernard A. Birnbaum, MD, Quality Leadership annual award honors academic medical centers and community hospitals that demonstrate excellence in delivering high-quality care based on measures of safety, mortality, effectiveness, efficiency, patient-centeredness and equity of care.

"UCI Health is a national leader in providing accessible care driven by clinical innovation and a relentless commitment to quality," says CEO and President Chad T. Lefteris. "We are proud that the work of our amazing UCI Health clinicians and co-workers is recognized, making us one of the country's top 10 comprehensive academic medical centers."

UCI Health also has received its fifth Magnet recognition, a testament to its continued dedication to high-quality nursing practice. The American Nurses Credentialing Center's Magnet Recognition Program® identifies healthcare organizations that meet rigorous standards for nursing excellence. It is the highest national honor for professional nursing practice. The Magnet community is a select group of global healthcare organizations and hospitals, says Anne Marie Watkins, DNP, MSHCA, RN, UCI Health chief nursing officer and senior vice president.

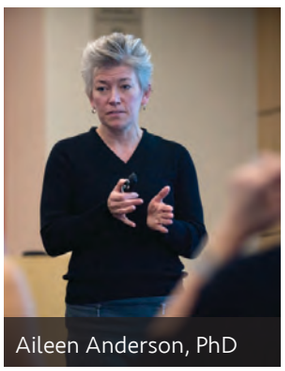
"Magnet recognition is a tremendous honor and reflects the daily commitment our nurses make to delivering the highest quality care to our patients," says Watkins, who also is assistant dean of nursing education administration at the UCI Sue & Bill Gross School of Nursing.

Currently, 612 hospitals worldwide have achieved this recognition, only 55 in California. Fewer than 10% of Magnet hospitals have achieved five designations.

UCI Health also was awarded the fall 2023 Leapfrog Hospital Safety Grade of A, an accolade placing it among the top 30% of hospitals nationwide and underscoring its dedication to patient safety and superior care standards. UCI Health is one of only 87 California hospitals to earn this designation, which is its 18th A grade since 2014.

This record of A grades "showcases the relentless commitment and dedication of the entire team," says Dr. Joseph C. Carmichael, UCI Health chief medical officer and senior vice president.

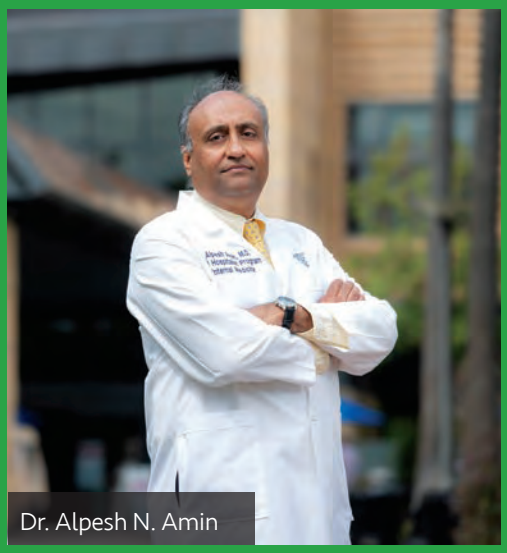
"Being recognized among the elite institutions, not only in California but also nationwide, is both an honor and a responsibility that propels our team to continually elevate our standard of care."


Aileen Anderson, PhD

UCI NAMED A CIRM CELL AND GENE THERAPY MANUFACTURING FACILITY

With a two-year, $2 million grant from the California Institute for Regenerative Medicine (CIRM), UC Irvine has joined the institute's Cell and Gene Therapy Manufacturing Network. The network's goals are to accelerate pathways to commercialization for cell and gene therapies, advance industry standards, incorporate quality by design in cell and gene therapy manufacturing, and build a diverse, highly skilled manufacturing workforce in California.

"This network will be a game-changer [that will] accelerate regenerative medicine clinical trials that originate from both academic faculty and companies seeking to bring new treatments to market," says Aileen Anderson, PhD, director of the UCI Sue & Bill Gross Stem Cell Research Center and principal investigator for the CIRM grant.



Dr. Alpesh N. Amin

IMPROVING DIABETES CARE FOR OC LATINOS

UCI has launched a program to address the toll diabetes takes on Orange County's Latino community, which is disproportionately affected by the disease. The Latinx Diabetes Initiative, created in collaboration with the UCI–OC Alliance, is rooted in three elements: prevention, research and treatment.

Almost 40% of the nation's adult Latino population has been diagnosed with the disease, according to the U.S. Centers for Disease Control and Prevention. They also have higher rates of diabetes-related complications, such as kidney failure and vision loss.

The initiative aims to expand access to quality treatment and foster a culture of preventive care, says Dr. Alpesh N. Amin, the UCI School of Medicine's associate dean for clinical transformation and the Thomas and Mary Cesario Endowed Chair of Medicine. The initiative's plans include organizing exercise classes, enhancing the UCI Health Diabetes Group Medical Visitation Program and group education sessions, and to enhance the health system's electronic medical records to better target the needs of diabetic patients.

"Our aim is to alter the way diabetes healthcare is managed and improve the well-being of Orange County's growing Latino population," Amin says. "Health treatment is a shared responsibility and by working together, we will be able to achieve visible and measurable outcomes."

GIFT TO ENHANCE NEW CANCER INFUSION CENTER IN IRVINE

A $2 million donation from the Dr. Nicholas R. Conway and Betty Sha family will significantly contribute to the development of the $1.3 billion UCI Health — Irvine medical campus. In acknowledgment of this gift, the outdoor infusion center terrace at the new Chao Family Comprehensive Cancer Center and Ambulatory Care building will be named the Nicholas R. Conway, DO, and the 888 Betty L. Sha Foundation Infusion Terrace.

Set to open in summer 2024, the infusion center on the fourth floor of the new Irvine cancer center is designed to be a serene, healing environment. The adjacent terrace will offer sweeping views of the San Joaquin Marsh Reserve's natural landscape.

Conway, who died in 2021, was a respected 1962 alumnus of the California College of Medicine, now the UCI School of Medicine. Sha, his daughter and attorney-in-fact, guided his philanthropic efforts.

UCI HEALTH PURCHASES GENESISCARE RADIATION ONCOLOGY CENTERS

UCI Health is expanding the reach of its leading-edge cancer services with the acquisition of GenesisCare radiation oncology centers in Orange County. UCI Health has contacted existing GenesisCare patients to assure them of a seamless transition of care following the global cancer services provider's recent filing for Chapter 11 bankruptcy.

"We are committed to increasing access to world-class cancer care and improving the health of our community," says Chad T. Lefteris, CEO and president of UCI Health, Orange County's only academic health system. "These patients will receive expert care from our excellent radiation oncologists."

The Fountain Valley location, to be renamed UCI Health Chao Family Comprehensive Cancer Center — Fountain Valley, is key to improving access to specialty cancer services offered by the only National Cancer Institute-designated comprehensive cancer center based in Orange County.

The Right Choice

Robot-assisted prostate cancer surgery speeds recovery and reduces side effects.

WRITTEN BY PATRICK J. KIGER
PHOTOGRAPHED BY MICHAEL DER

San Clemente resident Steve Mellem was the picture of health, physically active and feeling great for his annual checkup in the fall of 2021. The last thing he expected was a follow-up call from his concerned physician.

A routine blood test showed that his level of prostate-specific antigen (PSA) had more than doubled in a single year, from 1.5 to 4. In a physical exam of his prostate, a community urologist detected lumps, another worrisome sign. Results of a biopsy were unequivocal: Mellem had become one of the more than 285,000 U.S. men diagnosed each year with prostate cancer, the second leading cause of cancer death after lung cancer.

Mellem, a longtime surfer, paddleboarder and mountain bike rider, didn't know what treatment to choose. Many men, fearing that prostate surgery might leave them with poor urinary or sexual function, opt to postpone or even avoid treatment. "Those complications were a real worry," explains the 63-year-old, who runs a private-label paddleboard company.

Mellem turned to Dr. David I. Lee, director of the UCI Health Comprehensive Prostate Cancer Program and one of the nation's top experts in robot-assisted prostatectomy. The procedure allows the surgeon to remove the prostate through tiny, keyhole incisions with greater precision than traditional open radical prostatectomy. Thanks to Lee's extensive experience and pain reduction techniques, many of his patients are able to go home the same day.

Mellem immediately felt at ease with Lee's candid yet reassuring manner as he explained the options, including radiation, chemotherapy and surgical removal of his prostate. Together, they concluded that surgery was the best choice considering Mellem's age and specific diagnosis — early-stage cancer confined to the prostate.

A routine PSA test led to a diagnosis of prostate cancer for Steve Mellem. But after outpatient surgery to remove the prostate gland, he's as good as new.

Steve Mellem enjoys fishing with grandson Nixon,who recently caught and released a baby leopard shark at a San Clemente beach.

"He told me that while there was still a risk of impotence or incontinence, if the prostate gland can be removed without having to cut anywhere else, you have a great prognosis," Mellem remembers.

Lee began performing robot-assisted prostate surgery two decades ago as a fellow at the UCI School of Medicine's Department of Urology, which was among the first to develop the technique. Today, he is one of the foremost experts in the procedure.

"In order to become an expert at this, you really need to focus your attention on it," he says. "I've done close to 7,000 of these operations."

As he honed his skills, Lee also pioneered a technique to inject anesthetic into the area between the muscle walls of the abdomen instead of administering anesthetic from outside the abdominal wall. A study showed that patients with this treatment had lower pain scores and needed less medication after surgery. That breakthrough has enabled Lee to turn the procedure into an outpatient surgery with faster, better recoveries.

The surgery may be robot-assisted, but it is Lee who guides the mechanical arms of the da Vinci Surgical System® with hand and foot controls, a pair of tiny video cameras giving him a three-dimensional view of what's going on inside the patient's abdomen. Improvements in surgical tools have enhanced surgeon dexterity and high-definition imagery.

"As you're moving the instruments around, they almost feel like they're your hands inside the patient," Lee says.

Those advances are important because removing a cancerous prostate is a delicate procedure. The surgeon must carefully cut and remove the organ

while avoiding damage to muscle fibers surrounding the adjacent bladder. Lee also uses a technique to protect the nerves connected to blood vessels in order to preserve sexual function. In patients with advanced cancer, it still may be necessary to remove those nerves.

"If the cancer has been caught early enough, we can carefully push those nerves aside while we're removing the prostate, so they are preserved," he says.

Lee is keenly aware of the psychological aspect of prostate surgery and recovery. "When men come to see us, they often don't really have a good grasp of what's going to happen, and it can be really scary and anxiety-producing," he says. "Our experience in providing patients with accurate expectations for their outcomes makes a big difference in their comfort level."

Prostatectomy isn't for every patient. An older man with other health problems and a shorter life expectancy might opt for radiation instead. "But surgery is a great option for many men who seek a definitive treatment for prostate cancer," Lee says.

Mellem checked in for surgery on March 30, 2022. About two hours later, Lee told Mellem's wife that he had removed her husband's prostate with clear margins and didn't have to cut any nerves. That afternoon, the patient went home with a catheter to allow the new connection between his bladder and urethra to heal.

"It couldn't have gone any better: the nurses were great, Dr. Lee was great," Mellem recalls. "You feel like you're on the same team, that he really cares."

Now, two years since his diagnosis, Mellem remains cancer-free, his continence and sexual function intact. He's back to enjoying water sports and surf fishing with his eight grandchildren.

He even has a new mission in life: encouraging other men to get regular checkups and PSA testing to catch problems early. "The fear is worse than the actual surgery," he says. "There are no guarantees; you might get five more years or you might get 30 more years. But you want to make the most out of life."

Mellem and his wife are expecting their ninth grandchild in December. "I've been so blessed, it's beyond belief," he says. "Life is good!" ■

ENLARGED PROSTATE: FINDING THE RIGHT TREATMENT

By age 60, half of all U.S. men will develop an enlarged prostate. By age 80, 90% of men have this condition, called benign prostatic hyperplasia (BPH), which causes urinary continence problems that can take a toll on a person's quality of life.

For men with very enlarged prostate glands, minimally invasive robot-assisted prostatectomy is an alternative to open surgery — one that results in less pain, blood loss and recovery time, says UCI Health prostate surgeon Dr. David I. Lee.

"Often men fear that prostate surgery leads to leaking urine and sexual dysfunction," says Lee, a leading expert in the minimally invasive procedure who has adapted it to treat enlarged prostates. "The way we do this prevents incontinence and worsened sexual function for a high percentage of patients."

UCI Health offers a variety of BPH treatments, including Flomax®, an oral medication that relaxes the muscles around the bladder and prostate, and the drug Proscar®, which can shrink enlarged prostates.

When these don't do the trick, Lee says, other procedures can provide relief:

- UroLift® uses tiny implants to lift the enlarged prostate so it no longer blocks the urethra.
- Thermotherapies use heat energy such as microwave or water vapor to disrupt prostate cells and reduce symptoms.
- GreenLight™ laser therapy evaporates tissue blocking the outlet of the bladder.
- TURP, or transurethral resection of the prostate, enables a surgeon to dissect prostate tissue via a resectoscope inserted through the urethra.
- HoLEP, or holmium laser enucleation of the prostate, uses a laser to cut tissue blocking urine flow and another instrument to remove it in small fragments.

Lee says few health systems offer the range of experts in multiple specialties found at the UCI Health Center for Urological Care and its Men's Health Center, led by Dr. Faysal Yafi. Another of Lee's colleagues, Dr. Akhil K. Das, is an expert in the HoLEP procedure.

"We have one the biggest robot-assisted surgery programs, along with experts in other surgical procedures, radiation, medical oncology and various specialties," he says. "We also have the latest diagnostic tools and a skilled team that tailors treatment for each individual."

Learn more about prostate cancer surgery at ucihealth.org/prostatecancer

Dr. Claire Henchcliffe is leading an innovative clinical trial that aims to renew neuron function in patients with Parkinson's disease.

CAN DOPAMINE PRODUCTION BE RESTORED IN PARKINSON'S PATIENTS?

Specialized stem-cell therapy shows promise in first-in-human clinical trial.

WRITTEN BY NANCY BRANDS WARD | PHOTOGRAPHED BY MICHAEL NEVEUX

After decades of research into the causes and treatment of Parkinson's disease, UCI Health neurologist Dr. Claire Henchcliffe recently reported encouraging results from a clinical trial of stem cells engineered to replace dopamine-producing neurons destroyed by the disease. She is a principal investigator of the first-in-human study of the therapy — called bemdaneprocel (BRT-DA01), developed by BlueRock Therapeutics — along with researchers at Weill Cornell Medicine in New York City and the University of Toronto.

A leading expert in Parkinson's disease, Henchcliffe helped design the technology to restore the chemical so essential to controlling body movements at Weill Cornell, where she was vice chair for clinical neurology research and chief of neurodegenerative disorders before becoming the UCI School of Medicine's chair of Neurology. The study was conducted under the auspices of the UCI Alpha Clinic, the clinical trial arm of the UCI Sue and Bill Gross Stem Cell Research Center.

What was the study designed to demonstrate?

This phase 1 clinical trial sought to test whether an injection of bemdaneprocel stem cells into the brains of 12 patients with advanced Parkinson's disease was safe and well tolerated. Patients also received immunosuppression treatment for one year to prevent the cells from being rejected.

What is so novel about this technology?
Huge advances in stem-cell technology have made it possible to turn these neuron precursors derived from pluripotent stem cells into dopamine-producing cells. The great advantage is that we can grow an almost unlimited number of these cells in the laboratory with highly controlled quality.

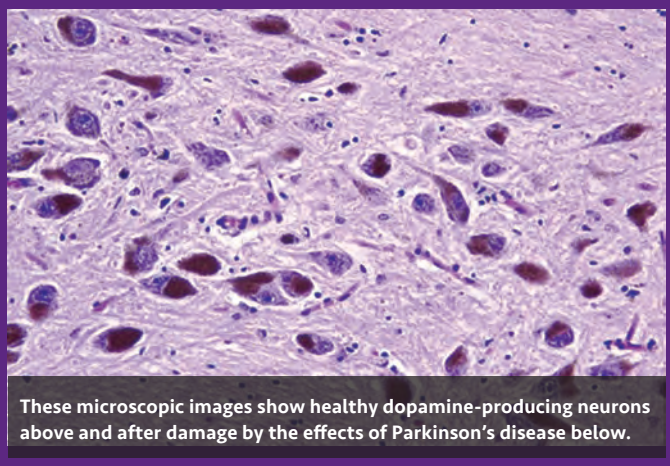
What did the study find?
We found that the treatment is safe and did not cause significant side effects. We're also excited because specialized imaging scans showed that the injected cells survived and appeared to have become integrated with the patients' neural cells. Although the trial was not designed to demonstrate the efficacy of the treatment, some participants showed improved motor symptoms.

Could it help in earlier stages of the disease?
If the treatment proves successful, I expect that it could be used earlier and earlier, which would expose fewer people to current Parkinson's medications and their side effects. We would love to see this treatment developed for people with early-stage disease.

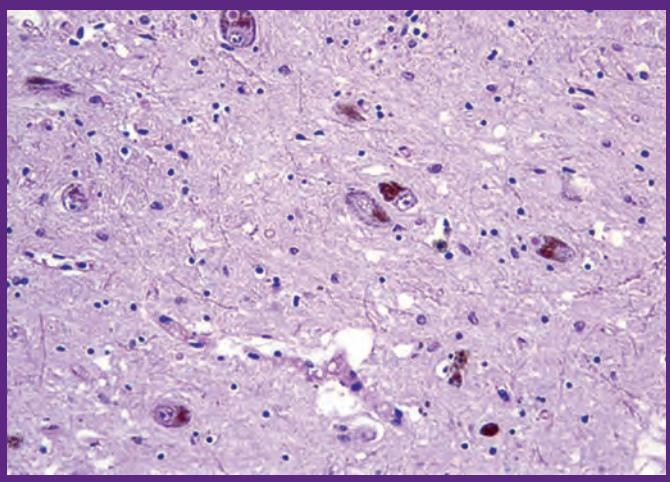
Why is this advance important if medications can help control symptoms of the disease?
The gold standard medications work well in early Parkinson's, but their beneficial effects don't last as the disease progresses. These medicines replace dopamine or dopamine-like substitutes. People eventually need to take higher doses and more frequently, which can lead to uncontrolled, involuntary movements called dyskinesia. Bemdaneprocel cell therapy could potentially be a single, one-size-fits-all treatment providing lifelong relief from Parkinson's motor symptoms. Also, if we can spend less time treating motor problems, we can focus more on other symptoms, such as depression and anxiety, pain, cognitive decline and sleep problems.

What is the next step?
We will continue to follow these patients for another two years. BlueRock is designing a phase 2 clinical trial to test the efficacy of the treatment in a greater number of patients in a study expected to begin in the first half of 2024. We hope the Alpha Clinic and the Sue and Bill Gross Stem Cell Research Center will be part of that as well.

What keeps UCI Health at the forefront of Parkinson's treatment?
We have many clinical trials underway for Parkinson's disease, including a novel treatment my colleague Dr. Nicolás M. Phielipp will be conducting with patients who would receive versions of their own cells modified to produce dopamine. If proven, that technique could avoid the immunosuppression needed with bemdaneprocel. The combination of the excellent care we provide for Parkinson's disease along with our experimental approaches is something few other institutions can offer.



These microscopic images show healthy dopamine-producing neurons above and after damage by the effects of Parkinson's disease below.



WHAT IS PARKINSON'S DISEASE?

Nerve cells in a part of the brain called the substantia nigra produce dopamine, a neurotransmitter that allows the brain and nervous system to control and coordinate body movements. Many Parkinson's symptoms — tremors, muscle stiffness, slow movement, impaired balance and coordination — occur when these dopamine-producing neurons become impaired or die.

The disorder — which affects an estimated 1 million Americans, more men than women, and mostly occurs in people over age 60 — may also cause a range of other symptoms, including anxiety and depression, difficulty swallowing, chewing and speaking, cognitive decline and urinary problems or constipation.

While the progressive disease, itself, isn't fatal, it does increase the risk of falls, pneumonia and other conditions that can result in death.

Learn more about treatments for Parkinson's disease at UCIHealth.org/parkinsons

A Future Preserved

A young woman receives first-of-its-kind, fertility-sparing reconstructive surgery for a rare vaginal cancer.

WRITTEN BY LAUREL DIGANGI
PHOTOGRAPHED BY KIMBERLY PHAM

For months, Kassandra Gomez endured abnormally heavy and increasingly painful menstrual periods and intermittent spotting. When she went to a community clinic for an exam, the doctor detected a mass in her vaginal wall. A biopsy soon revealed a shocking diagnosis: cancer.

"I broke down crying," Gomez says of that day in August 2020. "Who would have thought an 18-year-old girl could have cancer? All I could think about was this is how I'm going to die."

The clinic doctor referred her to the highly regarded gynecologic oncology team at UCI Health, where she met with Dr. Jill H. Tseng. "Dr. Tseng was so encouraging," Gomez recalls. "She kept saying, 'Everything is going to be all right. We're going to take good care of you.'"

Tseng, too, was surprised by the diagnosis: clear cell adenocarcinoma, which is extremely rare in the vaginal tract, especially in young women unless their mothers had taken the now-banned prenatal drug diethylstilbestrol (DES). Gomez's mother had not. "Her cancer seemed to come out of the blue," she says.

Because these cancers can be very aggressive, the tumor needed to be removed quickly. There also was a possibility it could return if Gomez did not also receive radiation treatment. But once the uterus is radiated, a patient cannot carry a pregnancy. Tseng knew Gomez hoped one day to have children.

"It was important for me to get rid of her cancer but not rob her of her future fertility while doing it," she says. "I wanted her to have the same opportunities as other young women."

To ensure removal of all the cancer so radiation wasn't needed, Tseng and UCI Health plastic surgeon Dr. Brock Lanier performed a radical vaginectomy, removing most of the vaginal tissue. To enable Gomez to bear children in the future, they also preserved her uterus and cervix, and reconstructed a vagina.

This complex, fertility-sparing procedure was the first of its kind, as reported in the August 2023 issue of *Gynecologic Oncology Reports*. "We basically took one of the muscles from her abdominal wall but kept it attached to its blood supply," says Tseng. "We rotated it down into the pelvis, reconfigured it into a cylindrical shape and sewed one end to the remaining vaginal tissue. We then reattached the cervix and uterus at the other end, preserving their nerves and blood supply."

During her recovery at UCI Medical Center in late November 2020, the COVID-19 epidemic was at its height, isolating her from family and friends. "My mother was only able to visit me once," says Gomez. "But one night nurse in particular was so nice, it was like having my mother there."

When she was released, the teenager was very weak and sore, with an incision that ran from her rib cage to her pubic bone. She developed an infection that sent her back to the hospital. In all, she lost 25 pounds and needed a walker to get around. But eight months after her surgery, she was walking unaided and spending time with friends again.

Three years later, Tseng is thrilled by her patient's progress. "She's a very brave young woman and invested in her care," she says. Gomez's regular scans and biopsies indicate no sign of cancer.

Tseng is confident that Gomez will be able to have children someday, although they would have to be delivered by Caesarian-section.

"Even that would need to be performed a certain way because her bladder anatomy had to be altered for the procedure," she says. "I told her that both Dr. Lanier and I would need to be present."

Gomez, who recently celebrated her 22nd birthday, hopes to start community college classes soon. Her experience has inspired her to consider a medical technician career, possibly in radiology. It has also left her with a reminder of her bravery and stamina.

"At first I was shocked when I saw my surgical scar, but my family and friends tell me it's beautiful, that it shows I'm a survivor," she says. "So this scar is my life story." ■

Learn more at ucihealth.org/gynonc

Kassandra Gomez not only beat a rare case of vaginal cancer, her UCI Health surgeons also made sure she'd still be able to have children.

The first wave of UCI Anti-Cancer Challenge cyclists gather at the start/finish line in Aldrich Park. Adults and kids also compete on foot.

PHOTOS BY CARLOS PUMA

ANOTHER SUCCESSFUL DAY AT THE ANTI-CANCER CHALLENGE

The 2023 UCI Anti-Cancer Challenge drew a record number of 3,800 participants for the seventh annual ride, run and walk event to raise funds for cancer research. Challenge participants of all ages rode bikes, ran and walked the courses at UCI's Aldrich Park, cheered on by family and friends. Challenge teams have raised more than $975,000 this year. Every dollar raised by the event supports research at the UCI Health Chao Family Comprehensive Cancer Center.

PHOTOS COURTESY OF UCI HEALTH

An aerial view of the medical center complex shows the state-of-the-art power plant in the foreground at right.

COMING SOON

UCI Health — Irvine will open the Joe C. Wen & Family Center for Advanced Care in spring 2024, followed in summer 2024 by the Chao Family Comprehensive Cancer Center and Ambulatory building, pictured in close-up at lower left.

Ducks fans holding cards explaining why they are fighting for a cure for cancer

HOCKEY FIGHTS CANCER NIGHT

UCI Health lung cancer patient Michelle Helm prepares to drop the ceremonial puck at Hockey Fights Cancer Night at the Anaheim Ducks game against the Florida Panthers on Nov. 17. At left is Ducks player Cam Fowler and team President Aaron Teats. On the right are UCI Health CEO and President Chad Lefteris and Panthers player Aleksander Barkov.

HEALTH CLASSES

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

All classes are one session unless otherwise noted and registration is required.

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

ACUPRESSURE FOR LABOR PAIN
Jan. 11, Feb. 8, March 14 | 7–8 p.m.

ADVANCE DIRECTIVES
Feb. 1 | Noon–1:30 p.m.

BARIATRIC SURGERY & WEIGHT LOSS
Jan. 16, Feb. 20, March 19 | 6–7 p.m.

BREASTFEEDING
Jan. 4, Feb. 1, March 7 | 6–9 p.m.

DIABETES WORKSHOP
Jan. 31, Feb. 28, March 27 | 3:30–4:30 p.m.

HEALTHY LIVING
English: Jan. 16, 30, Feb. 13 | 4–5 p.m.
Spanish: Jan. 16, 30, Feb. 13 | Noon–1 p.m.

LIVING WELL WITH HEART FAILURE
March 12 | 4–5:15 p.m.

NEWBORN CARE
Jan. 11, Feb. 8, March 14 | 6–8 p.m.

PLANT-BASED COOKING WORKSHOP
Jan. 31 | Noon–1:30 p.m.

PRENATAL PELVIC FLOOR WORKSHOP
Jan. 6, March 2 | 1–2 p.m.

PREPARING FOR SURGERY — MIND, BODY AND SPIRIT
Jan. 3, Feb. 5, March 4 | Noon–1:30 p.m.

STROKE PREVENTION
English: Jan. 31, March 27 | 4–5 p.m.
Spanish: Jan. 30, March 26 | 4–5 p.m.
To register, call 866-STROKE-3 (866-787-6533).

MEDICARE OPTIONS FOR 2024

Join one of our free virtual Medicare Insurance Plan Option classes to learn about plans accepted at UCI Health in 2024 and get information to help you decide the coverage that best suits your needs.

Classes will cover basic Medicare, Medicare Supplemental plans and Medicare Advantage PPO plans.
Jan. 10, Feb. 7, Feb. 21, March 13 | 5–6:30 p.m.

For questions or to register, call 714-456-2210. Registration is required to receive the Zoom link. Classes are hosted by a UCI Health representative.

EVENTS

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

NEWPORT BEACH LIBRARY "MEDICINE IN OUR BACKYARD" LECTURE SERIES

UCI Health experts highlight the latest in medical care:

Jan 22 | Saving sight: new treatments for ocular surface disorders and cataracts

Feb. 26 | What's new in treatment for atrial fibrillation, cardiomyopathy and other structural heart disorders

March 25 | Advances in colon cancer diagnosis and treatment

April 22 | Understanding autoimmune and infectious diseases

Presentations begin at 7 p.m. at Newport Beach Central Library, 1000 Avocado Ave., Newport Beach. Doors open at 6:30 p.m. A Q&A will follow the physicians' lecture. Visit nbplf.foundation/programs/medicine-in-our-backyard to register for these free talks.

SUE & BILL GROSS STEM CELL RESEARCH CENTER SEMINARS

Hear about advances in stem-cell research from UCI scientists.

Jan. 9 | COVID-19 and the impact on Alzheimer's disease pathology — Thomas Lane, PhD

Feb. 6 | Tracing the origins of birth defects in human genetic disease using systems biology tools — Anne Calof, PhD; Stephenson Chea, PhD candidate

March 5 | Regrowing what was lost: recovering after nerve cell injury — Katie Thompson-Peer, PhD; Sydney Prange, PhD candidate

These free in-person seminars are held at Gross Hall, 845 Health Sciences Road, Irvine, CA 92697. Talks begin at 7 p.m. To register, email stemcell@uci.edu or call 949-824-3990.

GAVIN HERBERT EYE INSTITUTE COMMUNITY LECTURES

Learn the causes, symptoms and treatments for eye-related conditions.

Jan. 9 | Cancers of the eye: ocular surface tumors, periocular malignancies and more — Lilangi Ediriwickrema, MD; Olivia Lee, MD; Kapil Mishra, MD

Feb. 6 | What causes red eyes and how do we treat them? — Sanjay Kedhar, MD

March 5 | What is keratoconus? — Mary Prudden, JD; Matthew Wade, MD

April 2 | Gene therapy for muscle disease — Asuka Eguchi, PhD

April 16 | Why we need annual eye exams — Timothy S. Liegler, OD

May 7 | The latest premium lens technology in cataract surgery — Marjan Farid, MD

Visit ophthalmology.uci.edu/events to register for these free online talks, which begin at 7 p.m. To learn more, please email ophthalmology@uci.edu or call 949-824-9276.

SUPPORT GROUPS

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

ADVANCED HEART FAILURE & VAD
714-456-7514

BARIATRIC SURGERY
714-456-6185

BURN SURVIVORS
714-456-7437

CHRONIC LYMPHOCYTIC LEUKEMIA
tevans@cllsociety.org

GLIOBLASTOMA
714-456-5812

HEAD AND NECK CANCER
714-456-2846

INFLAMMATORY BOWEL DISEASE
714-456-7057

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

LIVER DISEASE
714-456-7642

MULTIPLE MYELOMA
800-452-2873, ext. 233

NORMAL PRESSURE HYDROCEPHALUS (NPH)
714-456-6966

OSTOMY ASSOCIATION OF ORANGE COUNTY
714-637-7971

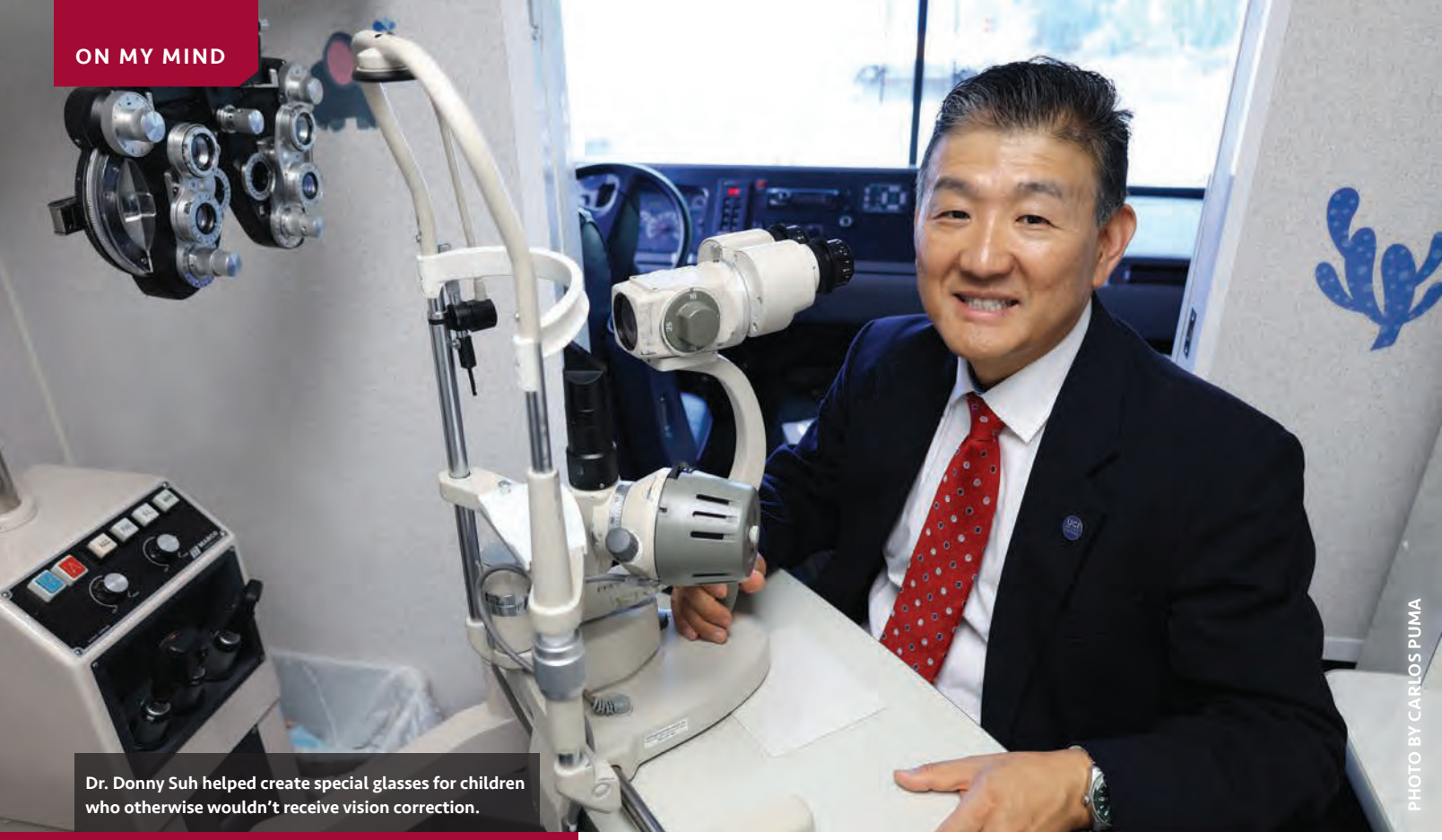
PANCREATIC CANCER
714-456-7057

PARKINSON'S DISEASE
blagasse@hs.uci.edu

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

TRIGEMINAL NEURALGIA ASSOCIATION
714-944-3044

YOUNG ADULT CANCER
714-509-6311



Dr. Donny Suh helped create special glasses for children who otherwise wouldn't receive vision correction.

PHOTO BY CARLOS PUMA

HELPING CHILDREN WITH POOR EYESIGHT CATCH A STAR

Growing up poor in Korea, Dr. Donny Suh struggled with untreated vision problems. Many friends and family members went without vision care too. Motivated by a desire to help disadvantaged children, he became a pediatric ophthalmologist. While working in Omaha, Neb., he and his team set up a mobile pediatric eye clinic. He later wrote a book, *Catching a Star: My Story of Hope*, with the proceeds supporting pediatric vision care. As chief of pediatric ophthlamology at the UCI Health Gavin Herbert Eye Institute, Suh now leads its eye mobile for kids. He also helped develop special eyewear for children. Made with a 3D printer, these inexpensive spectacles provide vision correction for children from poor families and those with head or facial abnormalities who can't wear regular eyeglass frames.

"I grew up with my mother and brother in a humble environment. I couldn't really see the board in school, but we couldn't afford glasses at the time. So I understand the struggles of young kids with poor vision. Also, my mother had a chronic eye infection. We could not get that fixed, so I promised her I would become an eye doctor to correct her eye problem. She told me, 'That will be as difficult as catching a star.'

There were two stages in my work to develop specialty eyeglasses for children. I saw patients with microtia — they have ear malformations or no ears at all — who couldn't find glasses that fit properly and were not able to see. That's when we developed glasses that can be used by children with such face and head conditions. That was over 10 years ago.

The second frustration was that I would prescribe glasses on medical missions, but the families couldn't afford them. Even here in Orange County, the number of places people can go for inexpensive glasses or insurance-covered optical shops is very limited, as is their choice of glasses. That was the motivation for me to come up with Omni glasses. We came up with the idea and started producing them about a year ago. They are adjustable and made with a 3D printer, so they are cost-effective. We have distributed these glasses during international medical missions. They have been extremely well received.

Over the July Fourth holiday, we held a clinic in Ensenada, Mexico. Two boys came with their mom and they both needed corrective glasses. We prescribed and made the glasses right in front of them. They were jumping up and down with joy and running around the eye clinic. Their mom later said she knew they needed glasses but couldn't afford them.

We are making an impact. We're giving young people a chance and hope. Among children, 75% to 80% of their development hinges on good vision. Good vision gives them a firm foundation from which to grow and excel. This project takes teamwork. I'm very proud to be part of the Gavin Herbert Eye Institute, where people are eager to help and support children in need."

— Dr. Donny Suh

Learn more about the eye institute at ucihealth.org/eye

UCI Health

Expert care within reach.

No matter who you are or what you need, we are here for you with the groundbreaking care you deserve.

From primary care to specialty care and clinical trials, UCI Health offers compassionate, evidence-based care delivered by world-renowned experts who are part of Orange County's only academic health system.

Learn more at ucihealth.org

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