

The Calm After the Storm | Sweet Dreams | Freedom From Worry

USC health

2019
ISSUE ONE

A PUBLICATION OF
KECK MEDICINE OF USC

Keck
Medicine
of USC

BEYOND EXCEPTIONAL MEDICINE™

USC VERDUGO
HILLS HOSPITAL
SPECIAL EDITION



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Woof.



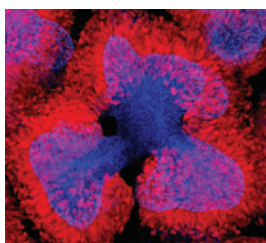
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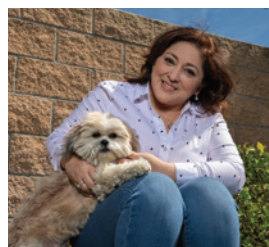
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USC health

A PUBLICATION OF KECK MEDICINE OF USC

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Keck Medicine of USC is one of only two university-based medical systems in the Los Angeles area. Its internationally renowned physicians and scientists provide world-class patient care at Keck Hospital of USC, USC Norris Cancer Hospital, USC Verdugo Hills Hospital and more than 40 outpatient clinics in Los Angeles, Orange, Kern, Tulare and Ventura counties.

In 2018, *U.S. News & World Report* ranked Keck Medical Center of USC, which consists of Keck Hospital of USC and USC Norris Comprehensive Cancer Center, among the top three hospitals in Los Angeles and top seven in California. The medical center also ranked in the top 10 in urology; top 20 in ophthalmology, geriatrics and cancer care; top 25 in orthopaedics; and top 50 in neurology and neurosurgery, gynecology, nephrology and cardiology and heart surgery.

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Protecting the Protectors

In October 2018, at the invitation of the Los Angeles Firefighters Union and the Los Angeles Fire Department Fire Chief, Keck Medicine of USC began providing free skin cancer screenings to firefighters and their families. Faculty and residents from the Keck School of Medicine of USC's Department of Dermatology travel to fire houses to provide the screenings and offer information about keeping their skin safe from sun exposure. Firefighters are known to have a higher incidence of skin cancer. So far, 374 firefighters and their family members have participated, and 89 have been referred to see a physician for further consultation.



Kremer Johnson Photography

Keck Medicine dermatologists visit the LAFD Fire Station 112 in San Pedro. Left: Nada M. Elbuluk, MD, MSc, takes a closer look at firefighter John Ornelas. Right: Brandon E. Cohen, MD, examines firefighter Tad Miller.

SUN SAFETY

PROTECTING YOUR SKIN

Every year, there are **63,000** new cases of and **9,000** deaths from **melanoma**—the deadliest form of skin cancer

1 in 5 Americans will develop skin cancer in their lifetime

If you've had more than **5 sunburns**, your risk of melanoma **doubles**

PREVENTION TIPS

YOU NEED MORE THAN SUNSCREEN TO PREVENT SKIN CANCER.

FOLLOW THESE TIPS:

ULTRAVIOLET RADIATION FROM THE SUN IS THE LEADING CAUSE OF SKIN CANCER.

Choose a sunscreen of at least **SPF 30** that says **"broad spectrum"** to protect against both **UVA & UVB RAYS**

sand & water can reflect **25% OF UV RAYS**

Always wear sunscreen!

80% of the sun's rays can pass through clouds and fog

HOW TO APPLY

BE GENEROUS
Use about 1 oz (2 tablespoons) and apply liberally across your entire body

REMEMBER
ears, hands, feet and underarms

SPF 30+

measures how much radiation is blocked

SPF 15 BLOCKS 93% OF UVB RADIATION

SPF 30 BLOCKS 97% OF UVB RADIATION

SPF 50 BLOCKS 98% OF UVB RADIATION

SPF 30+

Look for protective clothing that lists a UPF - woven to block more UV rays

Wear UV-blocking sunglasses and broad-brimmed hat

Limit sun exposure, especially between 10 am - 4 pm

DRINK MORE WATER

2 HOURS or **40 MINUTES** when in water

reapply every

Learn more about your personal risk factors for skin cancer.
cancer.KeckMedicine.org

Sources: Skin Cancer Foundation, Centers for Disease Control and Prevention
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10 YEARS AGO

Sit Stay Love

Charlie and his mom Laura Stout turn a lot of heads when they walk through Keck Hospital of USC for the best reason: Charlie is an adorable Cavalier King Charles Spaniel. He's one of 76 dog (and two cat!) volunteers who can bring comfort to Keck Hospital and USC Norris Comprehensive Cancer Center patients through a non-profit organization called Love on 4 Paws.

Therapy animals from Love on 4 Paws visit hospitals and other health care facilities to provide a little bit of joy to patients and families. Love on 4 Paws was founded in 1997, and their animal volunteers have been visiting Keck Medicine since 2012.



Charlie and his mom Laura Stout during a recent visit to the USC Health Sciences Campus. All canine volunteers wear vests stating their status as therapy animals.

The training to become a therapy animal is intensive. The animals are trained to be calm with crowds, new people and other animals, undistracted and unbothered by equipment like wheelchairs, crutches and carts. They need to be confident and accepting of all surroundings, and they have to love people more than anything else.

As for Charlie, mom and co-volunteer Laura says he loves his visits to

Keck Medicine.

He's been known to fall asleep and snore on patients' beds during visits, but no one seems to mind.



Ricardo Carrasco III

USC Purchases Hospitals



The USC Trojan Marching Band heralds the university's purchase of the medical center in April, 2009.

Steve Cohn

Keck Medicine of USC celebrated a milestone on April 1: the 10-year anniversary of USC's purchase of two hospitals from Tenet Healthcare Corporation. The acquisition of Keck Hospital of USC — then known as USC University Hospital — and USC Norris Cancer Hospital officially created the second full-service academic medical center of its kind in the greater Los Angeles region.

The \$275 million deal, which was finalized April 1, 2009, included more than 450 inpatient beds and 1,600 hospital employees already located at the university's Health Sciences Campus.

Two years later, a \$150 million gift from the W. M. Keck Foundation unified the campus, by naming the enterprise Keck Medicine of USC, renaming Keck Hospital of USC and designating the two hospitals and adjacent outpatient locations as Keck Medical Center of USC.

"We are proud of the work we have done over the past 10 years to build Keck Medicine into a premier

medical enterprise. Our partnership with the university has allowed us to recruit new faculty to expand on our foundation of outstanding physicians and continue the groundbreaking research for tomorrow's clinical breakthroughs," says Tom Jackiewicz, CEO of Keck Medicine.

Keck Medicine since has grown substantially and now includes more than 7,000 employees at three hospitals — Keck Hospital, USC Norris Cancer Hospital and USC Verdugo Hills Hospital — and more than 40 outpatient locations in Los Angeles, Ventura, Kern and Orange counties. Keck Hospital and USC Norris Cancer Hospital are ranked among the top three hospitals in Los Angeles and the top seven in California by U.S. News & World Report in 2018. Keck Medical Center was ranked in the top 50 nationwide in nine specialties, including No. 17-ranked cancer, making it the highest-ranked cancer specialty in Southern California.

The Big Question

Regular doctor visits are an important part of everyone's health. But for some, going to a physician brings anxiety and dread. Procrastinating on medical treatment can be dangerous. If caught early enough, many medical conditions can be treated easily — before they create other problems. Two physicians from Keck Medicine of USC weigh in on the Big Question:

'How do I overcome my fear of seeing a doctor?'



To overcome your fear of going to the doctor, it's important to find a doctor that you can be open and honest with. Medicine is a partnership between patient and physician, and when we view it that way the patient gets to stay in control. Consider bringing a friend or family member along for support.

Let the staff know ahead of time what your concerns are and that you are nervous about the visit. They may help you find an appointment with a shorter wait time and also give the doctor a heads-up so they can take the time to explain things in detail and help you feel more comfortable.

Some people are afraid of needles, procedures, or even just getting bad news. A heart-to-heart discussion can help alleviate these fears. We have lots of ways to keep our patients comfortable, and our goal is really a healing partnership.

Jennifer Boozer, DO
USC Family Medicine

There are so many details of seeing a doctor that can make a patient nervous. "Where do I park? How early should I get there? How long will I have to wait?" The process of seeing a physician can be stressful, but there are ways to help reduce that anxiety. Look at a map beforehand to get the lay of the land, so parking and other logistics aren't as much of an unknown.

Don't worry about a condition you see as embarrassing: We have heard it all, and nothing will faze us. We are there to help and heal you. Communication is important, questions are always welcome, and we will not be upset if you want to get a second opinion. Your health is the most important consideration.

Jeffrey Loh-Doyle, MD
USC Institute of Urology

**To make an appointment,
call (800) USC-CARE or
visit KeckMedicine.org**

THE KECK EFFECT



Ricardo Carrasco III

A Path to Helping People

Sandy Alcala, MPH, has spent 11 years — as a volunteer, then as a full-time employee — making Keck Medicine of USC a better experience for everyone. Her secrets to success? A deep desire to help people, and a handy pair of flats.

What is your title and what do you do?

I'm a supervisor of patient access - volunteer services. I not only strive to make guest and patient visits better, but to keep the hospital itself running smoothly. It's hard to summarize it, because every day is different — from making sure there are enough wheelchairs to checking in patients for surgery. I always wear flats because I'm all over the hospital during the day.

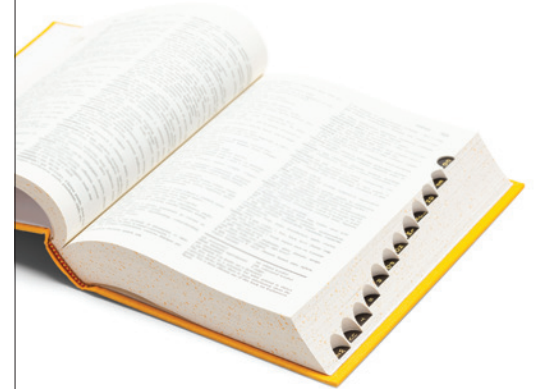
How did you start at Keck Medicine? How did that shape your future?

I was a volunteer here after I got my bachelor of science degree while studying for the MCAT, as I wanted to enroll at the Keck School of Medicine of USC's MD program. When the opportunity to be hired here came, I took it. It was then that I realized my path was in another direction. There are so many ways to help people besides just practicing medicine, so I decided to go back to school for a master's degree in public health.*

What motivates you to do your job?

I get a great feeling of satisfaction from making sure everything is running smoothly for everyone who comes here. It's a powerful feeling to know that you've improved someone's life. The hospital doesn't run because of one person — it takes an army to make it work. My goal is to someday run the VA. This is a really amazing place to start.

*Alcala graduated from USC's MPH program in 2016.



what's the
Word?

Crepitus
noun

[ˈkrep-ət-əs]

Almost everyone has experienced those snap, crackle and pop sounds in their joints. The medical term for this is crepitus. “Crepitus describes the cracking or popping sounds and sensations experienced in joints when they move,” explains Seth Gamradt, MD, an expert in sports medicine and orthopaedic surgery at Keck Medicine of USC. “Our bodies are machines, and machines make noise, so if you experience painless crepitus, ignore it! However, if crepitus in a joint is accompanied by pain and especially swelling, then it should be evaluated.”

If you have experienced pain or swelling when your joints pop, learn more or schedule an appointment by calling (800) USC-CARE or visiting [KeckMedicine.org/ortho](https://www.keckmedicine.org/ortho).



A Horse? *Of Course!*

Odds are that when one of the doctors of Keck Medicine of USC receives a patient's heartfelt thanks, the physician feels like they are in the winner's circle. René Sotelo, MD, professor of clinical urology at the Keck School of Medicine of USC, is a front-runner in the treatment of urologic conditions. He was honored recently by his patient Omar Rosillo, who Sotelo treated at USC Verdugo Hills Hospital. Rosillo, a resident of Sotelo's home country of Venezuela, ponied up something special for his physician: he named his prize-winning thoroughbred DoctorSotelo.

DoctorSotelo (the horse, that is) did not disappoint, and placed first in the Juan Arias Cup in Caracas, Venezuela in August 2018. Rosillo doubled down on his gratitude and gifted the trophy from the race to his horse's namesake.

[Top] DoctorSotelo pulls ahead at the Juan Arias Cup in Caracas, Venezuela. **[Lower]** Omar Rosillo and René Sotelo enjoy a day at the races. Photo credit: Jorge Yanez

The Kindness of Strangers

He gave her part of his liver.

They prepared for surgery in the same ward at Keck Hospital of USC and started their recoveries in the same wing, but they didn't see each other or know each other's names.

"I don't know much about her, just that she's 29. She could have a long life after this," Damian Delaney, a high school teacher who stepped up to become an anonymous liver donor, said at the time. "I've thought about her and prayed for her so many times."

Breana Shaw, the recipient, had also spent her recovery wondering. She had been on the transplant list for three years and given up hope when she got the call. "I just thought I would be sick for the rest of my life and I would just have to make the best of it," she explained. "I was shocked that someone I didn't even know would be willing to give a part of themselves so I could have a transplant. It's the most beautiful thing."

On Dec. 12, 2018, Yuri Genyk, MD, chief of the division of hepatobiliary and pancreatic surgery and abdominal organ transplantation, and Navpreet Kaur, MD, had performed a successful liver transplant.

On March 5, Delaney and Shaw finally got to meet each other.

Shaw walked in and all nervousness was gone. The two immediately hugged, and kept hugging.

"I've waited for this day for so long!" Shaw exclaimed.

And then they sat down to talk, two strangers with one incredible thing in common. They bonded over the challenges of recovering from major surgery — Delaney, an ultramarathon runner, slowly working his way back to five-mile runs, and Shaw going on longer and longer walks with her dachshund.

"I feel like 'Thank you' is not enough," Shaw said to Delaney. "I'm eternally grateful. I promise not to waste this chance."

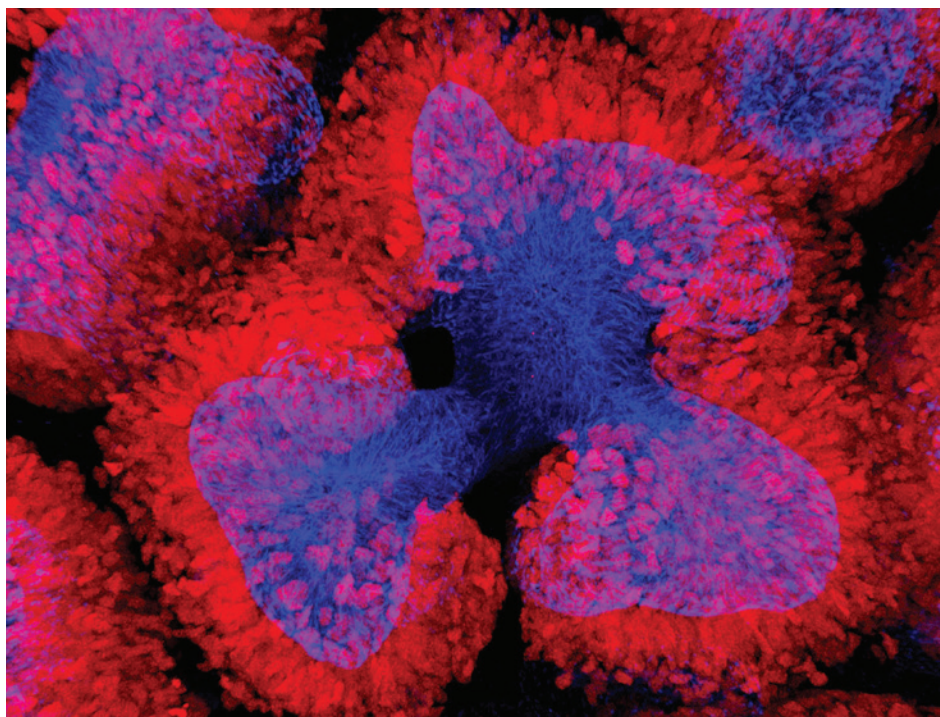
"I'm just so happy you're doing so well," Delaney replied. "Meeting you has made everything worth it."



Damian Delaney and Breana Shaw meet for the first time.

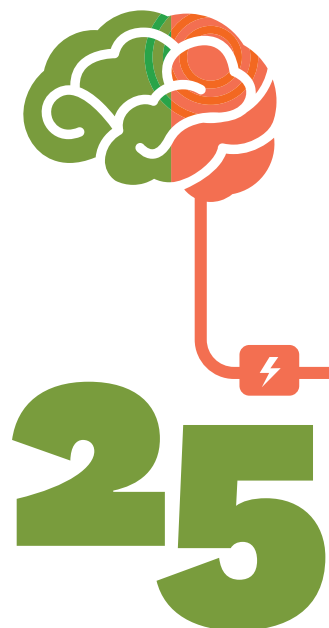


The **Art** of Imaging



Many areas of medicine, from research to clinical diagnosis, use advanced technology to see things that the human eye can't — whether it's a patient's internal organs or bones, or something microscopic. Many times, these images can be beautiful as well as informative.

A developing human kidney with a branching duct (blue) surrounded by progenitor cells (red) that generate the filtering apparatus of the kidney, called the nephron. (Image by Nils Lindstrom/McMahon Lab/USC Stem Cell)



Keck Medicine patients with Parkinson's disease or other movement disorders who need deep brain stimulation (DBS) surgery have two options: traditional awake surgery, or real-time MRI-guided surgery, a leading-edge method where the patient remains asleep for the entire surgery. Brian Lee, MD, and his expert team have achieved an impressive milestone: 25 safe and successful MRI-guided cases in a little over 25 months. Keck Medicine is the only medical center in the Los Angeles area to offer this novel MRI-guided DBS surgery.

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Text KECKPORTAL to 313131 or visit myUSCchart.KeckMedicine.org

the Calm *after* the Storm

At the USC Comprehensive Epilepsy Center, patients with the neurological disorder receive the highest level of care, backed by innovative research.

BY CANDACE PEARSON

On an ordinary February day, 18-year-old Khashayar Pirouzmand was breezing through the physics questions on an important exam at his high school in Iran, excited because doing well could help him get into a top university.

Two hours in, without warning, his life changed dramatically. Very suddenly, he felt a strange pressure in his brain.

He raised his hand and tried to say he wanted to go outside, but couldn't put the words together. He took a deep breath and glanced at his paper. He could no longer solve the problems he had done only minutes before.

Pirouzmand left the classroom with the test unfinished. By the time he reached home a half hour later, he could speak again. He told his family something had happened to him, but he didn't think it was serious. He chalked up the incident to the stressful exam.

The second time, about two months later, he was talking to his aunt when he heard a high tone in his ear, felt pain in his jaw and passed out. He woke up in an ambulance. After tests at a local hospital, doctors gave Pirouzmand the news: He had epilepsy, most likely caused by a small tumor on the left side of his brain.

50 million people worldwide are diagnosed with epilepsy. One of the most common neurological disorders, it is characterized by unpredictable electrical activity in the brain and recurrent seizures.

Doctors believed Pirouzmand's tumor was too close to the language areas of his brain to operate, so he began taking two anti-seizure medications. They didn't stop his seizures, which



"I said,
'Let's
go.'
This was
my chance
to get
better."



George Nune, MD



Jonathan Russin, MD

started escalating. Each time, he lost the ability to put words together or make sense of them. He tried finishing his university entrance exam, but couldn't.

The next year, his seizures again kept him from completing the exam. Pirouzmand's dream of traveling to America to study engineering seemed nearly impossible.

CENTER OF EXCELLENCE

Little did he know that in a few years, Pirouzmand would find himself at the USC Comprehensive Epilepsy Center, designated a level 4 center by the National Association of Epilepsy Centers. The highest accreditation possible, this distinction indicates the center's capability to treat the most complex cases.

When he finally arrived in Los Angeles two years ago, he saw a community physician for his epilepsy prescriptions who recommended he go to Keck Medicine of USC for help.

Within the USC Comprehensive Epilepsy Center, a multidisciplinary medical team provides the most advanced care for patients with complex issues, including those who experience uncontrolled seizures, severe side effects from medication or who want to get pregnant while having epilepsy.

The team includes board-certified epileptologists, neurosurgeons, neuroradiologists and psychologists, along with epilepsy nurses, occupational therapists and nutritionists.

"Patients come to us because they need a higher level of care," notes Christi Heck, MD, medical director of the center and professor of clinical neurology at the Keck School of Medicine of USC.

That level of specialty is necessary because epilepsy can be extremely challenging to diagnose and treat, in part because it has a wide range of potential causes, including genetics, prenatal injury, meningitis, strokes, tumors and traumatic brain injury.

More people die of epilepsy (50,000) each year than from breast cancer (40,000). This includes people who develop SUDEP or "sudden unexpected death in epilepsy," as well as those who die from seizure-related drownings or burns.

Pirouzmand initially met with George Nune, MD, assistant professor of clinical neurology at the Keck School. Nune changed Pirouzmand's medications to see if that would halt the seizures. "Approximately one-third of patients have medically refractory epilepsy, which can't be controlled with medication," Nune says.

Nune asked Pirouzmand if he was interested in surgery, which held the potential to remove the source of his epileptic seizures. "I was very excited," Pirouzmand says. "It seemed like an adventure for me. I wanted to try it."

LISTENING TO THE BRAIN

The first step: capturing the electrical impulses in Pirouzmand's brain. The center is equipped with the most advanced imaging and diagnostic technologies, including video electroencephalographic monitoring (EEG), an invaluable tool to diagnose epilepsy symptoms, using non-invasive electrodes attached to the head.

Pirouzmand spent a week in Keck Hospital of USC, as his medical team gradually withdrew him from all medication to trigger and track his seizures. This would enable them to characterize what type of seizures he was having and where they originated within the brain.

Jonathan Russin, MD, assistant professor of clinical neurological surgery at the Keck School, likens the on-the-scalp video EEG to "trying to listen to a conversation through a wall."

Nune and Russin escalated the testing to the next level: phase II intracranial EEG monitoring to more accurately locate the area where seizures began and those areas which are essential for speech production. This higher-level brain mapping is like "being inside the room listening to the conversation," Russin says.

Russin implanted a very thin mesh of electrodes over the surface of the brain in the relevant region. His typical seizures were then recorded over the course of several days as Pirouzmand dutifully did physics homework and watched documentaries in the intensive care unit (ICU). Nune then electrically stimulated the various brain areas under this mesh to determine which disrupted the ability to speak in his native Farsi. These would have to be preserved during surgery.

Pinpointing the area responsible for language as accurately as possible for each individual is essential "because once patients have been having seizures for so long, their brain often has reorganized itself," Russin notes.

Armed with the results, Russin could proceed. His goal was to remove as much of Pirouzmand's tumor as possible, while avoiding delicate tissue.

"You're talking about potentially curing somebody of their seizures and changing the trajectory of their life," he says. "If our patients have the courage to undergo these procedures, it's our responsibility to do the job right with the least amount of risk."



Kremer Johnson Photography

Khashayar Pirouzmand and his golden retriever puppy, Zomi, enjoy a day at the park.

Pirouzmand was more than ready. “I said, ‘Let’s go.’ This was my chance to get better.”

SCIENCE AT ITS BEST

For Pirouzmand, surgery gave him his life back. He occasionally hears a high tone in his ear (an “aura” or warning of a potential seizure), but the seizures no longer come. He is on two medications for now, a precaution for the first few years after surgery.

Pirouzmand has started driving again and he is hard at work studying for his university degree.

During his treatment at Keck Hospital, he realized the specific field he wants to pursue — electrical engineering. Being in the hospital, with electrodes implanted in his brain, he felt like a living-breathing embodiment of science at its best.

“In one moment, engineering and neuroscience and medical school were all combining to cure the patient — me — of epilepsy,” Pirouzmand says. “It’s kind of amazing.”

To learn more or schedule an appointment, call (800) USC-CARE or visit KeckMedicine.org/epilepsy

Improving Access to Advanced Care

The center serves as the academic anchor to the USC Epilepsy Care Consortium. “This unique partnership is composed of nearly a third of all the certified epilepsy centers in our state,” says Charles Liu, MD, PhD, professor of clinical neurological surgery and neurology at the Keck School and secretary of the consortium. “This maximizes patient access to the resources of an academic medical center while minimizing travel.”

The patient’s local neurologist remains the main point of contact, while Keck Medicine specialists assist with care management through teleconferencing. “If a patient needs more advanced care than is available in their community,” Christi Heck, MD, says “they can come here and we can co-manage that care with their local doctor.”

The center also addresses the transition that teen and young adult patients must make from children’s services to adult care. “There’s a very big gap between being a child with epilepsy and being an adult with epilepsy,” Heck says. The transition clinic includes a navigator who reviews each case and directs the patient to the services they need.



Looking for another option?

What if a patient isn’t a candidate for tumor resection? The USC Comprehensive Epilepsy Center calls on a variety of leading-edge techniques such as responsive stimulation devices and other neuromodulators — essentially pacemakers for the brain — that work to prevent seizures at their source. The center was involved in early clinical trials that led to approval of the devices.



THE KECK EFFECT

The joy of top honors.

How is Keck Medicine of USC different from other health systems? Our performance speaks for itself. We are nationally ranked in nine specialties and our system includes the USC Norris Comprehensive Cancer Center — which is ranked No. 1 in cancer outcomes in California. Our expert care helps more patients live longer, healthier and happier.

[KeckMedicine.org/beyond](https://www.KeckMedicine.org/beyond) | (800) USC-CARE

Keck Medicine of **USC**

BEYOND EXCEPTIONAL MEDICINE™



Baby Boom!

BY AMANDA BUSICK

Meredith Shaw, RN, is a trendsetter, just not in a way you might guess. She works in the labor and delivery unit of the Women and Family Center at USC Verdugo Hills Hospital (USC-VHH), and she was the first of five nurses on that team to become pregnant and deliver her baby at USC-VHH.



Meredith Shaw, RN, and her daughter Quinn.

Kremer Johnson Photography

“All five of us had previous children and were a few months apart while pregnant,” Shaw says. “The running joke on the unit was that there was something in the water, or that we were bringing in more business for our unit.”

The nurses watched each other’s progress closely, threw baby showers and, when the time came, delivered the babies one after another. Quinn Shaw was born in November 2017.

Shaw says that the nurses of the unit, which is made up of labor and delivery, couplet care/postpartum, and the neonatal intensive care unit, are a close-knit team where the RNs can provide more personal attention in a cozy, family-centered environment. Because of this perspective, USC-VHH offers classes for new parents both before and after delivery, support groups and other resources.

It was this support that prompted Shaw to deliver all three of her children at USC-VHH, the two oldest arriving before she even worked there. In fact, while she was being admitted for the delivery of her second baby, Shaw was offered a job by Melissa “Missy” Stehlin, BSN, RN, clinical director of the Women and Family Center. “I was looking for something closer to home and with less of a hectic work schedule,” Shaw recalls. “When Missy offered me a position, I jumped at the chance to further my knowledge in a field that has always interested me. To have had my children there was such a perk.”

There aren’t more babies planned for her family, Shaw says with a laugh. “We’re outnumbered as it is. However, if we were, I would absolutely stay at USC-VHH.”

To learn more, call (818) 790-7100 or visit uscvhh.org/maternity

“All five of us had previous children and were a few months apart while pregnant,”



Turn the page for more about USC-VHH’s neonatal intensive care unit



Kremer Johnson Photography

Safe and Sound

BY HOPE HAMASHIGE

After a normal labor and delivery, a young couple's newborn girl needs the safety net of the USC Verdugo Hills' new neonatal intensive care unit.

Looking back on the day that her daughter was born, Katie Kline says that she and her husband, Brett Scieszka, thought they were reasonably prepared for what would be one of the biggest days of their lives. They had taken childbirth classes, they read books on caring for newborns and had prepared their home for a new arrival.

One thing Kline knew before heading to the delivery room at USC Verdugo Hills Hospital (USC-VHH) is that she wanted at least an hour of skin-to-skin contact with her daughter after her birth. She was set on breastfeeding her daughter, and that hour has been shown to help babies be more successful with breastfeeding and adjusting to life outside their mother's womb.

As soon as Scout was born, she was placed on Kline's chest and the new parents settled in for some quiet family bonding time. Moments later, that quiet became a new parent's worst nightmare: Scout turned purple and then blue because she had stopped breathing.

"In the moment, it feels like the most earth-shattering thing that can happen," says Kline.

Kline's pregnancy had been effortless for both mom and baby and so there was no expectation that anything was going to go wrong. Still, the first hours of a newborn's life can be risky even for healthy babies who had no issues in utero. Scout experienced what is known as sudden unexpected postnatal collapse, which is when full-term, healthy babies stop breathing.

The nurse attending the family sounded a code white — the term for newborns in distress — and within seconds, a team of doctors and nurses, all trained to deal with such emergencies, resuscitated Scout. But even with this optimal outcome, instead of going home, Scout would need to spend a week in the neonatal intensive care unit, or NICU. There, providers could keep a close watch and thoroughly evaluate her health to make sure she didn't have an underlying condition that caused the collapse.

The NICU at USC-VHH was created to provide a higher level of care for newborns who need it, including those like Scout, who experience unanticipated problems after they are born. There are

private rooms for families, giving parents the opportunity to spend more time with their baby and to be involved in their care, which is good for both the baby and the parents.

Kline says the couple was devastated by the news that their daughter wouldn't come home with them immediately, but began to feel better about the situation when they went upstairs to see Scout. "It was so private in the NICU and we got so much one-on-one attention," she recalls.

That personal attention is one reason Kline wanted to deliver her baby in a community hospital like USC-VHH in the first place. She hoped to deliver in an environment that provided her excellent medical care, but would also give her a lot of personal attention. "Being a first time mom, especially, it can be intimidating. I wanted to be in a place where they would take the time to help me and answer questions, and I definitely got that," she says. "Every person we came into contact with was stellar."

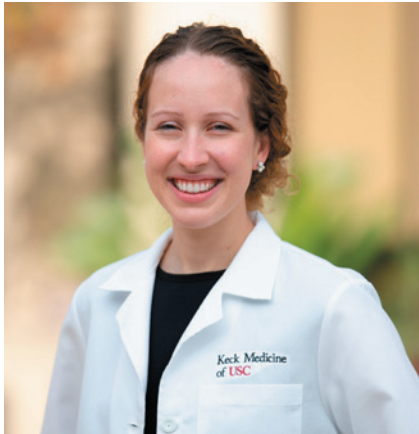
During the week Scout spent in the NICU, the couple benefited from the private attention the staff gave them while they tended to their daughter. The nurses taught them expert swaddling techniques and gave them pointers on changing diapers and feeding her. An occupational therapist showed them how to give their baby a massage and help her stretch. Kline also worked with a lactation consultant who saw her several times a day to help Scout learn to feed.

The end of Scout's stay at USC-VHH wasn't Kline's last visit to the hospital. She came back as often as three times a week for ongoing support as a new mom. She joined a breastfeeding support group, a new mom group and took a class by an occupational therapist on early play and sensory stimulation for babies.

"The care I had gotten during my delivery was wonderful and in the NICU we just felt like we couldn't be in better hands," she says.

To learn more, call (818) 790-7100 or visit uscvhhs.org/nicu

The Matter at Hand



Rachel Lefebvre, MD

Patients don't need to choose convenience over expertise. USC Orthopaedic Surgery already serves patients at USC Verdugo Hills Hospital, and the expert team recently brought on Rachel Lefebvre, MD, an orthopaedic surgeon who specializes in hand and arm surgery.

BY HOPE HAMASHIGE

Hands are one of the more useful parts of the body. They help make coffee, send emails, do laundry, answer the phone and put on clothes. When they are injured or develop chronic problems like arthritis, getting through daily tasks can become challenging.

Making sure hands receive quality medical care is the reason that USC Verdugo Hills Hospital (USC-VHH) has brought on an orthopaedic surgeon who specializes in taking care of these very important body parts — the hands and wrists. Rachel Lefebvre, MD, assistant professor of clinical orthopaedic surgery at the Keck School of Medicine of USC, recently joined the roster of orthopaedic surgeons practicing at USC-VHH.

Not every community hospital has orthopaedic surgeons who specialize in treating upper extremities, so patients often have to transfer to a larger hospital when they have more complex problems. "Hand injuries are surprisingly common," says Lefebvre, "and there definitely seems to be a need for this type of expertise."

Lefebvre provides comprehensive care, treating medical problems that range from common problems like carpal tunnel syndrome or wrist fractures to complex trauma reconstructions. She is also trained in advanced surgical techniques, including microvascular reconstruction, that restore feeling and function to injured nerves and arteries in the hands and arms.

Lefebvre says that while patients were always able to receive care for their hand and wrist injuries at USC-VHH, she is able to provide a broader range of services than general orthopaedic surgeons. "One thing we can do now is repair some tendons in a bedside procedure, which we weren't able to do before," she says.

Lefebvre also provides care to patients with chronic problems of the hands and wrists such as arthritis and trigger fingers. Having a hand specialist adds depth to the already robust list of orthopaedic specialties at USC-VHH, which includes doctors who specialize in joints, sports medicine, spinal problems and treating feet and ankles, to name a few.

"We collaborate quite a bit," she says, adding that patients with one orthopaedic problem, such as compression in the spine, may also suffer from others, including in their hands. "There are times when it is important to have a team approach to give patients the best care."

To learn more or schedule an appointment, call (818) 790-7100 or visit uscvhh.org/ortho



Sweet Dreams *(are made of this)*

BY HOPE HAMASHIGE

When Jose Salas walked into the USC Sleep Apnea and Snoring Surgery Center in 2017, he was beyond exhausted. At that point, he had been dealing with sleep apnea for 15 years. Instead of joining colleagues for lunch at work, he often spent the hour napping in his car in a vain attempt to catch up on sleep.





Kremer Johnson Photography

“I wake up in the morning and instead of being tired, I am good to go.”

His memory took a hit, too, and he soon found himself struggling to remember where he put things or what time he needed to be somewhere.

The absolute worst part of chronic sleep deprivation, he says, was knowing that he was sometimes short-tempered with family, friends and work colleagues even though they were never the source of his sour moods. Sleep deprivation had robbed him of his cheerful nature and innate positivity.

“I was just so tired all the time, and I didn’t feel like myself,” says Salas, 45, who first experienced excessive sleepiness around the time he turned 30. He was young

and trim, had no other medical problems and was not a smoker or heavy drinker. In other words, he wasn’t an obvious candidate for sleep apnea. But, after checking in to a sleep clinic, he learned that was the cause of his problem.

It is estimated that 22 million Americans have sleep apnea, mostly obstructive sleep apnea (OSA), in which blockage of the airway in the throat interrupts breathing throughout the night. Normally, people go through various stages of sleep, the deepest of which is known as rapid eye movement, or REM, sleep. OSA disrupts these cycles and can prevent a person from entering the deepest stages of sleep. This inability to experience sustained rest results in excessive tiredness and other symptoms during the day.

Research into OSA in recent decades has shown that it may be far more detrimental than just causing problems with alertness during the day. Increasingly, sleep apnea has been associated with high blood pressure, diabetes, cardiovascular problems, depression, anxiety and numerous other serious medical conditions.

In other words, sleep apnea is no longer swept aside as a condition that only affects a person's quality of life. It is understood now that improving sleep can help people live healthier lives. And yet, for some patients, including Salas, finding an effective treatment can be a struggle. By the time he met Keck Medicine of USC's Eric Kezirian, MD, MPH, one of the few surgeons in the country who specializes in sleep apnea and snoring, he had tried numerous methods including three separate surgical procedures.

"He was getting poor sleep every night," says Kezirian, professor of sleep medicine and surgery in the USC Caruso Department of Otolaryngology – Head and Neck Surgery at the Keck School of Medicine of USC. "We all are tired, have changes in our mood or experience fatigue and difficulty concentrating when we do not get a good night of sleep. The problem with Mr. Salas was that he never was able to have a good night of sleep, so he was feeling this all the time."

A family member had read that Kezirian was using a new device that encourages upper airway stimulation. Salas was hoping he would be a candidate for the device because he tried just about everything else and nothing helped.

After his first sleep study 15 years ago, Salas was hopeful that getting a diagnosis would mean that relief and a good night sleep were within reach. He tried a continuous positive airway pressure device, known as a CPAP machine, which blows a stream of air into the airway through a mask, keeping the airway open during sleep. He knew the machine helped others, but it did not work for him. The machine often fell off when he turned over in bed, and it took his wife some time to acclimate to the sound of his breathing while using CPAP. The machine made a distinctive sound, to say the least. "My kids are the ones that figured out," Salas remembers.

"My youngest is three, and he said, 'Oh daddy, you've got the Darth Vader mask on.' And I said, 'Yeah, I do. I have it on.'"

He also developed chronic sinus infections while using the device even though he cleaned his machine meticulously and used other treatments, such as a neti pot and over-the-counter drugs, to keep his sinuses clear. He tried a custom mouthguard, which he liked, but it did not help him sleep.

One doctor repaired his septum, hoping that would help. Another thought scarring from the first surgery impaired his breathing and operated on him a second time to fix that. A third removed his uvula, the structure that extends down from the soft palate in the back of the throat. These helped a little, but he was back on the CPAP machine, and struggling with it, shortly afterward.

While most surgeons are trained with a single surgical procedure for all patients, research has shown that this one-size-fits-all approach is not successful for most patients. One of Kezirian's areas of expertise is using state-of-the-art approaches to evaluate each patient to determine what surgery will work best for them.

Kezirian is an expert in the use of drug-induced sleep endoscopy, which is an evaluation that involves threading a camera through the nostril while the patient is sedated in the operating room. This allows Kezirian to see exactly which structures in the throat are causing blockage of breathing, allowing him to create a personalized surgical plan for each patient.

"There are different procedures available for sleep apnea, but you want to tailor it to each person," says Kezirian, "and that is what the evaluation procedure does."

Kezirian evaluated Salas using this method and learned that he wasn't a candidate for upper airway stimulation due to the type of blockage he had. Instead, Kezirian said he could help him using a newer surgical technique called expansion sphincter pharyngoplasty that involves removing the tonsils and repositioning the tissues of the soft palate and sides of the throat.



Eric Kezirian, MD, MPH

Ricardo Carrasco III

"I was a little hesitant to have another surgery until he explained the evaluation and what he found," says Salas, who had never been evaluated using drug-induced sleep endoscopy by other doctors. "He was able to show me where I was getting the obstruction. That was the first time I had seen anything like that."

After the evaluation, Salas decided to embrace the old adage about the third — well, fourth — time being the charm and agreed to Kezirian's surgical plan.

Several months later, Salas is doing things at home and work that he could not have imagined a few years ago. He has taken on new responsibilities at work and is enjoying new challenges for the first time in years. And instead of going home and collapsing on the sofa, he often takes his kids to the park to kick around a ball. His most recent sleep study showed that his sleep apnea is no longer interfering with breathing at night. He says that he didn't need that study to know that Kezirian's surgery worked.

"I wake up in the morning and instead of being tired, I am good to go," he says.

To learn more or schedule an appointment, call (800) USC-CARE or visit [KeckMedicine.org/sleep-surgery](https://www.KeckMedicine.org/sleep-surgery)

Freedom *From* Worry

BY HOPE HAMASHIGE

When a Cesarean section led to urinary incontinence, Araceli Serrano found answers with a surgeon who specializes in female pelvic medicine at Keck Medicine of USC.

During her last pregnancy, an ultrasound at a community health care facility in Irvine revealed that Araceli Serrano had a cyst in her uterus that was so large, the images looked like she was going to give birth to twins. Because of the cyst, she had to have a Cesarean section, after which her doctor suggested that she should have a partial hysterectomy.

She had the hysterectomy in 2015, which solved the problem of the cyst in her uterus, but seemingly created another medical problem: incontinence. "What I was told was that I no longer had the uterus to hold on to the urethra and that was causing incontinence," Serrano says.

Urinary incontinence is one of the most common pelvic floor disorders, which occur when the ligaments, connective tissues and muscles in the pelvis are stretched, damaged or weakened, shifting away from their natural alignment. This can lead to problems affecting the vagina, uterus, bladder, intestines or rectum.

Though both men and women suffer from pelvic floor disorders, they disproportionately affect women. About one-third of women in the United States have a pelvic floor disorder and almost one-fourth have one or more.

Many factors contribute to pelvic floor disorders — childbirth, hysterectomy, menopause, diabetes and injuries to the pelvic region can all play a part. People with neurologic diseases such as multiple

sclerosis, stroke, Parkinson's disease and spina bifida may also have pelvic floor disorders.

Serrano tried taking a prescription medication to deal with her incontinence, but it was far from a fix. Her everyday life was still filled with concerns over her proximity to a restroom. If she went out to eat, she had to know where the restrooms were before she sat down in case she needed to get there urgently. In order to go to a concert or a sporting event, she would typically forgo liquid for some time before and had to avoid drinking until the event was over.

"It has been freeing to be able to relax and not have to worry where the facilities are all the time."

After three years on the medication and never fully recovering her quality of life, Serrano was referred to David Ginsberg, MD, professor of clinical urology at the Keck School of Medicine of USC, whose practice focuses on female pelvic medicine and reconstructive surgery.

Ginsberg, whose present research interests focus on urinary incontinence, lower urinary tract reconstruction in spinal cord

injury patients and urologic applications of botulinum toxin, evaluated Serrano's incontinence with a urodynamic test, an evaluation that reveals how well the bladder is functioning and which type of incontinence a patient is experiencing.

"If we don't know whether the patient has stress or urge incontinence, urodynamics can help guide us to the appropriate therapy," says Ginsberg.

Stress incontinence is triggered by movement and acts such as coughing or sneezing, and typically requires surgery. Urge incontinence, which is associated with an overactive bladder, creates problems with both urgency and frequency and is initially treated with behavioral therapy or oral medication. Serrano's evaluation showed that she had both types of incontinence, though her primary issue was stress incontinence.

Ginsberg notes that not all patients with incontinence need surgical intervention. Patients with mild incontinence may benefit from prescribed pelvic floor exercises or lifestyle changes. Others can do extremely well with oral medications. But if less invasive options are not effective, surgery can help those, like Serrano, who need a higher level of treatment. In her case, Ginsberg recommended she have a surgery called a sling procedure to deal with her stress incontinence.

This minimally-invasive procedure, which is done via a vaginal approach, is finished in less than an hour and the patient is able to

▣ Ricardo Carrasco III



David Ginsberg, MD

go home the day of surgery.

Since the procedure was short and involved only making two very small incisions, Serrano was soon able to get back to work and sit comfortably at her desk. Once she did return to work, one of the first things she noticed was that she really was sitting at her desk most of the day instead of constantly running down the hall to the restroom.

“It has been freeing to be able to relax and not have to worry where the facilities are all the time,” she says.

To learn more or schedule an appointment, call (800) USC-CARE or visit KeckMedicine.org/fprm



▣ Kerner Johnson Photography

Lung Cancer Treatment:

Into *the* Future

BY CANDACE PEARSON



A multidisciplinary team at Keck Medicine of USC collaborates to bring the latest treatments and research to patients with lung cancer.

At first glance, the statistics for lung cancer may seem dire. But look closer and there's more — much more — to the story.

It's true that lung cancer remains the leading cause of cancer death among men and women worldwide. Each year, more people die of lung cancer than of colon, breast and prostate cancers combined — an estimated 156,000 people in the U.S. in 2018 alone.

However, these grim numbers have been steadily improving. After decades of increases, rates of lung cancer deaths began to decline in the early 1990s and have been falling, on average, 2.5% each year between 2005 and 2014.

A lung cancer diagnosis, even at the most advanced stage, is no longer an automatic death sentence.

"Previously, when I saw a stage IV patient, I told them that the lung cancer almost certainly was going to be the cause of their death. But now, even stage IV lung cancer can be curable for certain patients," says Jorge Nieva, MD, associate professor of clinical medicine at the Keck School of Medicine of USC.

USC Norris Comprehensive Cancer Center and Keck Medicine of USC are front and center in this evolving revolution, which is one of the reasons they are the highest-ranked cancer care provider in Southern California according to the 2018-2019 U.S. News and World Report "Best Hospitals" rankings.

Once a week, patients can see all the subspecialists they need to on the same day in one location in a multidisciplinary clinic, coordinated by an experienced nurse navigator.

These subspecialists — including oncologists, thoracic surgeons,

interventional pulmonologists, radiologists, pathologists and radiation oncologists — meet twice a week to discuss cases and determine the best course of action.

"Thanks to our team's expertise, we can identify the therapy or combination of therapies best suited for each patient," says Anthony W. Kim, MD, MS, professor of clinical surgery at the Keck School.

Kim adds that the approach is aggressive. "Patients know we're jumping into the trenches and we're going to fight with them. That brings a lot of peace of mind."

A lung cancer diagnosis, even at the most advanced stage, is no longer an automatic death sentence.

USC Norris specialists are equipped with a bigger arsenal these days, including a first-ever screening for lung cancer. A nationwide clinical trial published in 2011 showed that low-dose CT screening of high-risk patients with a history of smoking can result in 20% fewer deaths from lung cancer by identifying it earlier, before it spreads. USC Norris is home to one of these accredited screening sites.

Immunotherapy — harnessing the immune system to kill cancer cells — is one of the biggest breakthroughs in recent years. Research shows that these innovative therapies are particularly effective in current or former smokers.

Tobacco use is implicated in about 80 to 90% of lung cancer deaths in the U.S. But,

more than 20% of Americans who die of lung cancer have never smoked or used any kind of tobacco. The majority of these people have genetic mutations in their tumors. "Many of these DNA changes are increasingly treatable with targeted medications in pill form," Nieva says.

Surgery remains the go-to option for early-stage lung cancer and, increasingly, is being strategically deployed for advanced stages in combination with other therapies.

For many patients, stereotactic radiation therapy is an alternative to surgery, delivering targeted radiation in fewer high-dose treatments. Other tools are replacing invasive ways to diagnose and stage tumors, including a fluid biopsy that uses a simple blood sample and GPS-like navigational tools that lead pulmonology experts to hard-to-reach areas of the lung.

Finding out whether a particular tumor has any biomarkers — molecules that can indicate the presence of a disease or abnormal process — can be critical to survival. The team begins by making sure all patients have appropriate genetic testing, and they are searching for even more biomarkers to expand this benefit to more patients.

One of the biggest game changers in lung cancer care at USC Norris is the growing slate of clinical trials, including inventive uses of immunotherapy (by itself and with chemotherapy and/or radiation), along with other novel treatments.

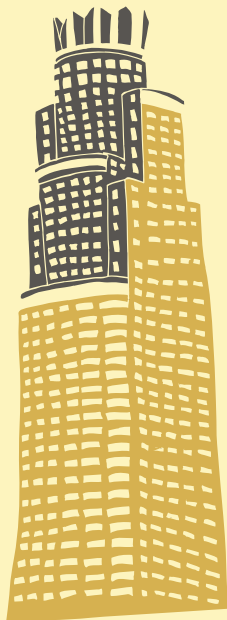
USC Norris doctors link patients with experimental therapies from clinical trials whenever possible. "It's like reaching into the future," says Nieva, "to bring back a drug treatment that people need today."

To learn more or schedule an appointment, call (800) USC-CARE or visit [KeckMedicine.org/lung-cancer](https://www.KeckMedicine.org/lung-cancer)

OUTPATIENT LOCATIONS

We Are Where You Are

Get to know
some of Keck
Medicine's
many
locations
across
Southern
California



Pasadena

625 S. Fair Oaks Ave.
Suite 400
Pasadena, CA 91105

Keck Medicine of USC provides the **expert primary and specialty care** of an academic medical center, conveniently located in Pasadena.

The multidisciplinary team of physicians takes a personalized approach to health care, working closely with each patient to create a treatment plan that fits the needs of the individual. The Pasadena location offers bariatric medicine and nutrition services, cardiac surgery, cardiology, colorectal surgery, dermatology, endocrinology, family medicine, general surgery, geriatrics, hematology, hepatobiliary surgery, neurosurgery, occupational therapy, oncology, plastic surgery, registered dietitian services, rheumatology, social services, urology and vascular surgery.

Located in the same building, the USC Roski Eye Institute offers services including complex contact lens and prosthetic replacement of the ocular surface ecosystem therapy, neuro-ophthalmology, ocular oncology, ocular pathology, oculofacial plastic surgery, pediatric ophthalmology, cataract and refractive surgery, and treatment for conditions such as corneal and external diseases, glaucoma, orbital and adult strabismus, and uveitis and ocular inflammation.

Downtown Los Angeles

830 S. Flower St.
Los Angeles, CA 90017

The downtown Los Angeles USC Healthcare Center is a **multidisciplinary practice** designed for busy professionals. Same-day appointments typically are available.

This location offers medical services such as dermatology, endocrinology, geriatrics, gynecology, head and neck surgery, hepatology (liver, gallbladder, pancreas and biliary ducts), internal medicine, neurology, nutritional services, occupational therapy, orthopaedic surgery, podiatry, primary care, psychiatry and behavioral services, rheumatology and urology.

Specialty services include Mohs and dermatological surgery, including cosmetic procedures such as facial peels and laser skin resurfacing. The USC Voice Center treats patients here with an acoustically enhanced voice therapy room.

In addition, the clinic offers 3-D mammography, cardio stress testing, laboratory services and X-ray, all in one location.

Glendale

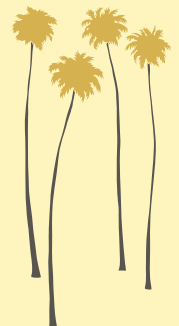
1808 Verdugo Blvd.
Suite 112
Glendale, CA 91208

The **USC Family Medicine practice** in Glendale offers a broad range of comprehensive health services to address acute and chronic illnesses, as well as health maintenance needs, directly across from USC Verdugo Hills Hospital.

The family medicine physicians at Glendale – USC Family Medicine provide patient-centered care, with a focus on overall well-being. Services offered include general pediatric and adolescent medicine, asthma and allergy care, behavioral health, diagnostic testing, health screenings, weight management, women's health and geriatric medicine.

The Glendale location allows for easy access to comprehensive and well-coordinated care to individuals and families of every age, with the patient and physician working together to create a treatment plan that will address the unique needs of each individual.

Keck Medicine has nine convenient locations in Glendale and La Cañada Flintridge.





Documenting Elder Abuse: A Better Way

BY ROBIN HEFFLER

In 2030, it is projected that older Americans will outnumber children for the first time in U.S. history.* As the population ages, elder abuse is becoming more of a concern. An estimated 10% of older adults experience some form of abuse each year, but the link between injuries and possible abuse is often difficult to investigate due to poor documentation at doctor visits.

A study led by Laura Mosqueda, MD, dean of the Keck School and professor of family medicine, has led to the creation of the Geriatric Injury Documentation Tool (Geri-IDT) to help providers document injuries encountered while treating older patients. Similar tools have been helpful to document child abuse and intimate partner violence, but no standardized method exists for the specific needs of seniors.

“Because older adults are more vulnerable to injuries like fractures and bruising, it is often difficult to distinguish if an injury is due to an accident or abuse,” says Mosqueda, who is also director of the National Center on Elder Abuse. “This tool includes diagrams and a brief questionnaire that makes it easier to document an injury and reminds clinicians about what to ask and observe during the exam.”

“The need to protect our older loved ones from elder abuse is great,” says Alexis Coulourides Kogan, PhD, assistant professor of family medicine at the Keck School and coauthor of the study. “But focusing solely on the reason for a patient’s visit seldom tells the whole story, even when you look at the medical chart.”

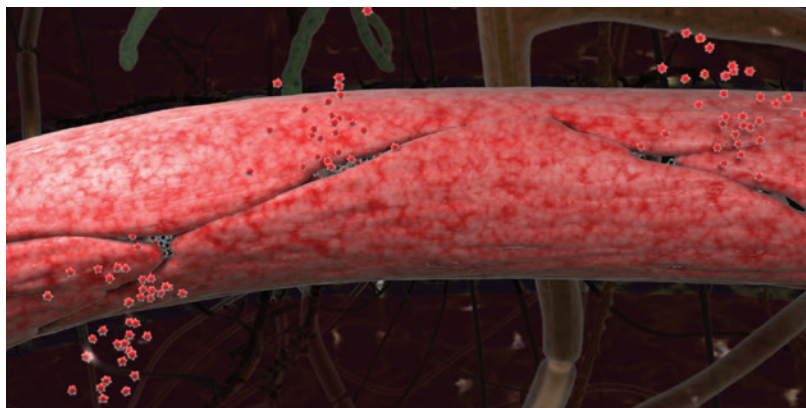
Next, the researchers plan to seek funding to test the Geri-IDT in clinical settings.

*Census.gov



Alzheimer’s Research: New Predictor May Lead to Early Detection

BY LEIGH HOPPER



Above: Leaky blood vessel

Leaky capillaries in the brain can predict the early onset of Alzheimer’s disease, as they signal cognitive impairment before abnormal proteins appear, according to new research from the Keck School. These findings could help with earlier diagnosis and suggest new targets for drugs that could slow or prevent the onset of the disease.

The study showed that people with the worst memory problems also had the most leakage in their brain’s blood vessels — regardless of whether abnormal proteins were present.

“The fact that we’re seeing the blood vessels leaking, independent abnormal proteins, when people have cognitive impairment on a mild level, suggests it could be a totally separate process or a very early process,” says senior author Berislav Zlokovic, MD, PhD, director of the Zilkha Neurogenetic Institute at the Keck School.

In healthy brains, the cells that make up blood vessels fit together so tightly they form a barrier that keeps stray cells, pathogens, metals and other unhealthy substances from reaching brain tissue. Scientists call this the blood-brain barrier. In some aging brains, the seams between cells loosen, and the blood vessels become permeable.

“If the blood-brain barrier is not working properly, then there is the potential for damage,” says coauthor Arthur Toga, PhD, director of the USC Mark and Mary Stevens Neuroimaging and Informatics Institute at the Keck School. “It suggests the vessels aren’t properly providing the nutrients and blood flow that the neurons need. And you have the possibility of toxic proteins getting in.”

The researchers cautioned that their findings represent a snapshot in time. In future studies, they hope to get a better sense of how soon cognitive problems occur after blood vessel damage appears. Zlokovic says it’s unlikely that scientists will soon abandon the abnormal proteins as Alzheimer’s biomarkers, “but we should be adding some vascular biomarkers to our tool kit.”



Ricardo Carrasco III

Conquering Osteoarthritis: A Joint Effort

BY CRISTY LYTAL WITH ADDITIONAL
REPORTING BY MARY DACUMA

Will scientists someday be able to grow cartilage in a lab? Will patients be able to forgo joint replacement surgery in favor of a shot? Will osteoarthritis cease to be the source of pain and decreased mobility that it is today?

Denis Evseenko, MD, PhD, associate professor of orthopaedic surgery, stem cell biology and regenerative medicine at the Keck School, has reason to be optimistic.

Osteoarthritis, caused by injuries and everyday wear and tear, is the most common joint disorder in the United States. Its prevalence is steadily growing due to longer life spans and increased obesity rates. There is no cure for osteoarthritis, though pain medication and other treatments can help improve quality of life.

Evseenko and his research team at USC Stem Cell are working to understand osteoarthritis and change the way it is treated. Breakthroughs include the discovery of a molecule that enhances regeneration while curbing inflammation, and the identification and characterization of unique cell populations that form the superficial zone of human joint cartilage. The superficial zone plays the most critical

role in cushioning the joint and is often partially or completely lost in arthritis.

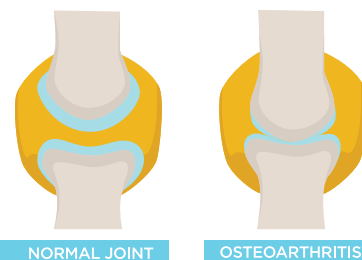
Now, with funding from the California Institute for Regenerative Medicine, the National Institutes of Health and United States Department of Defense, Evseenko's lab is tackling osteoarthritis from several angles. This includes researching mechanisms behind the development, progression and prevention of osteoarthritis, developing an injectable therapy to reduce the inflammation of arthritis and working to develop cartilage implants made from stem cells to treat sports-related knee injuries that can lead to arthritis.

"The main issue is that if you don't do anything, young athletes who injure their knee cartilage will develop severe osteoarthritis," Evseenko says. "So they may need total joint replacements extremely early in life. And this is actually a huge issue, because the number of these patients is pretty high, and there's no clear therapy for them."

Evseenko aims to start clinical trials for the stem cell-based cartilage implant, which surgeons could use to repair sports-related knee injuries, by late 2020.

What Is Osteoarthritis?

Also known as degenerative joint disease or OA, osteoarthritis affects more than 30 million Americans.*



Most common in:

Knees
Hips
Hands

Common symptoms:

Pain or aching
Stiffness
Decreased range of motion
Swelling

Risk factors:

Joint injury or overuse
Age
Gender (more common in women)
Obesity
Genetics

What about rheumatoid arthritis (RA)?

OA and RA share similarities like joint pain and swelling, but RA is an autoimmune disorder that can also damage the skin, eyes and other organs, as well as the cardiovascular and nervous systems.

*cdc.gov

There are hundreds of **clinical trials** and **studies** currently taking place at Keck Medicine of USC, giving participants access to novel and potentially promising therapies that may not be available elsewhere. For more information on the three listed below and other open clinical trials, visit clinicaltrials.KeckMedicine.org.

Precision Medicine

Title:

The All of Us Research Program

Purpose:

The All of Us Research Program is an unprecedented effort to gather genetic, biological, environmental, health and lifestyle data from 1 million or more volunteer participants living in the United States. The program seeks to accelerate the development of precision medicine by achieving a demographically, geographically and medically diverse community of participants, especially by including those who are underrepresented in biomedical research. As one of the most ethnically diverse areas in the U.S., Los Angeles County is critical to this effort. Unlike research studies that are focused on a specific disease or population, All of Us will serve as a national research resource to inform thousands of studies. Participants are asked to share different types of health and lifestyle information, including through online surveys and their electronic health records, which will continue to be collected over the course of the program. Aside from sharing health information, participants are asked to come for an in-person visit to record basic physical measurements

and provide blood and urine samples. In Los Angeles, that may take place at two Keck Medical Center of USC sites: the Medical Plaza Pharmacy and the Diabetes and Obesity Research Institute (DORI).

Participant criteria:

Older than 18 years of age

More information:

Funded by the National Institutes of Health
IRB #HS-17-00469

USC Investigator:

Daniella Meeker, PhD

Contact:

allofus@usc.edu
(323) 572-5740

Multiple Sclerosis

Title:

Acculturation, Genetic Ancestry, and Disability in Hispanic Americans With Multiple Sclerosis

Purpose:

This study aims to examine the impact of genetics, acculturation and cultural perceptions on disease severity in Hispanic people with multiple sclerosis. Participants will take validated questionnaires about acculturation and illness perception and provide a genetic sample that will be analyzed for ancestry.

The researchers will assess whether Asian, Native American, European or African genetic markers influence disease severity.

Participant criteria:

Of Hispanic descent and diagnosed with MS in the last five years

More information:

Funded by the National Multiple Sclerosis Society
IRB #HS-17-00374

USC Investigator:

Lilyana Amezcu, MD

Contact:

Andrea Martinez, MPH
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Obesity

Title:

Neural Mechanisms for Appetitive Responses to High Reward Foods (Assessing Brain Response to Sugar)

Purpose:

This study is aimed at understanding brain and hunger responses to different types of sugars and how this influences feeding behavior in lean, overweight and obese people in seven participant visits, including two short follow-up visits. The study will combine functional magnetic resonance



imaging (fMRI) with hormonal and behavioral assessments to better understand the impact of different types of sugar on hunger and eating behavior in people of various weight levels.

Participant criteria:

Men and women, age 19-35
Right-handed, weight-stable
Can't have: tobacco or illegal drug use, non-removable metal in body, vegetarian/vegan, history of eating disorder, actively trying to lose weight, history of diabetes

More information:

Funded by the National Institutes of Health
NCT # NCT02945475
IRB #HS-09-00395

USC Investigator:

Kathleen Page, MD

Contact:

Alexandra Yunker
Study Coordinator
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perspective

Harlyne J. Norris Cancer Research Tower



Van Urflin

By Lynda D. Roman, MD

Few diagnoses impact individuals as profoundly as a cancer diagnosis. Coping with the psychological aspects can be as daunting, if not more so, than the physical ones. What has become profoundly clear to me is that priorities and perspectives vary widely between individuals. What helps one person cope might be detrimental to another.

One common misconception in health care is that all patients react similarly and have the same needs and wishes. With this belief can come judgmentalism when a patient is not reacting according to what “should be.” It is important for health

providers, family members and friends to be sensitive to a patient’s needs, and not overwhelm them when they can only take in so much. Similarly, it is important for patients to inform their physician how they are “wired.” Would they prefer to hear the worst possible scenario to prepare for every eventuality, or would they prefer to hear information as things play out? (With the understanding that statistics apply to populations rather than individuals, and two people with the same type and stage of cancer might fare quite differently.)

Lastly, it is important for all to remember the importance of the word hope. (I have

come to decide that HOPE, rather than LOVE, is the most important four-letter word in the English language.) Hoping for the best and living life to the fullest, with the understanding that none of us is guaranteed a tomorrow, can help enormously in the search for perspective and balance.

Lynda D. Roman, MD, specializes in gynecological cancer treatment at USC Norris Comprehensive Cancer Center at Keck Medicine of USC, the highest-ranked cancer care provider in Southern California according to the 2018–2019 U.S. News and World Report “Best Hospitals” rankings.

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