

Full Speed Ahead | Virtual Reality | Inner Strength

USC health

2020
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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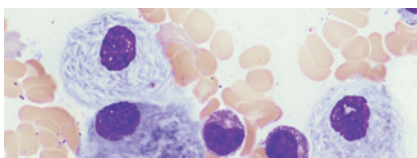
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Keck Medicine of USC is one of only two university-based medical systems in the Los Angeles area. Its internationally renowned physicians and scientists provide world-class patient care at Keck Hospital of USC, USC Norris Cancer Hospital, USC Verdugo Hills Hospital and more than 80 outpatient locations throughout Los Angeles, Orange, Kern, Tulare and Ventura counties.

Keck Medical Center was ranked No. 16 on U.S. News & World Report's 2019-20 Best Hospitals Honor Roll and among the top 3 hospitals in Los Angeles and top 5 in California. The hospital also ranked in the top 4 in urology (tie); top 10 in geriatrics; top 15 in ophthalmology, cardiology & heart surgery, gastroenterology & GI surgery and nephrology; top 20 in neurology & neurosurgery; top 25 in cancer; and top 35 in pulmonology & lung surgery.

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Printer

Lithographix

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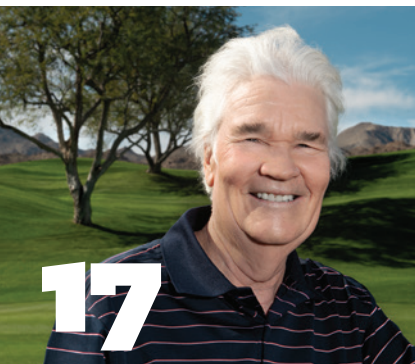
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The Strongest Link

George Young found life-saving care at the USC Comprehensive Aortic Center.



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Inner Strength

A priest faces a lung cancer diagnosis with Jorge Nieva, MD, of the USC Norris Comprehensive Cancer Center.



Dear readers,

As you know, COVID-19 has dominated the news and our thoughts. We'd like to take a moment to let you know that the patients we serve at Keck Medicine of USC are our highest priority, and the information we present in USC Health is meant to reach and touch a wide spectrum of patients and community members. With that in mind please be aware that most of the stories in this issue were completed before COVID-19 became the international news that it is now. The photos and interviews were done before any social distancing became the norm.

Because of the time that it takes to put a magazine of this nature together, most of this issue does not speak to COVID-19 and the impact it has had on health care and our community. However, you will find information about a few of the steps Keck Medicine is taking to make sure our patients are safe. The current situation can change at any moment: Please visit [KeckMedicine.org/coronavirus](https://www.keckmedicine.org/coronavirus) for the latest news.

Sincerely,

Amanda Busick
Editor-in-Chief

Melissa Masatani
Managing Editor

1. Keck Hospital of USC employees suit up in personal protective equipment (PPE).
2. Scientists in the Molecular Pathology Lab analyze COVID-19 test samples.
3. Catherine Pradt, RN, submitted this photo of doctors and nurses at USC Verdugo Hills Hospital who have been caring for COVID-19 patients.
4. A variety of health care professionals staff the medical evaluation tent at Keck Hospital.
5. Team members in Keck Hospital's 8 West ICU have been caring for COVID-19 patients.
6. Signage reminds patients to take safety precautions.
7. Community members sent thank you cards to health care workers on the front lines.
8. USC-VHH staff members cheer on the rooftop as first responders salute caregivers.
9. Keck Medicine has received donations of PPE from community members to keep patients and employees safe.



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Ricardo Carrasco III



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A Shoulder to Lean On

AS THE PATIENT NAVIGATOR FOR OTOTOLOGY AND PROGRAM ADMINISTRATOR FOR THE USC ACOUSTIC NEUROMA CENTER, THE CARE JENNIFER KELLEY PROVIDES PATIENTS IS NOT QUITE MEDICAL, BUT DEEPLY PERSONAL — SHE WAS ONCE IN THEIR SHOES.

What does it mean to be a patient navigator?

As a patient navigator, my job is to be there for patients at every step once they enter our office. I help them schedule appointments, answer follow-up questions or relay messages to the doctors in order to get back to the patients. For patients who need extra care, I also am present at their appointments and will visit them in the hospital while they're receiving treatment or recovering.

What is the most rewarding part of your job?

The most amazing part of my job is to watch a patient's face when I mention that I was a patient, too! I explain to patients that I am deaf in one ear due to my diagnosis and you see their whole demeanor change as they realize that there's somebody else in the room who understands what they're going through. I had no intention of ever working in the medical field. But this opportunity to share my knowledge and experience from having been a patient myself is incredible. It makes a real impact on their care.

THE KECK EFFECT



© Ricardo Carrasco III

What do you want the public to know about hearing loss?

Patients who have hearing loss or single-sided deafness can be perceived as not very intelligent because they have to ask people to repeat themselves, but it's not an issue of comprehension, they simply can't hear the other person. Patients need to cut themselves some slack — and as a loved one it is important to have patience if you're asked to repeat yourself, because it's likely this person already is doing everything they can to try to understand what you're saying.

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When is surgery the right choice for back pain?

Since surgery for back pain involves the spine, decisions involving it merit ample consideration.

Jeffrey C. Wang, MD, an orthopaedic surgeon and co-director of the USC Spine Center at Keck Medicine of USC, shares what to consider before making this big decision.

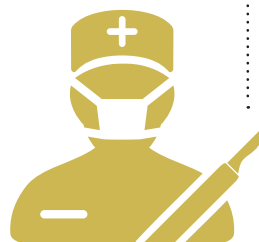


Know all of your treatment options

Surgery should only be considered when you've tried all reasonable nonsurgical options and conservative treatments and know the remaining options.

Understand the pros and cons of surgery

Know what you're agreeing to. Talk to your doctor about the potential benefits and risks.



Make sure you're physically ready

Undergo a complete medical evaluation and optimize your health before surgery, so you're in the best physical shape possible.

Do your homework

Knowledge is power. Talk to your surgeon openly and make sure they answer all your reasonable questions.



The Big Question

When it comes time for a visit to the doctor, it can be easy to forget to mention that nagging problem or the sudden change in your body. It helps to bring a trusted loved one, but what does that mean? Two physicians from Keck Medicine of USC weigh in on the Big Question:

“How can I be a health advocate for myself and my loved ones?”



As primary care doctors, we see patients at all stages of their life and in all conditions, for regular annual visits or for a sudden illness. We rely on patients to tell us when something is wrong, because no one knows your body better than you.

As a health advocate, the best thing you can do is make sure your concerns are being heard by your care providers. Ask questions if you feel something is different, or when something changes. Have conversations about any symptoms you should watch for, and keep track of your daily health even when you feel healthy, because it can provide a baseline measure for when you are sick. Being informed is key, but make sure that your sources are credible. If you want to read up on a medical condition before your visit, use trusted sources such as the National Institutes of Health site or established national foundations.

Carrie Ward, MD
Primary care physician
USC Internal Medicine



No patient wants to hear that dreaded phrase: “It’s cancer.” As doctors, we hear it all too often, but we know for our patients, it could be the first time they’re facing such a diagnosis. In times like these, having someone to help the patient as their health advocate can mean the difference between being educated about their treatment plan and being afraid and in the dark.

If you are helping a loved one, don’t hesitate to ask questions and for more simplified explanations if you don’t fully understand what is being discussed.

Consider a second opinion when appropriate and keep copies of medical records such as blood tests, biopsy reports and imaging, or sign up for access to electronic health records when available. And understand how your medical insurance works, especially if you need authorizations for testing or to see specialists.

Jenny C. Hu, MD, MPH
Mohs surgeon
USC Dermatology

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

Tender loving care

For many of the doctors, nurses, pharmacists, therapists and countless other frontline staffers at Keck Medicine, the outbreak of the novel coronavirus did not change their dedication to their patients and the exceptional care they provide every day.

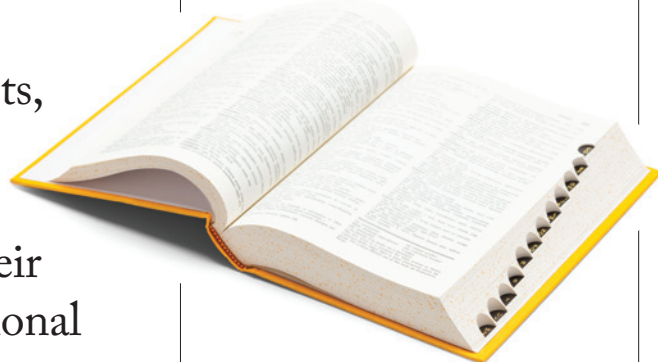
But once they clocked out, these health care workers' lives were very different — from taking extra precautions to protect loved ones, to facing empty grocery shelves after a long shift.

As the COVID-19 pandemic sent the world into a frenzy, Keck Medicine of USC recognized the need to support these employees and established the Care for the Caregiver program, offering free housing, comfort amenities and mental health support to high-risk staff.

“Our health care workers are on the frontline of the COVID-19 pandemic, and their personal safety, and that of their loved ones, is our number one priority,” said Tammy Capretta, RN, MPH, chief transformation and risk officer for Keck Medicine. “We have been humbled by their commitment and dedication to our patients, and we want to do everything we can to help ease any burdens they are facing.”

In addition to housing options and mental health services, employees have access to micro markets where they can purchase meals, groceries and toiletries, and frontline staff can receive tote bags full of comfort items.

Frontline staff at Keck Medicine of USC receive a Care for the Caregivers tote bag (top) filled with a variety of items that could include coloring books, candles or snacks. Employees also can purchase toiletries, pantry essentials and ready-to-make meals at micro markets (bottom) across the Health Sciences Campus.



what's the Word?

Goiter noun
[ˈɡɔɪ-tʊr]

An enlargement of the thyroid gland. If a patient's thyroid appears enlarged or feels abnormal to the touch, physicians will perform tests to see if thyroid hormone levels are too high (hyperthyroidism), if there is thyroid failure (hypothyroidism), or whether thyroid nodules or cancer are present.

“While an enlarged thyroid gland might be normal, some conditions may require surgical treatment,” says Trevor Angell, MD, associate medical director of the USC Thyroid Center at Keck Medicine of USC. “Careful discussion, hormone testing and imaging should be performed to determine if any thyroid disorder is present.”

If you are worried about your thyroid and want to see one of the specialists at Keck Medicine, schedule an appointment by calling (800) USC-CARE (800-872-2273) or visiting ent.KeckMedicine.org/thyroid.

Seeing in Every Dimension

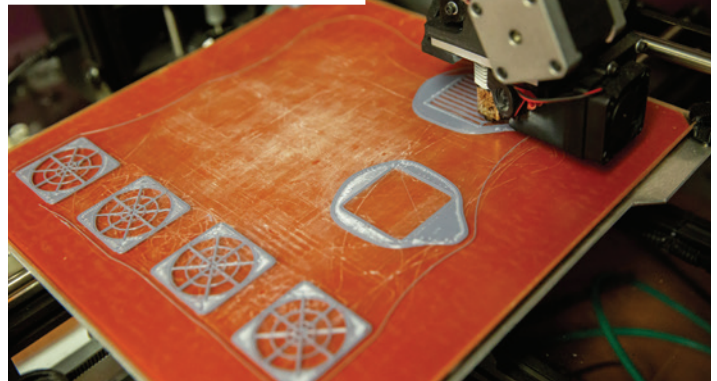
BY AMANDA BUSICK

A GROUP OF MAKERS, LED BY KECK MEDICINE OF USC'S **DARRYL HWANG, PHD**, ARE FIRING UP THEIR 3D PRINTERS TO ANSWER THE CALL FOR PERSONAL PROTECTIVE EQUIPMENT.

When Darryl Hwang, PhD, got the text from Joseph Savoie, MHA, director of imaging services at Keck Medicine of USC, he immediately sprung into action. Savoie had reached out to Dr. Hwang, who is the director of Keck Medicine's 4D Quantitative Imaging Lab, about creating an equivalent to the N95 respirator mask, an important piece of personal protective equipment (PPE) in high demand during the COVID-19 global pandemic.

Using open source designs, which he modified to the specific needs of Keck Medicine providers, Dr. Hwang, who holds dual appointments within the Keck School of Medicine of USC and USC Viterbi School of Engineering, got to work. He has been utilizing not only the 3D printer in his own lab at Keck Hospital of USC, but also has brought together people around the Los Angeles area together to pitch in. A call for help on social media put him in touch with maker groups, individual makers and creative businesses with 3D printers. Hwang presented them with preliminary designs for pieces that could be easily printed to create a mask that is not exactly an N95, but could be used in case the N95s run out.

"As an engineer," Dr. Hwang says, "It's a weird feeling to



Keck Medicine of USC's 4D Quantitative Imaging Center has become a hub for makers across Southern California, led by Darryl Hwang, to use 3D printers to create an equivalent of the N95 respirator mask.

■ Ricardo Carrasco III

make something you hope never gets used. But that's the strange world we live in right now."

Dr. Hwang also is collaborating with USC Viterbi, USC School of Architecture, and the Fabrication Lab at the USC Iovine and Young Academy on PPE like 3D printed disposable face shields. They are also working on safe ways to extend the use of some equipment, and designs for other disposable pieces that will be necessary in the weeks and months to come. Hwang enlisted the help of a movie prop production house in Pasadena for their expertise in mold making, in order to increase the speed of the production of parts.

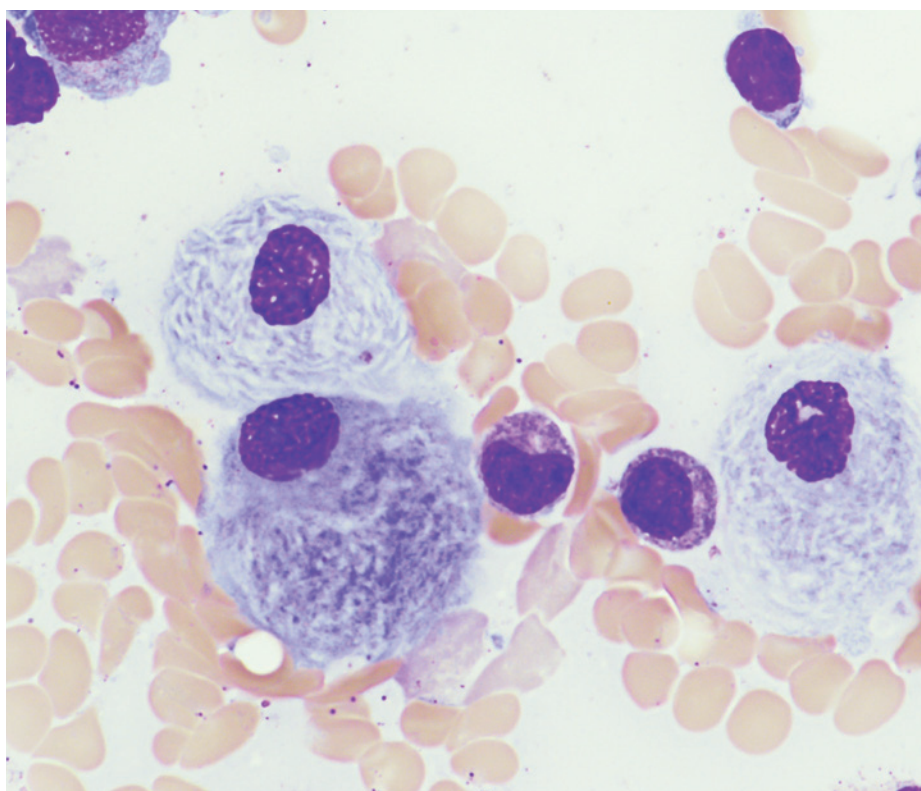
"This has been the most creative work I've ever done as far as problem solving," he says. "I'm just glad that we are able to contribute."





The **Art** of Imaging

MANY AREAS OF MEDICINE, FROM RESEARCH TO CLINICAL DIAGNOSIS AND TREATMENT, 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.**

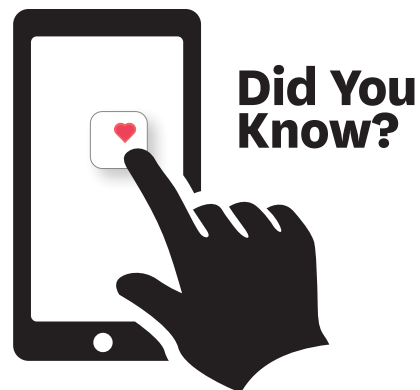


Gaucher disease is an inherited metabolic disease characterized by an abnormal buildup of glucocerebroside, a type of fat (lipid). Cells of affected individuals lack specific enzymes to break down the lipid. This disorder is usually detected in childhood; adult cases are rare and can cause organ enlargement, bleeding problems and bone fractures.

This photomicrograph from a diagnostic bone marrow biopsy of a 38-year-old man shows large, Gaucher-affected cells

and normal smaller white blood cell precursors. The nucleus (dark purple) of each Gaucher cell has been pushed to the edge of the cytoplasm (pale blue-purple) by the accumulated lipid. Physicians looking to diagnose the patient also see characteristic “wrinkled paper” lines in the pale blue-purple cytoplasm.

Photomicrograph by Russell K. Brynes, MD, professor of clinical pathology and chief of hematopathology service at the Keck School of Medicine of USC.



Keck Medicine patients who are iOS users have a new way to securely access their medical information: the Apple Health app. In the app, go to the Summary tab and scroll to Health Records. From there, select Keck Medicine of USC and use the same login credentials for myUSCchart. Patients can see allergies, conditions, immunizations, lab results, medications, procedures and vitals.

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With the help of Keck Medicine of USC and Inderbir S. Gill, MD, actor and television host Cameron Mathison refuses to let a kidney cancer diagnosis slow him down.

When his phone started ringing in the middle of a golf game and he saw that his doctor was calling, Cameron Mathison suspected he was about to get bad news. He had an MRI earlier that day and his gut told him the doctor wouldn't call so quickly if nothing was wrong. Indeed, the MRI revealed he had a kidney tumor that likely was cancerous.

"When you hear 'cancer,' it is very surreal," Cameron says about his August 2019 diagnosis of renal cell carcinoma. "I am really active and I am known for being super healthy and it just didn't match up with my reality. But my new reality was that I had cancer."

Staying healthy and feeling his best has always been a priority for the actor and television host. He hosts a daily morning show on the



Actor and television host Cameron Mathison was able to resume his active lifestyle shortly after his procedure with the help of USC Urology and the support of his family, seen above right in these photos by Vanessa Mathison. From left, son Lucas, Cameron, daughter Leila and wife Vanessa.



Hallmark Channel called *Home and Family*, and he is an anchor and correspondent on *Entertainment Tonight*. He also has an active acting career and is a parent to two teenagers.

Maintaining a high level of energy is imperative for Cameron, so to keep it up he works out regularly, eats only healthy food, eschews alcohol and is diligent about keeping regular appointments with his doctor.

In spite of his best efforts, there were a few issues with his body that nagged at him. He struggled for years to figure out why his stomach often bothered him. Neither he nor his doctors could understand why tests consistently turned up low white blood cell count and low immune function.

Though his doctor said he probably didn't need one, Cameron pushed to have an MRI, hoping it would finally shed some light on his digestive problems. "I am very in-touch with my body and I am really glad I pushed for this," he says.

In this way, Cameron was a lot like the typical kidney cancer

full s

speed ahead

BY HOPE HAMASHIGE

patient. Most people receive a kidney cancer diagnosis inadvertently during imaging tests for something else. Although renal cell carcinoma is the most common kind of kidney cancer among adults, there is no screening test and no symptoms in the early stages. Only later, when it is more dangerous, do most people start to experience symptoms, which include blood in the urine, a lump on the belly or side, loss of appetite and lethargy.

After sharing the news with his wife, one of the first people he called was a college buddy who is now a urologist in Canada.

“He basically stopped me mid-sentence and said, ‘If this were me, I would go see a doctor named Inderbir Gill,’” Cameron recalls.

Inderbir S. Gill, MD, founding and executive director of Keck Medicine’s USC Urology, is known for pioneering many minimally invasive, robotic procedures for patients with kidney cancer. Because USC urologists have played a central role in developing these procedures, they are among the world’s most experienced teams when it comes to performing these complex procedures.

“Robotic partial nephrectomy is one of the worldwide calling cards of USC Urology,” says Dr. Gill, Distinguished Professor and chair of the Catherine and Joseph Aresty Department of Urology, Shirley and Donald Skinner Chair in Urologic Cancer Surgery and associate dean of clinical innovation at the Keck School of Medicine of USC.

The first time they met, Dr. Gill discussed the diagnosis, prognosis and surgical plan with Cameron. He explained that he hoped to remove the tumor using robotic techniques



Kremer Johnson Photography

that would have Cameron back on his feet quicker than open surgery and save as much of the kidney as possible to prevent renal problems later in life.

In Cameron's case, Dr. Gill was able to remove the tumor using a technique he developed called zero-ischemia partial nephrectomy. This procedure involves removing the tumor without cutting off the blood supply to the kidney during the surgery. The team at Keck Medicine developed this technique to avoid any damage to the kidney during surgery, which keeps patients healthier in the long term.

In the end, Dr. Gill was able to save about 80% of Cameron's kidney.

"I would not think he should have any kidney function issues down the road given that he has one normal kidney and 80% of this one," Dr. Gill says. He adds that he will continue to monitor Cameron's condition in the years to come, even though there is only a 2% to 3% chance of recurrence.

Cameron returned home to his wife and kids a few days after his surgery, which took place in September 2019. Though still sore, he says he felt good in only a matter of days. "My wife and kids had to keep reminding me to sit down and take it easy," he recalls.

Within a week, he was both surprised and delighted that he was able to get back to one of his most important daily routines —

a morning meditation and workout that he has done for years to center his mind and charge his body for the day ahead.

His morning routine is a modified version of sun salutations — a series of yoga moves that involve bending at the waist and holding several poses. Though he performed these moves slowly and with less intensity than normal, he says the fact that he was doing this so quickly after surgery nearly brought him to tears.

Within two weeks, he was back on the set of *Home and Family* and made an appearance on *Good Morning America* to talk about his experience with cancer. He says regaining full strength took several

Leaders in Innovation

USC Urology surgeons are innovators, always striving to develop new surgical techniques that effectively cure disease while also improving the quality of life for patients after surgery. Cameron Mathison underwent one such robotic technique developed by the USC Urology team, called a zero-ischemia partial nephrectomy.

Removing kidney tumors typically requires clamping the renal artery to halt blood flow to the entire kidney while the tumor is being removed. Prolonged stoppage of the blood flow, however, potentially can damage the kidney and may lead to compromised kidney function after surgery.

Robotic zero-ischemia partial nephrectomy, pioneered by Inderbir S. Gill, MD, founding director of USC Urology and chairman of the Catherine and Joseph Aresty Department of Urology at the Keck School of Medicine of USC, allows uninterrupted blood flow to the kidney during the entire operation. The zero-ischemia technique is a far more complex procedure because it involves entering the kidney to extract the tumor along naturally existing planes to minimize cutting of blood vessels.

“We developed this technique and have been doing it for about five or six years,” Dr. Gill says. It is a more complicated operation, he says, because it requires intricate knowledge of the kidney architecture, understanding how to navigate around the blood vessels within the kidney while extracting the tumor and later reconstructing the kidney.

Keeping the blood flowing to the kidney during surgery is more challenging for the surgeon, but it may be better in the long run for patients. If a kidney is damaged during surgery, it can lead to compromised renal function and other long-term side effects.

“Good kidney function is associated with longevity and better cardiovascular health,” Dr. Gill says. “And that is why we conceived of this procedure.”

Dr. Gill adds that the zero-ischemia technique is becoming more widely used, but it still is not available at every medical center in the country because of its technically advanced nature.

“Dr. Gill is a miracle worker.”

I am so grateful for the way things turned out.”

Cameron Mathison, seen at left with his dog Red, says he is back to full speed several months after his surgery, performed by Dr. Inderbir S. Gill.



Inderbir S. Gill, MD

months, but now he is at full speed again. He understands that while he did not hope or expect a cancer diagnosis, many things went right for him in this ordeal.

He says he is glad he pushed to have the MRI, even though his primary care doctor didn't think it was necessary. He is grateful he lives a healthy lifestyle, because it may have kept the tumor from growing and spreading. And he is certain that he ended up with the right surgeon.

“Dr. Gill is a miracle worker,” he says. “I am so grateful for the way things turned out.”

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

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Virtual Reality

GOING TO A HOSPITAL OR CLINIC CAN BE SCARY FOR PEOPLE WHO NEED TO SEE A DOCTOR BUT ARE WORRIED ABOUT THE CORONAVIRUS PANDEMIC.

BY ERIC LINDBERG

Thankfully, many of those seeking care from physicians, nurses and other health care workers at Keck Medicine of USC have another option: a virtual visit from the comfort of their home.

All health care providers with Keck Medicine's hospitals and clinics throughout Southern California are now credentialed to practice telemedicine as part of USC TeleCARE. They've checked on thousands of patients using videoconferencing technology, eliminating the risk of spreading COVID-19 to these patients through their practices.

It's all thanks to a massive push by health care providers, information technology specialists and hospital and clinic administrators to expand the USC TeleCARE program. Over the course of a few weeks, what had been a pilot project for select medical services grew into a full-fledged system that now keeps Keck Medicine patients and health care workers safer.

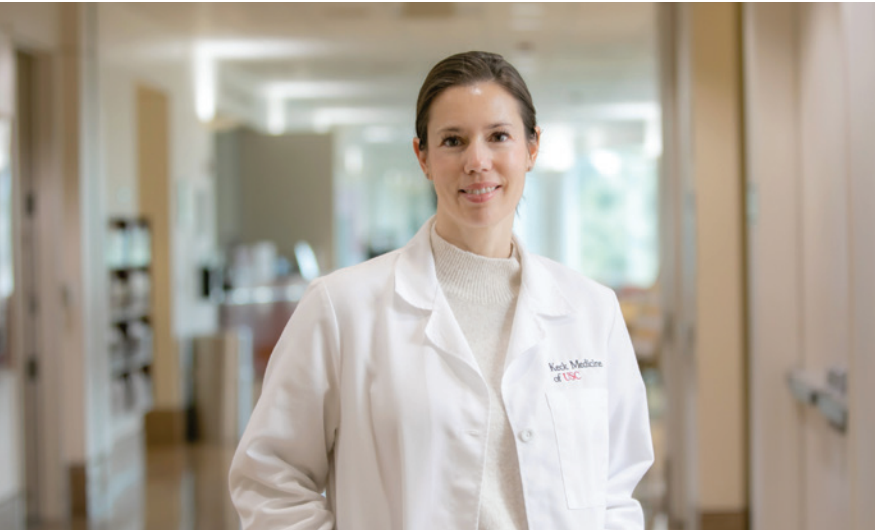
To prepare for a USC TeleCARE visit with a Keck Medicine care provider, call the support line at (888) 585-8019 or go to [KeckMedicine.org/telecare](https://www.keckmedicine.org/telecare)



To prepare for a virtual visit, remember these tips:

- Don't let tech derail the visit: Set up the hardware and software early
- Plan for the appointment like an in-person visit
- Set the scene: Find a quiet, well-lit place to talk
 - Take notes of what your care providers say
 - Give feedback after your visit





All in the Family

BY CANDACE PEARSON

The USC Family Medicine location in Keck Medicine of USC's Glendale Multidisciplinary Clinic treats all ages with expert, community-based care.

Dr. Jennifer Boozer, top left, is a family medicine physician in Keck Medicine of USC's Glendale Multidisciplinary Clinic. "This combination of community-based care and Keck Medicine expertise gives our patients a unique advantage," Dr. Anjali Mahoney, top right, says.

The challenges and stresses a family experiences together can impact the health of each individual member. "That's why it's important for us to know that whole story, so we can help everyone work toward their optimal wellness," says Jennifer Boozer, DO, a family medicine physician in Keck Medicine of USC's Glendale Multidisciplinary Clinic.

Dr. Boozer and her colleagues at USC Family Medicine provide continuous care across an entire lifespan — including newborns, seniors, parents and kids. In fact, it's not uncommon to treat three generations of the same family.

"That diversity is what's special about family medicine," says Boozer, clinical assistant professor of family medicine (clinician educator) at the Keck School of Medicine of USC.

The Glendale location, which opened in 2018, is housed on the campus of USC Verdugo Hills Hospital (USC-VHH), part of Keck Medicine of USC, at 1808 Verdugo Blvd. The convenient location, which includes free parking, draws patients from throughout the region eager for true community care.

In addition to pediatrics, adolescent medicine and geriatric medicine services, USC Family Medicine offers women's health screenings, wellness care and

mental health referrals, along with primary care services for patients with chronic health conditions or who have undergone organ transplants.

"We partner with the world-class specialists in Keck Medicine to ensure our patients can access the highest level of care," says Anjali Mahoney, MD, MPH, a family medicine physician with Keck Medicine and clinical associate professor of family medicine at the Keck School. "This combination of community-based care and Keck Medicine expertise gives our patients a unique advantage."

When a patient chooses Keck Medicine for specialty care, the Glendale medical team is able to follow that journey at all times thanks to a centralized electronic medical record. "I am informed almost immediately when one of my patients has had any tests, and I can make sure they are getting the attention I want for them," Boozer says.

USC-VHH offers added time-savers only steps away, including X-rays, lab tests, physical therapy and USC Pharmacy services. Patients also can request a virtual visit (see opposite page).

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

Five questions

to ask when choosing an OB/GYN

BY KATE FAYE

Looking for a new OB/GYN? Evelyn Nicole Mitchell, MD, an obstetrician/gynecologist from USC Verdugo Hills Hospital, offers a few questions to ask before booking your first appointment.

Choosing the right OB/GYN is one of the most sensitive decisions a patient can make. Evelyn Nicole Mitchell, MD, who practices obstetrics and gynecology at USC Verdugo Hills Hospital, will be among the first to tell you how crucial it is for an OB/GYN and their patient to have an open, mutually respectful relationship.

"I believe communication is key," Dr. Mitchell says. "It is important to be honest with each other regarding any concern you may have to allow for a genuine relationship to form."

She also stresses the importance of a physician who can meet your needs with receptiveness, insight and wisdom.

"Above all," she says, "you want a doctor who is knowledgeable, who can answer your questions confidently and who makes you feel comfortable."

These factors can be tough to gauge before your first appointment, but asking the right questions beforehand can tell you a lot. Below are five questions that may help determine whether a particular OB/GYN is right for you.



"It is important to be honest with each other regarding any concern you may have to allow for a genuine relationship to form."

1

How do you feel about patients whose demographic or basic values are different from your own?

While cultural attitudes have grown more inclusive in the last 50 years, you may still encounter health care providers who harbor certain biases or values that don't align with who you are.

It's crucial to make sure your doctor will respect your reproductive decisions, sexual history, sexual orientation, religion (or absence thereof), race and gender identity.

As Dr. Mitchell puts it, "All physicians should be equipped to provide care regardless of certain demographic factors. It is the art of medicine to be able to adapt and connect with people of different levels of health literacy, backgrounds and values."

4

How do you feel about working with doulas and midwives?

In recent years it's become increasingly popular to enlist the services of a doula or midwife in addition to an OB/GYN. Dr. Mitchell appreciates both and encourages women to find doctors who would embrace this option (if it's one the patient wants to explore).

"Doulas and midwives are great sources of support and care for your pregnancy," she explains.

If you wish to include a doula or midwife in your birth plan, it's a good idea to make sure your doctor will be fully onboard and ready to collaborate with them.

5

What do you recommend for women having trouble with menopause symptoms?

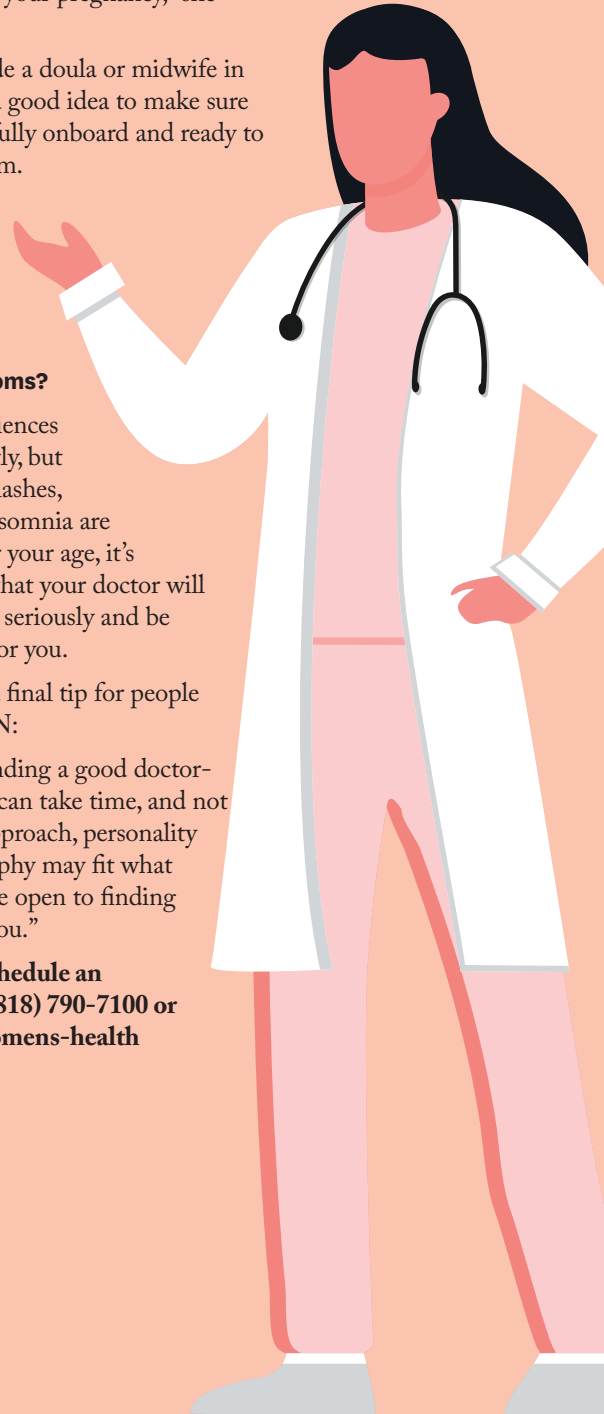
Every woman experiences menopause differently, but symptoms like hot flashes, mood swings and insomnia are common. No matter your age, it's important to know that your doctor will take your symptoms seriously and be ready with options for you.

Dr. Mitchell offers a final tip for people seeking an OB/GYN:

"Understand that finding a good doctor-patient relationship can take time, and not every OB/GYN's approach, personality and practice philosophy may fit what you're looking for. Be open to finding the best match for you."

To learn more or schedule an appointment, call (818) 790-7100 or visit uscvh.org/womens-health

Find us online
ushealth.usc.edu
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2

How do you feel about a patient's level of choice when it comes to family planning, labor and other big decisions?

It's critical that your OB/GYN respects your wishes, whether you're expecting or not.

If you are pregnant, making sure your doctor is fully onboard with your preferences will play a big part in your labor going as smoothly as possible.

One way to ensure this is to ask if the doctor provides a birth plan packet. Dr. Mitchell explains that in her practice, it's a helpful tool for keeping lines of communication open while staying ready for any contingency.

"We believe you should be informed of all your options, and we are here to help guide you through those decisions," she says.

3

Are you part of a comprehensive health system that lets you work directly with providers from other departments?

When your OB/GYN is part of an integrated health system, they'll have full access to collaborate with your other doctors. And it's especially important to know that your doctor will have plenty of resources available in case you face an unforeseen complication related to your reproductive health.

PELVIC FLOOR DYSFUNCTION IS A CONDITION THAT MILLIONS OF PEOPLE HAVE, BUT IT DOESN'T GET MUCH ATTENTION. **USC VERDUGO HILLS HOSPITAL** (USC-VHH), PART OF KECK MEDICINE OF USC, OFFERS A NON-INVASIVE BUT COMPREHENSIVE PHYSICAL THERAPY PROGRAM DESIGNED SPECIFICALLY FOR THIS CONDITION.

The pelvic floor is a group of muscles that gets little credit for all it does. In addition to controlling bowel and bladder function, it helps support the pelvis, hips, spine and internal organs. It also contributes to healthy sexual function, and in pregnant women it provides support for the baby and helps with the birthing process. When the pelvic floor becomes weak, tight or damaged, pelvic floor dysfunction (PFD) is often the result.

While PFD commonly affects women who've recently given birth, it can affect people of all genders, at any age. Rashmi B. Palacios, PT, DPT, WCS, who started the Pelvic Health Physical Therapy Program at USC-VHH, stresses the wide range of possible causes.

"Most of the time, problems related to the pelvic floor are due to some kind of trauma to the region, including abdominal

surgeries, urological surgeries (including prostate removal in men) and child birth," she explains.

PFD can cause problems such as incontinence, sexual dysfunction and numbness or pain while sitting. Due to the intimate nature of these symptoms, people tend to minimize or brush them off rather than seek help. But going without treatment can lead to depression, anxiety, embarrassment and avoiding physical or sexual activity.

Fortunately, there are non-invasive treatment methods. Physical therapy is a conservative option that makes it possible for many people to recover without surgery.

If a patient chooses this treatment, their first visit will focus on evaluating their medical history, movement habits, posture, lifestyle questions and possibly a brief internal exam. Afterward, patients will

usually receive written instructions for a home treatment program.

Dr. Palacios says that the effectiveness of physical therapy for PFD cannot be understated.

"Pelvic health physical therapy can be significantly helpful for the treatment of these disorders because a lot of these issues are related to pelvic floor dysfunction," she states. "Physical therapists are specialists in the musculoskeletal system and for this reason are highly effective in treating these pelvic floor muscle disorders."

Dr. Palacios also notes that other diagnoses that can be treated by pelvic health physical therapy include urinary urgency, urinary frequency and overactive bladder.

To learn more or to make an appointment, call (818) 952-2294 or visit uscvhhs.org/physical-therapy

Take the Floor

BY KATE FAYE



the strongest link

BY LEX DAVIS

George Young has always stayed active. After turns in high school and college as a star basketball player as well as a nationally recognized three-point shooting champion, he moved on to the world of business and kept himself sharp by continuing to work out and play sports recreationally.

But on Memorial Day weekend of 2018, George suffered an acute aortic dissection. An aortic dissection is a tear in the inside of the aorta that allows the blood to flow out of its normal path and into the artery wall. The



George Young credits his strong recovery to the devotion of his wife, Meryl, and the teamwork of his surgeons, Drs. Fernando Fleischman and Sukgu Han.

pressure can cause the artery wall to swell and puts it in danger of bursting.

Emergency open-heart surgery at a facility in Rancho Mirage saved his life, but something still wasn't right. Days after the surgery, George was nauseated and his blood pressure was spiking. Finally, his doctors airlifted him to the USC Comprehensive Aortic Center at Keck Medicine of USC and

into the care of cardiac surgeon Fernando Fleischman, MD, and vascular surgeon Sukgu Han, MD.

USC Surgery started the center to channel cases to experienced team members from multiple disciplines.

"Normally, cardiac and vascular surgeons would hate each other," jokes Dr. Han, who with Dr. Fleischman is co-director of the center. At many institutions, vascular and cardiac surgeons compete, which means their patients may receive care that is geared toward just one area of expertise. Instead, at the USC Comprehensive Aortic Center, the two specialties collaborate.

Both doctors speak at conferences around the country to help other teams develop close collaboration between disciplines. They also have taken a road show across Southern California to help emergency room teams spot the signs of an aortic dissection and arrange for rapid transport to Keck Medicine's center.

George knew he was in good hands: "I went from someone telling me I had a good chance of dying to Dr. Fleischman saying, 'I got this.'"

George hadn't fully recovered from his open-heart procedure just 10 days before. This made another major surgery challenging,

but there was little choice. His previous operation had left him with a residual dissection that had ballooned, with an extremely high risk of rupture.

Dr. Fleischman worked for more than eight hours repairing George's aortic arch and the tears that extended to several major arteries. He completely rebuilt George's subclavian artery, a major vessel that supplies the head, neck, shoulder and arm. Dr. Fleischman had known that his procedure might compromise an artery to George's hindbrain, putting him at risk for a stroke, so he called in Dr. Han.

Both surgeons talked constantly as they prepared to transition between procedures. "This case is a perfect example of how you get better results when you work together," Dr. Fleischman says. After a seamless hand-off, Dr. Han got to work. In addition to a vertebral artery bypass, Han performed a bypass of the left carotid to subclavian artery.

By the end of the two procedures, Drs. Fleischman and Han had completely rebuilt all the major parts of George's circulatory system that led to his brain and arms, then had to go in again when they found a dissection of his carotid artery. Dr. Han reconstructed George's left common and internal carotid arteries using a mix of traditional open surgery and minimally invasive techniques. This final operation was just seven days after George's double procedure and seventeen days after his emergency open-heart procedure.

"He's the poster child for cardiac and vascular collaboration," Dr. Han says.

Though they saved his life, the operations were a huge shock to George's system.

"I could barely do anything for the first four weeks or so, including sleeping and eating," he said. "I lost a lot of weight and strength."

But as a lifelong athlete, George was pretty sure that the best way to get his strength back was to start working out again. His instincts were correct. The Society for Critical Care Medicine and the Enhanced Recovery After Surgery Society both recommend movement to help speed recovery and reduce



Risk factors:

- High blood pressure
- Bicuspid aortic valve
- A family history of aortic dissection

Prevention tips:

- Quit smoking
- Control high blood pressure
- Know your family history

What you need to know about aortic dissection

“I went from someone telling me I had a good chance of dying to Dr. Fleischman saying, **‘I got this.’**”



complications after an operation. As soon as Drs. Han and Fleischman cleared him, George got to work. He started out walking at the hospital and then inside his home with a walker, gradually working up to short distances without it. Then he kept going.

George’s wife Meryl kept a journal to help him track his amazing progress. “His doctors said he should work up to walking two miles a day over two months,” Meryl says. “He did that in 10 days.” Within three months, he worked up to walking a total of 10 miles a day and then moved on to the elliptical machine, which was another challenge.

George credits his success to Meryl’s devotion, an outpouring of calls and e-mails from friends and family, the “wonderful care from Dr. Fleischman and Dr. Han and the fabulous staff at Keck Medicine,” and a willingness to make slow and steady progress. “The first time I did the elliptical after surgery, I only lasted a minute and a half, but I increased it every day.”

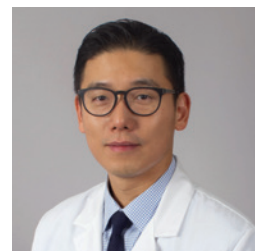
Those small gains built up. Now George maintains a workout routine that would tax almost anyone: two 50-minute sessions on the elliptical every day, a half-hour stretching routine, resistance bands and golfing three times a week — usually walking instead of taking a cart, of course. George’s main advice to someone who has had major surgery?

“Don’t hide under the covers! As soon as you can get up and walk, start walking. As soon as the doctor says you can walk miles, get out there. As soon as you can lift weights, do it.”

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



Fernando Fleischman, MD



Sukgu Han, MD

Find us online
[uschealth.](https://www.uschealth.KeckMedicine.org)
[KeckMedicine.org](https://www.uschealth.KeckMedicine.org)



inner

As a young man, the Rev. Abdias González González had dreams of traveling the world and serving others through his work as a Roman Catholic priest. So, when he was offered the opportunity to live in Spain, he jumped at the chance to experience something different from his time in the seminary in Mexico. "I spent five years near Toledo in Spain, and seeing the poverty throughout Europe motivated me to be useful and made me want to help

With the help of Keck Medicine of USC's Jorge Nieva, MD, a young priest faces a lung cancer diagnosis with strength and grace.

strength

BY MELISSA MASATANI

people," the priest, who goes by Father Abdias, says, speaking in his native Spanish.

During his time in Spain, he studied theology, traveled to various religious sites and embraced the local culture — including the afternoon siesta. Once he returned to Mexico and was ordained as a priest, he kept the afternoon naptime routine, even after he was assigned to a church near downtown Los Angeles. Little did he know, his need for a daily rest likely was the first sign of a tumor in his lung.

Father Abdias received an initial diagnosis of widespread lung cancer. At the prompting of a church leader, he sought a second opinion at the USC Norris Comprehensive Cancer Center with oncologist Jorge Nieva, MD.

"I had never smoked and I was 38 years old at the time, so Dr. Nieva took a look at my case and that's when he explained that my cancer wasn't as advanced as I'd been told, that I had more possibilities for treatment," Father Abdias remembers.

The diagnosis of Stage IIIC non-small cell lung cancer meant the young priest had a tumor about the size of an orange in his lung, Dr. Nieva explained to him, and he could be treated with a six-week course of chemotherapy and radiation. A study of his cancer cells also showed that he was ROS1 positive, meaning the genetic alteration that caused the cancer is found in only 2% of people diagnosed with non-small cell lung cancers and is associated with young non-smokers.

USC Norris was an early adopter of genetic cancer screening, Nieva says, and though giving patients "a good molecular interrogation of their tumor" is becoming more accepted, it is not widespread.



Jorge Nieva, MD

"Having the ability to do more molecular analysis of tumors has really revolutionized care for patients because, in Father Abdias' case, we were able to identify the reason his cells were abnormal, which meant he could be treated with an oral medication for his lung cancer," says Dr. Nieva, who also is an associate professor of clinical medicine at the Keck School of Medicine of USC.

The shorter treatment time, as well



as the warm care he felt from his care team, pushed Father Abdias to put his trust in the physicians at USC Norris so he could get back to serving his local parish.

"When I got my first diagnosis I was very depressed because I thought death was near, but after I talked to Dr. Nieva and got the second opinion, the way he explained it helped me face the diagnosis with more strength and less fear," Father Abdias says.

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

Father Abdias González González was 38 years old and had never smoked when he was diagnosed with lung cancer.

"Dr. Nieva explained that I had more **possibilities** for treatment."

‘Dabbing’ teens more likely to keep using cannabis

BY LEIGH HOPPER

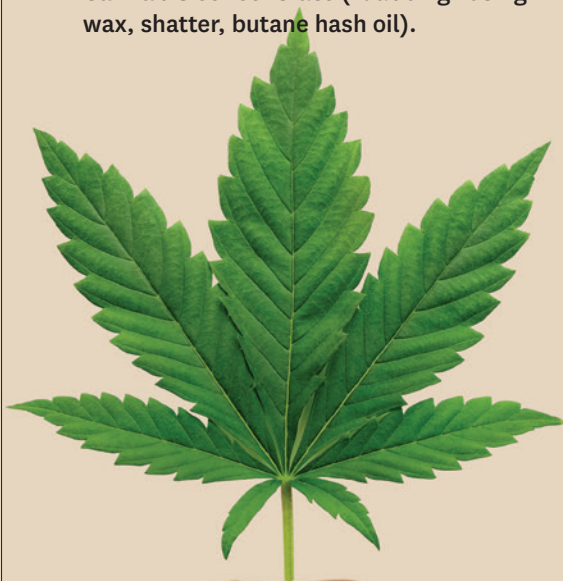
OF ALL THE WAYS ADOLESCENTS EXPERIMENT WITH CANNABIS, “DABBING,” OR SMOKING A HIGHLY CONCENTRATED CANNABIS EXTRACT, IS THE METHOD MOST LIKELY TO LEAD TO ONGOING AND INCREASINGLY FREQUENT USE, NEW RESEARCH FROM **THE KECK SCHOOL OF MEDICINE OF USC** SHOWS.

The findings, which appeared in JAMA Network Open, could help direct cannabis control efforts and guide public education campaigns, said researcher Jessica Barrington-Trimis, PhD, MS, MA, assistant professor of preventive medicine at the Keck School.

“We really wanted to understand whether the type of cannabis that youth experiment with influences the likelihood that they will continue to use cannabis and use more heavily,” Barrington-Trimis said. “When we started this research, we were especially interested in the role of cannabis concentrates, which generally contain very high levels of THC,” the psychoactive component in cannabis.

To investigate, Barrington-Trimis and her colleagues surveyed 2,685 Southern California adolescents with no history of heavy cannabis use. They asked 11th graders in the spring of 2016 about their use of five categories of cannabis products:

- **Combustible cannabis** (“pot,” “weed,” “hash,” “reefer”).
- **Blunts** (cannabis rolled in tobacco leaf or cigar casing).
- **Vaporized cannabis or hash oil via electronic vaping device** (liquid pot, weed pen).
- **Cannabis or THC food or drinks** (pot brownies, edibles).
- **Cannabis concentrate** (“dabbing” using wax, shatter, butane hash oil).



The researchers conducted six- and 12-month follow-up surveys in the fall of 2016 and the spring of 2017, during the students’ senior year.

The total number of high schoolers who were dabbing was low, but Barrington-Trimis found at the follow-ups that those using cannabis concentrates had nearly six times the likelihood of continuing to use concentrates, and had used concentrates on an average of nine more days in the past 30 days, compared to those not using concentrates and after accounting for participants’ use of multiple cannabis products.

“It’s early exposure to the dose of THC used in adolescence that may be likely to drive continued use and increases in the frequency of use,” Barrington-Trimis said. “If someone picks up a vaporizer with a low level of THC, they may not be likely to keep using it. But with concentrates, the high level of THC may increase the likelihood that they continue to use and use more frequently.”

New AI algorithm may lead to safer and more efficient treatment of stroke

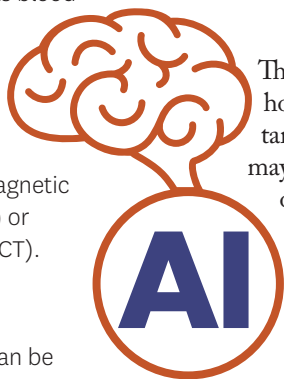
BY ZARA GREENBAUM

Clinicians need to act quickly to administer effective treatment when a patient has an acute ischemic stroke — the most common type — which occurs when a clot blocks blood flow through an artery in the brain. Often, this involves conducting a brain scan to map the damage caused by the stroke — either using magnetic resonance imaging (MRI) or computed tomography (CT).

But these scans expose patients to chemical contrast agents, which can be problematic. Some contain high doses of radiation, while others can be dangerous for patients with kidney or vascular problems.

Researchers at the USC Mark and Mary Stevens Neuroimaging and Informatics Institute are working on an alternative that allows clinicians to assess stroke damage without injecting patients with contrast agents. A team led by researchers at the institute built and tested an artificial intelligence (AI) algorithm that can extract data about stroke damage from a much safer type of brain scan known as pseudo-continuous arterial spin labeling (pCASL) MRI.

“This is the first systematic study that applies a ‘deep learning’ algorithm and non-contrast perfusion MRI to identify brain tissue damaged by a stroke across platforms and institutions,” said Danny JJ Wang, PhD, professor of neurology and radiology at the Keck School of Medicine of USC and last author of the study. “Our model is a promising approach to assist clinical decision-making for stroke patients — and it’s completely non-invasive.”



Study reveals why breast cancer spreads to the brain

BY LEIGH HOPPER

MOST CANCERS BECOME FATAL WHEN TUMOR CELLS SPREAD BEYOND THE PRIMARY SITE TO INVADE OTHER ORGANS. NOW, **A KECK SCHOOL STUDY** OF BRAIN-INVADING BREAST CANCER CELLS CIRCULATING IN THE BLOOD REVEALS THEY HAVE A MOLECULAR SIGNATURE INDICATING SPECIFIC ORGAN PREFERENCES.

The findings help explain how tumor cells in the blood target a particular organ and may enable the development of treatments to prevent the spread of cancers, known as metastasis.

In this study, Min Yu, MD, PhD, assistant professor of stem cell biology and regenerative medicine at the Keck School, isolated breast cancer cells from the blood of breast cancer patients with metastatic tumors. Using a technique she developed previously, she expanded or grew the cells in the lab, creating a supply of material to work with.

Analyzing the tumor cells in animal models, Yu’s lab identified regulator genes and proteins within the cells that apparently directed the cancer’s spread to the brain. To test this concept, human tumor cells were injected into the bloodstream of animal models. As predicted, the cells migrated to the brain. Additional analysis of cells from one patient’s

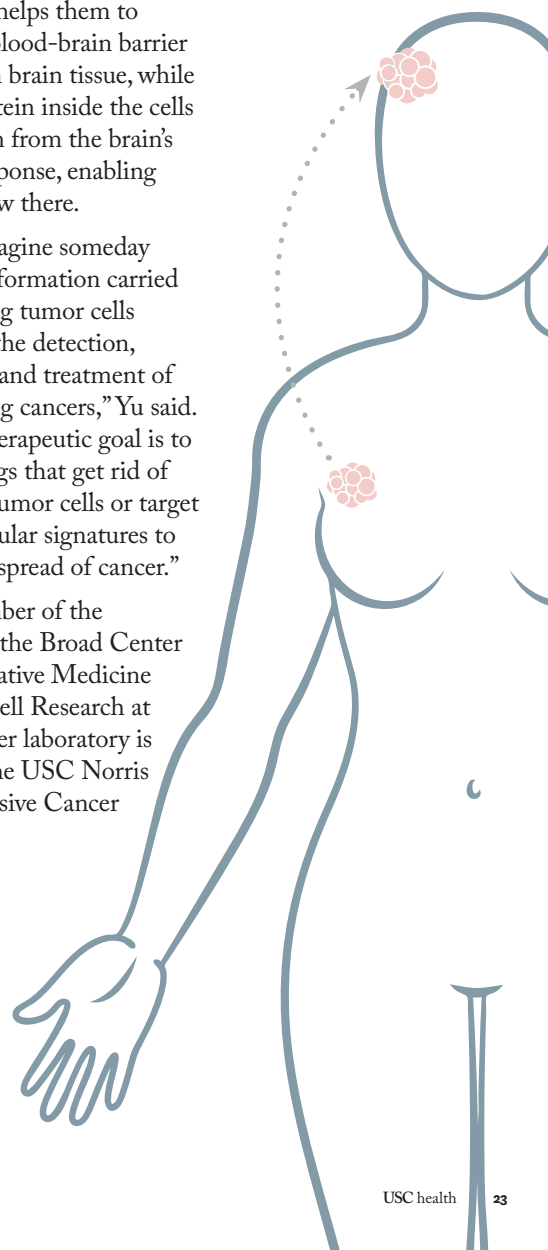
tumor predicted that the cells would later spread to the patient’s brain — and they did.

Yu also discovered that a protein on the surface of brain-targeting tumor cells helps them to breach the blood-brain barrier and lodge in brain tissue, while another protein inside the cells shields them from the brain’s immune response, enabling them to grow there.

“We can imagine someday using the information carried by circulating tumor cells to improve the detection, monitoring and treatment of the spreading cancers,” Yu said. “A future therapeutic goal is to develop drugs that get rid of circulating tumor cells or target those molecular signatures to prevent the spread of cancer.”

Yu is a member of the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC, and her laboratory is located in the USC Norris Comprehensive Cancer Center.

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A view from the *trial*

BY KATE FAYE

AFTER A LONG JOURNEY WITH BLADDER CANCER, PHOTOGRAPHER AND VIDEOGRAPHER **LARS WANBERG** IS PASSIONATE ABOUT SHARING HIS STORY — AND THOSE OF OTHER PATIENTS.

Having scaled back from work on weddings and corporate events, he now uses his skills as a visual storyteller to promote understanding of the medical treatments he went through, and to guide other patients toward options that may help them.

Diagnoses, remissions and recurrences

Lars was first diagnosed with bladder cancer in 2004, at the age of 42. But after his treatment at USC Norris Comprehensive Cancer Center, he was able to enjoy 12 years of symptom-free living. A recurrence brought him back to USC Norris, where he underwent rounds of treatment — chemotherapy, surgery then radiation therapy — for cancer that went from his lymph nodes to his brain and then back to the lymph nodes.

His local doctor recommended the immunotherapy drug pembrolizumab. Lars brought this up to medical oncologist David Quinn, MD, PhD, who told him about an upcoming

trial studying the efficacy of this drug when combined with the investigational drug sEphB4.

Bolstered by his faith in Dr. Quinn, Lars decided to participate. Within three weeks, the swollen lymph nodes in his neck receded, and his care team began adjusting the therapy course to mitigate side effects as they happened.

What Lars wants other patients to know

“I think a lot of people think that trials maybe are all randomized,” Lars says. “That you don’t know if you’re going to get the real drug or not. And so they might use you as a guinea pig in that sense. And that’s really not true.”

He emphasized that in clinical cancer trials, particularly in phase II and beyond, every participant gets at least a singular line of proven treatment, if not more. He also encouraged patients to ask any questions they might have.

“If you don’t want to dive too deep into the research,” Lars says, “just write down some



Photo: Nils Wanberg

Lars Wanberg uses his skills as a visual storyteller to share his journey through a cancer clinical trial at USC Norris Comprehensive Cancer Center.

common-sense questions, things that are challenging you or you think might be a challenge and then talk to the doctor about it.”

Looking forward with hope and compassion

As of this article, Lars remains in remission. If his cancer should return though, he would be open to participating in other trials.

“When I see it up close and personal,” Lars says, “the value of the clinical trial, then it’s a no-brainer for me.”

perspective

BY YURI GENYK, MD

Every year in the United States, 2,500 people die preventable deaths while waiting for a liver transplant. Nearly 5,000 more die waiting for a kidney. Living-donor organ transplants offer a solution: Patients who find living donors can get off the wait list and receive transplants while they are healthier and better able to tolerate surgery.

California offers crucial assistance to living donors: By state law, employers with 15 or more employees must grant up to 60 business days of paid time off to organ donors. This offers donors time to rest and heal without a financial burden.

If we want to reduce the wait lists and save more lives, we must do even more to help people who want to give the gift of life. For example, Keck Medicine of USC surgeons are developing programs to help organ donors in underserved communities maintain good health before and after surgery. California and USC are leaders in removing the obstacles from organ donation. For the good of everyone, we must urge the nation to follow.

If you are interested in becoming a living donor, please visit usclivingdonor.org.

Yuri Genyk, MD, is chief of the division of hepatobiliary/pancreatic and abdominal organ transplant surgery at Keck Medicine of USC and professor of clinical surgery at the Keck School of Medicine of USC.

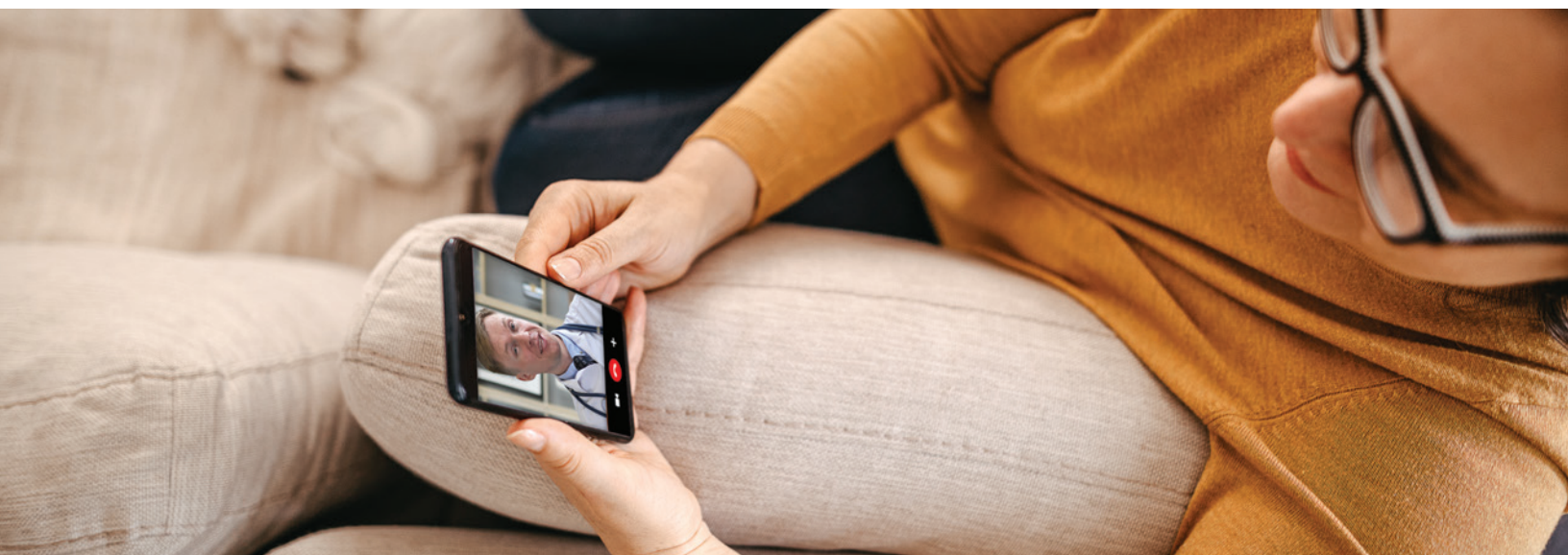


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