UCDAVIS HEALTH HOSPITAL

The quarterly newsletter of UC Davis Children's Hospital

Pediatric Press

SPRING 2023

Thank you to our team!

This past winter was a heartbreaking season for those of us caring for children in our children's hospital. What we saw on the frontlines — the tripledemic of RSV, influenza, COVID-19 and other respiratory illnesses hospitalizing newborns, infants, children and teens — was unprecedented. The volume and severity of cases exceeded our capacity. This was true, not just at our hospital, but all hospitals that serve children in our state and beyond.

Thankfully, our RSV volumes are down now. We're very proud of all the amazing accomplishments at UC Davis Health since the pandemic started, and the crisis response to RSV stands as one of our most collaborative moments. We couldn't have done it without each and every member of our team.

In other news, we are pleased to announce the results of this year's pediatric resident match. We will be welcoming the arrival of 15 highly qualified new pediatric interns in June as the result of a very successful Match Day.

Six of our new residents come from medical schools in California. The remaining residents come from Illinois, Maryland, Missouri, Nevada, New Hampshire, Pennsylvania, Texas and Mexico. Thanks to Su-Ting Li, our residency program director, and the intern applicant committee for their hard work on this. We look forward to meeting our new class in June!

Thank you,

Satyan, Shinjiro and Brenda



Satyan Lakshminrusimha, Shinjiro Hirose and Brenda Chagolla

UC Davis doctor first in the world to implant a retrievable leadless pacemaker in a child

UC Davis Director of Pediatric Electrophysiology **Dan Cortez** is the first physician in the world to implant a retrievable leadless pacemaker in a child. This new device is called **Aveir VR** and is manufactured by Abbott. It's designed to be easily retrievable when the battery needs to be replaced.

Most traditional pacemakers are surgically implanted through the chest to the outside of the heart, then connected to the heart by leads.

This retrievable pacemaker was implanted through the child's internal jugular vein in the Cardiac Catheterization Lab and has no leads. Instead, the heart absorbs it.

"It's amazing how small the device is. It's like the size of one AA battery," said Heather Hayes, whose son Matias was the first to have the procedure done last month. "My son now wears a medical bracelet to let people know he has a pacemaker because you would never know otherwise. No scars and no sign of it." **READ MORE** »

UC Davis Health to develop in-utero therapy for Duchenne muscular dystrophy

California's stem cell agency funds the potential gene editing DMD therapy

UC Davis Professor Aijun Wang and his team are collaborating with Murthy laboratory at UC Berkeley to develop a much-needed cure for Duchenne muscular dystrophy (DMD). They are designing a therapy to treat DMD before birth by editing the gene that encodes dystrophin, a key protein in stabilizing muscle fiber.

"We are developing a gene editing therapy that would allow pregnant mothers to give birth to children who are free from DMD," said Wang, professor of surgery and biomedical engineering. Wang is the vice chair for translational research, innovation and entrepreneurship at the Department of Surgery and co-directs the <u>Center for Surgical</u> <u>Bioengineering</u> at



UC Davis. He also leads the <u>Wang Lab</u>, a prime research hub in stem cell therapy and gene editing for early treatments of birth defects such as <u>spina bifida</u>.

This groundbreaking work is funded by a \$2 million Quest Award from the <u>California</u> <u>Institute for Regenerative Medicine (CIRM)</u>. The DISC-2 Quest Awards Program promotes the discovery of promising new stem cell-based and gene therapy technologies that could lead to broad use and improved patient care.

Research spotlight



Telemedicine reduces hospital transfers for very ill kids at rural, community emergency departments

Telemedicine reduces hospital transfers for very ill kids at rural, community emergency departments

Many rural and community emergency departments lack access to pediatric specialty care physicians. So, when an acutely ill child is seen in one of these facilities, they are typically transferred to regional pediatric centers for more comprehensive care.

These interfacility (or hospital-to-hospital) transfers are sometimes unnecessary. They can place a large burden on patients and their families who may be transported hours away to receive better specialized care.

New UC Davis Health research confirms that pediatric critical care telemedicine consults with clinicians in rural and community emergency departments result in significantly fewer interfacility transfers. The study was published in the Journal of the American Medical Association JAMA Network Open.

"This is the first randomized clinical trial assessing the impact of telemedicine consults on transfer rates compared to what is the current standard of care: telephone consultations," said lead author James Marcin, vice chair for pediatric clinical research, director of the UC Davis Center for Health and Technology and UC Davis critical care physician. Marcin's previous research has shown the association between the use of telemedicine on parent and provider satisfaction, measures of quality of care and transfer decisions in the emergency department.

More than one-half of emergency departments in the United States use telemedicine so pediatric specialists can visually assess patients and make precise recommendations in pediatric cases.

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Surgery program cut wait times and hospital stays in children with traumatic injuries

Pediatric-specific care teams also reduced narcotics use in children with femur fractures

A study by UC Davis Children's Hospital researchers finds that a quality improvement program reduced surgical wait times, cut hospital stays, and significantly curbed narcotics use in children who had major operations for traumatic femur fractures. It was published in the Journal of the American College of Surgeons.

"The results of the study represent the tremendous effort over the last decade to improve the care of traumatically injured children at UC Davis Children's Hospital and exemplify the absolute best possible care for pediatric orthopaedic patients in Northern California and beyond," said senior author Brian Haus, an orthopedic surgeon at UC Davis Children's Hospital and a faculty member at the UC Davis School of Medicine.



Research spotlight

Tablet-based screening doubles detection of psychosis symptoms in youth

Asking patients to take a short survey on a tablet before their appointments may help mental health providers identify young people at risk of psychosis. A UC Davis Health study found that when patients took a 21-question pre-visit survey, more than twice as many were identified at risk of psychosis compared to those who did not complete the survey.

But despite the improvement in detecting individuals at risk, the

technology-based screening did not reduce the time between the participants' first psychotic symptoms and when they received treatment.

The findings are in a new UC Davis Health study published in JAMA Psychiatry.

Previous studies have shown that the longer the time between the first psychotic incident — such as hallucinations or delusions — and receiving treatment, the more severe the course of the disease. According to the National Institute of



Mental Health, psychosis often begins when a person is in his or her late teens to mid-twenties. About <u>100,000 new</u> <u>cases of psychosis</u> are diagnosed each year in the U.S.

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Telehealth cuts health care's carbon footprint and patient's costs during pandemic

Video visits saved substantial time, carbon emissions and transportation costs

A study by UC Davis Health researchers assessed telehealth visits' carbon footprint and their potential savings in lives, costs and time compared to in-person visits. It included data from five University of California health care systems over the pandemic's first two years.

The study found substantial savings for patients and the environment, including eliminating the need to commute 53,664,391 miles — that's 113 round trips from Earth to the moon! Telehealth also saved an estimated 204 years of travel time, \$33,540,244 travel-related costs and 42.4 injuries and 0.7 fatalities.

"Even if only 25% of ambulatory visits were conducted via telehealth, there would still be substantial cost savings and reduction in greenhouse gas emissions," said <u>James Marcin</u>, director of the <u>UC Davis Center for Health and Technology</u>, professor of pediatrics, and senior author of the study.

Study shows emergency department preparedness cuts mortality risk in children

A new <u>study</u> funded by the <u>National Institutes of Health</u> shows emergency departments that are better prepared to care for children have lower pediatric mortality rates.

The six-year study was co-authored by <u>Nathan Kuppermann</u>, chair of the <u>Department of Emergency Medicine</u> at <u>UC Davis Health</u>. It involved nearly 800,000 children receiving emergency care in 11 states.

The project was led by Craig Newgard from Oregon Health Sciences University. The researchers examined the associations between high pediatric readiness and mortality rates. They looked at both in-hospital mortality and one-year mortality among acutely ill and injured children receiving emergency care.

"The care a child receives in the emergency department can set them on a path to survival or not," Kuppermann explained. "The goal of this study was to show the importance of emergency departments being prepared to care for acutely sick and injured children and ensure that every child has access to high-quality emergency care." **READ MORE** »



Awards and honors



UC Davis Health receives 2023 Top Ten Clinical Research Achievement Award

Award recognizes impactful research on Duchenne Muscular Dystrophy

UC Davis Health is pleased to announce that the Chair of Physical Medicine and Rehabilitation Craig McDonald and his team will be honored with a 2023 Top Ten Clinical Research Achievement Award. The award is presented by the Clinical Research Forum. It is in recognition of McDonald's remarkable work developing a stem cell therapy to treat the most severe patients with Duchenne muscular dystrophy (DMD). The rare genetic disorder causes muscle loss and physical impairment in young people and leads to premature death.

McDonald is the national principal investigator leading HOPE-2, a multicenter double-blind randomized trial.

"We are honored to receive this prestigious award for our work on a promising novel therapy for patients with late-stage DMD," said McDonald, professor of pediatrics and <u>physical medicine and rehabilitation</u>. "Our clinical trial HOPE-2 showed significant and unprecedented stabilization of skeletal muscle deterioration in the arms and cardiomyopathy affecting the heart in DMD patients who are unable to walk." <u>READ MORE</u> »

Pediatric endocrinologist receives senior researcher award



UC Davis pediatric endocrinologist Nicole Glaser has received the Senior Researcher Award from the **Pediatric Endocrine Society (PES)**.

This national honor is awarded to a senior investigator whose innovative and cutting-edge clinical, basic or translational research has significantly advanced the field of pediatric endocrinology and earned the nominee international recognition in the field. Winners are chosen from throughout North America.

Glaser was nominated for this honor by UC Davis pediatric endocrinologist Stephanie Crossen.

"This award is extremely well deserved for her years of seminal studies into diabetic ketoacidosis, and so many other areas of investigation into diabetes and pediatric endocrinology in general," said <u>Dennis Styne</u>, Yocha Dehe Chair of Pediatric Endocrinology at <u>UC Davis Children's Hospital</u>. "We are so proud of her achievements." <u>READ MORE »</u>

UC Davis telehealth leader returns from three-month project in Ireland

Collaboration conducted as part of Fulbright U.S. Scholar Program

James Marcin, director of the UC Davis Center for Health and Technology, vice chair for pediatric clinical research and professor of pediatrics, is back in the states after spending three months in Ireland sharing best practices in pediatric telehealth.

Marcin's time overseas was sponsored by the Fulbright U.S. Scholar Program, which offers college and university faculty, as well as artists and professionals from a wide range of fields, the opportunity to teach, conduct research and pursue professional projects worldwide. Marcin was selected as a Fulbright U.S. Scholar for 2022–2023, joining the ranks of more than 400,000 Fulbright U.S. Scholars who have made new connections around the globe.

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UC Davis Cleft and Craniofacial team receives national recognition

The <u>UC Davis Cleft and Craniofacial</u> <u>Program</u> has earned Cleft Palate and Craniofacial team approval from the <u>American Cleft Palate Craniofacial</u> <u>Association (ACPA)</u>. The specialized team of physicians and other care providers treats patients with cleft lip, cleft palate and other craniofacial disorders.

The team is one of over 195 in the U.S. and Canada to be recognized for meeting the <u>Standards of Team Care</u> <u>for Cleft and Craniofacial Teams</u>.

Awards and honors

Pediatric endocrinology nurse receives DAISY Award for excellence

Pediatric endocrinology outpatient nurse Sultanna Iden has been honored with a **DAISY Award**, which recognizes outstanding members of the nursing community. Iden was recognized for her contributions over the past 22 years as an essential member of the **pediatric endocrinology outpatient clinic** team at the Glassrock Building.

"Diabetes is an exceptionally difficult disease for patients as it requires attention to daily habits of diet and activity, all without letting the experience overwhelm them to the exclusion of other aspects of their life. Sultanna has the deepest concern and heartfelt affection for her patients and their families and exerts incredible effort to ensure they receive excellent care," said <u>Dennis Styne</u>, Yocha Dehe Endowed Chair in Pediatric Endocrinology at <u>UC Davis Children's Hospital</u>.

Iden's responsibilities include providing patient education to families, including training on various diabetes technologies and conducting diabetes education classes and support groups. **READ MORE** »



Innovation



initiative aims to preserve veins in children with kidney disease

The <u>UC Davis pediatric nephrology</u> team launched an initiative this month to help preserve the veins of children with <u>chronic kidney</u> <u>disease</u> and <u>end-stage kidney disease</u>. The effort is called 'Save the Vein.' It asks the medical team to use the dominant arm for lab draws and IV placement, while preserving the veins of the non-dominant arm.

According to the <u>Centers for Disease Control and Prevention</u>, almost 10,000 children and adolescents in the U.S. are living with end-stage kidney disease. For those who have experienced kidney failure since childhood, healthy veins serve as their lifeline. Repeated IV placements and blood draws can cause damage to the veins.

"Our goal is to preserve veins for future venous access for dialysis in children who may need them in the future," said <u>Maha Haddad</u>, pediatric nephrologist at <u>UC Davis Children's Hospital</u>. "Save a vein, save a life!"

Haddad led the project with pediatric nephrology nurses Olivia Johl, Bertha Ramirez-Preciado and Rodrigo Almirol.

UC Davis Health launches pediatric pulmonary sickle cell clinic

For patients with <u>sickle cell disease</u> (a common, inherited blood disorder), pulmonary complications are often the most common causes of early death. The most serious and acute respiratory problem, <u>acute chest syndrome</u>, is experienced by more than 50% of patients with sickle cell disease at least once in their lifetime. <u>Symptoms</u> include shortness of breath, wheezing, cough, fever, and chest or back pain.

In response, <u>UC Davis Health</u> has recently launched a comprehensive pulmonary sickle cell clinic for children and young adults up to age 24. The clinic is designed to address breathing and respiratory complications of sickle cell disease such as asthma, exercise intolerance, and sleep disordered breathing. It is the first clinic of its kind in the Sacramento area.

"By embedding the pediatric pulmonologist into the sickle cell clinic, patients are receiving continuity from the same team who has been giving their regular sickle cell care," said pediatric pulmonologist and hematologist **Shaina Willen**, who spearheaded this clinic. "Plus, they get the added benefit of addressing breathing

problems with the help of a lung expert."

The clinic is located in UC Davis Comprehensive

Cancer Center. The clinic provides pulmonary function testing and home sleep studies from the location.

Giving back

Spirit Halloween raises \$124K for UC Davis Child Life and Creative Arts Therapy Department

Spirit Halloween presented a record-breaking donation to <u>UC Davis</u> <u>Children's Hospital</u> this week. The 2022 in-store fundraiser raised \$124,696 for the <u>Child Life and Creative Arts Therapy Department</u>, which supports the emotional needs of pediatric patients and families. It's a focus shared by <u>Spirit Halloween's Spirit of Children</u> program.

"The mission of Spirit Halloween and child life align. We work together to make the hospital less scary," said Diana Sundberg, UC Davis Child Life and Creative Arts Therapy manager. "The Spirit team has been our partner for years now, and our child life program, especially our fellowship program, would not be what it is without their support."

Annual donations from Spirit Halloween's Spirit of Children foundation fund the UC Davis <u>child life fellowship program</u>, which provides additional training and supervision to aspiring certified child life specialists.



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Virtual Toy Drive raises more than \$28K

The holidays were merrier for hospitalized kids at UC Davis Children's Hospital, thanks to \$28,989 that was raised during the 2022 Virtual Toy Drive to buy gifts. More than 70 people also donated more than 500 toys and gifts from the hospital's Amazon wish list. These were delivered directly to the hospital.

Patelco Credit Union also offered a donation match of \$10,000 to support the virtual toy drive.

"A big thank you to the community for their generosity and giving. The response and support have been amazing," said Diana Sundberg, manager of the <u>UC Davis Child</u> Life and Creative Arts Therapy Department. "We were able to provide toys for every child who needed to stay in the hospital."

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St. Baldrick's 'Brave the Shave' brings wave of donations and bald heads

Event at Mulvaney's B&L raised money for childhood cancer research at UC Davis

Bald is beautiful when it means you are raising money to conquer cancer in kids and there were a lot of bald heads at this year's <u>St. Baldrick's Brave the Shave</u> held March 6 at <u>Mulvaney's B&L</u> restaurant in Sacramento.

More than 90 "shavees" stepped up to have their hair shaved after raising money for pediatric cancer research underway at UC Davis Comprehensive Cancer Center. Participants included members of the Sac Republic FC as well as UC Davis Health doctors, nurses and other staff.

Giving back



Children's Miracle Network funds new infant safety videos

Topics include soothing crying babies and safe sleep tips

Bringing an infant home from the hospital for the first time can be both exciting and worrisome for families. To help equip families with life-saving knowledge and skills when leaving the hospital, Children's Miracle Network at UC Davis has funded three infant safety videos. They cover safe sleep practices, soothing your crying baby and infant cardiopulmonary resuscitation (CPR).

The videos are as follows:

- How to Soothe a Crying Baby Tips for New Parents and Caregivers
- Infant Safe Sleep Practices A Quick Guide for New Parents and Caregivers
- How to Perform CPR on a Baby A Quick Guide to Infant Cardiopulmonary Resuscitation
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Pier perfection: Pediatric specialty clinic gets mural makeover

The third-floor pediatric specialty clinic in the Glassrock Building has been transformed into a pier, complete with lighthouses, sea life and pirate ships. The mural makeover was completed last month and was funded by a <u>Children's</u> <u>Miracle Network at UC Davis grant</u>.

Children and their families visiting the pediatric pulmonology, cardiology and endocrinology clinics are visually transported to a seaside town. Seagulls, sea lions and even a narwhal can be spotted.



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NorCal AIDS Ride benefits UC Davis Pediatric Infectious Disease Clinic

Registration is now open for the 2023 <u>NorCal AIDS Cycle (NCAC)</u>. The annual event raises funds for HIV/AIDS service providers in the Sacramento Valley, including the <u>Pediatric Infectious Disease</u> <u>Clinic at UC Davis Children's Hospital</u>.

The race takes place May 20–21. The public is invited to take part or donate.

On May 20, the race begins and ends at Oak Park Community Center in Sacramento. On May 21, the race begins and ends in Old Town Sacramento. Registration is \$50 for individual cyclists and crew members.

"The UC Davis Pediatric Infectious Disease clinic is grateful to be a beneficiary again for this year's NorCal AIDS Cycle," said Tami Enslie, clinical resource nurse with the UC Davis Pediatric Specialty Clinics. "We have been able to help several of our patients with the NCAC funds. We have been able to provide gift cards for everyday necessities, holiday gifts to those who do not normally receive much, and incentives for patients who are struggling with medication adherence."



Patient milestones

Michigan boy's life and limb saved by UC Davis care team

Osteosarcoma meant 11-year-old boy would likely lose his leg. But his family sought hope and another opinion

When Darren's parents learned their son had osteosarcoma and needed surgery, they sought another opinion about amputating his leg. They were introduced to R. Lor Randall at UC Davis Children's Hospital and soon, they traveled from Michigan to Sacramento to save their child's life and leg.

"To any family who starts a cancer journey like this, it can be scary to feel like you need a second opinion. But you need to feel supported and have someone who will put you and your family first," said Karen Colbert, Darren's mother. "We are so fortunate to have met Dr. Randall."

"We are thankful to have had access to this level of care," said Baron Colbert, Darren's father. "We think the world of Dr. Randall and his staff. Meeting him was life-changing."



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Clinic helps 10-year-old with inflammatory bowel disease get back to being a kid



Chronic conditions may require infusions. The Acute Infection Management Clinic now offers this service to kids

Adam Olson had always been a funny, active kid. His mom, Kelly, knew something was wrong when her then 5-year-old had low energy and had lost his sense of humor. Maybe it was a childhood bug. He'd get better. But then she discovered blood in his stool. Although she hoped it was just hemorrhoids, she feared it could be far worse.

"When I brought Adam to UC Davis Children's Hospital in 2018, they ran every test under the sun," said Kelly Zehnder-Olson. "When we finally got a diagnosis of chronic inflammatory bowel disease (IBD), I knew what Adam was up against."

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