FALL | 2023

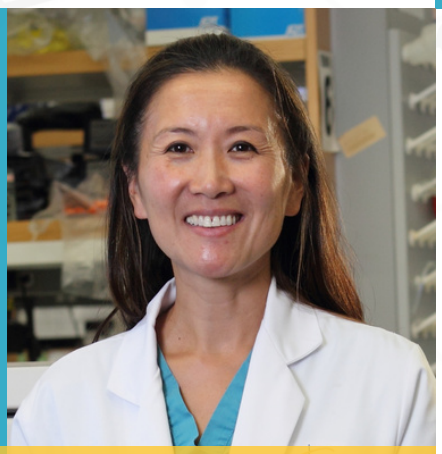
UCLA Neurosurgery Connections

SPINE EDITION

DR. DANIEL LU WITH HIS PATIENT, ERIKA KORT. ERIKA RECEIVED THE COURAGE AWARD AT THE 2023 VISIONARY BALL.

UCLA Health

FROM THE CHAIR



Linda Liau, MD, PhD, MBA

Professor & W. Eugene Stern Chair
Chair & Executive Medical Director
UCLA Department of Neurosurgery

Dear Colleagues and Friends,

Welcome to the Fall 2023 Edition of the UCLA Neurosurgery Connections newsletter!

As the W. Eugene Stern Professor, Chair, and Executive Medical Director of the Department of Neurosurgery at UCLA Health, I am delighted to share some recent developments in our department.

In exciting news, we had the honor of hosting the UCLA Visionary Ball this year for the first time since 2019! The event was held on Wednesday, October 11, 2023 at the Beverly Hilton Hotel. Byron Allen was presented with the Visionary Award, Johnese Spisso, MPA received the Medical Visionary Award, and Erika Kort was given the Courage Award. To learn more about the neurosurgery research and education programs supported by the Visionary Ball and to make a contribution, please visit our website.

We are also pleased to announce that UCLA Health has been ranked #6 in the nation for Neurology and Neurosurgery by U.S. News & World Report. On behalf of our physicians, researchers, and staff, we are proud of our achievements and continue to strive to be among the best in the nation in providing the most innovative and compassionate care for our patients.

In this edition of the newsletter, and in honor of Spine Awareness Month in October, we will highlight developments and innovations in our Spine Division.

From the use of cutting-edge robotic technology to improve outcomes and treatment processes for patients with spinal conditions (page 6), to creating predictive models that help physicians better treat patients with degenerative cervical myelopathy (page 2), our team of neurosurgeons is pushing the boundaries to improve the quality of life for spine patients. Additionally, the safety of new surgical techniques provides additional treatment options for patients facing life-altering spinal tumors (page 3), while our Spinal Deformity and Spinal Oncology programs (pages 4 and 5) are working to provide comprehensive, multidisciplinary care to patients and their families.

From all of us at the UCLA Department of Neurosurgery, we wish you good health and the best fall season to you and your families!

Warm regards,

Linda M. Liau

VISIONARY BALL

For the first time since 2019, the Department of Neurosurgery hosted the UCLA Visionary Ball. The event was held on Wednesday, October 11, 2023 at the Beverly Hilton Hotel.

The Visionary Ball is a celebration of life, a tribute to courage, and a recognition of achievement across industries. The signature celebration brings together more than 500 grateful patients, philanthropists, physicians, business leaders, and community partners to support the UCLA Department of Neurosurgery.

The success of the Visionary Ball is vital to UCLA Neurosurgery's mission to deliver high-quality patient care, advance research, and educate the next generation of leading neurosurgeons and neuroscientists. The Visionary Ball raises crucial funds and awareness in support of our patients who face the most complex neurological disorders of this era.

Byron Allen was presented with the Visionary Award, Johnese Spisso, MPA received the Medical Visionary Award, and Erika Kort was given the Courage Award.

The event featured a variety of patient voices and spotlighted some of the groundbreaking technology harnessed by our neurosurgery team to provide the highest level of care to our patients.

In addition, the event was emceed by Howie Mandel, and featured performances by Jay Leno and Smokey Robinson. Jeffrey Katzenberg, Co-Founder of Hollywood Pictures, DreamWorks Pictures, and DreamWorks Animation, presnted Byron Allen with the Visionary Award.

To learn more and contribute, click here.

Honorees Byron Allen, Johnese Spisso, MPA, and Erika Kort with Howie Mandel, Jay Leno, Smokey Robinson, Jeffrey Katzenberg, and Dr. Linda Liau.

Photo credit: Scott Kirkland/Shutterstock, @shutterstocknow

Seth Rogen and Lauren Miller Rogen with Dr. Geoffrey Colby, who treated Lauren's brain aneurysm.

The UCLA Resident team with Dr. Linda Liau and Johnese Spisso, MPA.

ADVANCES IN RESEARCH

Functional Brain Plasticity Elucidates Symptom Severity in Patients with Degenerative Cervical Myelopathy

Degenerative cervical myelopathy (DCM) is a condition that arises when the cervical spinal canal deteriorates, often due to related spinal conditions or age. This condition can lead to a compression of the spinal cord and neurological deficit. Additionally, for older individuals, DCM is a leading cause of spinal cord impairment and can drastically impact their daily functioning. To improve the quality of life and outcomes for these patients, safe and effective treatment options are necessary.

Dr. Langston Holly

Research has suggested that brain plasticity, or the ability of the brain's functional neural network to change and adapt over time, might be linked to preserving function in patients diagnosed with DCM. However, there is little clarification as to how this functional brain network changes during different stages of DCM. By investigating this link, the patterns of brain network connectivity might be capable of predicting when a patient might advance to a more severe stage of DCM.

Dr. Langston Holly, a spinal neurosurgeon, Executive Vice Chair, and Vice Chair of Equity, Diversity, and Inclusion in the UCLA Neurosurgery Department, collaborated with a multidisciplinary team at UCLA to evaluate how symptom severity might be related to functional brain plasticity in patients with DCM. To accomplish this, Dr. Holly and fellow researchers studied imaging from 116 patients with varying degrees of DCM to investigate how functional connectivity networks change as DCM develops.

The researchers found that changes in functional connectivity take place as patients progress through the stages of DCM. In particular, the brainstem and cerebellum appear to be very influential in assisting with sensorimotor function as DCM worsens. Concurrently, the study also established a prediction model that can help assess strengthening or weakening functional connectivity as a patient progresses through the stages of DCM.

This predictive model can be an invaluable tool to physicians as they determine the best course of treatment for patients with DCM. With improved treatment strategies and methods to monitor disease progression, quality of life can be better preserved for patients facing DCM.

Read the full article here.

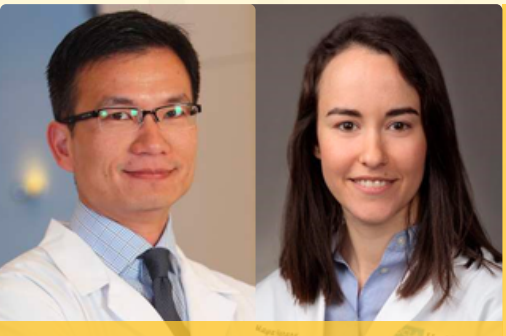
To schedule an appointment with Dr. Holly, click here.

SURGICAL TECHNIQUES

Minimally Invasive Technique Offers Effective Treatment Option for Spinal Tumors

Minimally invasive approaches to common spine pathologies, such as disc herniation and spinal stenosis, are becoming increasingly popular due to the benefits they offer compared to standard open surgeries, including improved safety, faster recovery, and higher patient satisfaction. However, for pathologies affecting the spinal cord within the dura, including intradural spinal cord tumors, minimally invasive approaches have not been widely adopted due to the technical challenges involved in accessing the intradural space, safely and completely removing the tumor without damaging the spinal cord, and closing the dura through a small minimally invasive portal.

Dr. Daniel Lu, a pioneering minimally invasive spine neurosurgeon and NIH-funded neuroscientist, who also serves as Vice Chair of Research in the UCLA Neurosurgery Department, has developed a minimally invasive procedure for the safe removal of intradural tumors. He conducted a minimally invasive tubular resection of an intradural schwannoma, collaborating with neurosurgery resident Dr. Maya Harary (PGY-5) to demonstrate the safety and efficacy of this innovative technique.



Dr. Daniel Lu and Dr. Maya Harary (PGY-5)

View the full article and accompanying video here.

Appointments with Dr. Lu can be scheduled here.

To perform this procedure, the surgeons utilized a tubular retractor, a medical device that facilitates the creation of a non-traumatic, minimally invasive path to access a surgical site. To enhance access and visibility, they employed minimally invasive instruments with a microscope to aid in the dissection of the intradural space and the resection of the tumor. For effective dural closure, fine suture clips were used to reapproximate and close the dural incision. Remarkably, all of this was accomplished through a small 2 cm incision, roughly equivalent to three-quarters-of-an-inch.

Following the successful initial procedure on a patient with intradural schwannoma, this technique was applied to a series of seven patients with similar intradural extramedullary lesions, resulting in excellent outcomes. Post-discharge, all patients have confirmed complete tumor resection without complications. Due to the minimal trauma associated with this surgical approach, the recovery process was significantly shortened, with some patients returning home within 24 hours of the procedure and resuming normal activities after just a few weeks.

In conclusion, these findings suggest that the minimally invasive tubular approach to intradural extramedullary spinal cord tumor is highly effective. This provides surgeons with an additional surgical modality that, when appropriate, can significantly improve patient outcomes and treatment success.

SPINAL DEFORMITY

UCLA's Multidisciplinary Spinal Deformity Program Offers Patient-Centered, Comprehensive Approach to Care

Spinal deformities are incredibly detrimental to a patient's quality of life, both in a physical and emotional capacity. Physically, conditions like scoliosis—both adult and pediatric—and Scheuermann's kyphosis drastically impact a patient's functional ability due to how they warp the spine's alignment. In tandem, spinal deformities can become lifetime ailments if not addressed with proper and comprehensive treatment, which can be challenging for patients to process emotionally. Thus, streamlined and patient-centered treatment processes for spinal deformities are essential to improving patients' livelihoods and outcomes.

Dr. Andrew Vivas

The UCLA Neurosurgery Spinal Deformity Program is uniquely equipped to provide solutions for patients, from both the bench and the bedside. Dr. Andrew Vivas, neurosurgeon and Director of the Spinal Deformity Program, describes how the program intertwines multidisciplinary clinical excellence and research innovation to maximize patient outcomes.

The Spinal Deformity Program brings together a diverse cadre of medical professionals, including neurosurgeons, physiatrists, radiologists, and plastic surgeons, that work in concert to optimize patient safety and wellbeing. "Clinically, our commitment to multidisciplinary care enables us to provide incredibly tailored and personalized treatment plans for patients during every step of the process—from preoperative workups to postoperative rehabilitation," Dr. Vivas says. "This team-centered approach contributes to better patient outcomes and is what makes UCLA stand out as a leader in patient care."

In the realm of research, scientists in the Spinal Deformity Program are developing artificial intelligence and predictive algorithms that assist in the diagnosis and treatment of spinal deformities. Simultaneously, the program's researchers are attempting to better understand why spinal deformities happen and how this process might be capable of informing non-surgical treatments and interventions.

As the Director of the Spinal Deformity Program, Dr. Vivas is deeply invested in improving patient outcomes and improving accessibility to care. Specifically, he hopes to further grow the program's presence in the community by establishing outreach clinics, expanding the availability of second opinions, and increasing research trials.

While there is a long road towards resolving spinal deformities entirely, Dr. Vivas and the Spinal Deformity Program are dedicated to leading patients through their conditions and towards a better quality of life.

Learn more about Spine care at UCLA Health here.

Schedule an appointment with Dr. Vivas here.

SPINAL ONCOLOGY

Transforming Spinal Cancer Treatment Through UCLA Health's Multidisciplinary Spinal Oncology Program

Cancer is a challenging word for patients and families to hear, especially when it impacts something as central to life as the spine.

To address and quell the fear that this diagnosis imbues, the UCLA Neurosurgery Spinal Oncology Program offers hope and transformative care to patients facing this difficult journey.

The UCLA Neurosurgery Spinal Oncology program is set apart by its commitment to comprehensive, multi-disciplinary care. Specialists in neurosurgery, radiation oncology, and medical oncology collaborate in regular multidisciplinary meetings where they engage in extensive care planning, ensuring each patient receives treatment tailored to their unique needs and personal wishes. This collective approach allows the program to offer a wide spectrum of treatments, from minimally invasive surgical techniques to advanced radiation therapies and chemotherapy.

The commitment to collaborative care is not just a buzzword—rather, it is a methodology that results in better outcomes for patients and fosters an environment ripe for research and clinical trials. Patients treated in the UCLA Neurosurgery Surgical Oncology program not only receive state-of-the-art medical care but also contribute to a larger mission: advancing the science behind treating spinal cancer.

Spinal neurosurgeon Dr. Joel Beckett serves as the newly appointed director of this groundbreaking program. Dr. Beckett is focused on ensuring that each patient feels heard, supported, and empowered throughout their treatment journey.

In a world where specialized medical care often occurs in isolated silos, the UCLA Spinal Oncology Program aims to set a new standard for comprehensive cancer treatment, one that aims to serve as a blueprint for other medical centers nationwide and push the boundaries of what is possible in spinal cancer.

Dr. Joel Beckett

Learn more about Spine care at UCLA Health here.

Appointments with Dr. Beckett can be scheduled here.

SPINAL TECHNOLOGY

Cutting-Edge Spinal Robot Improves Accuracy and Safety of Treatment for Spine Patients

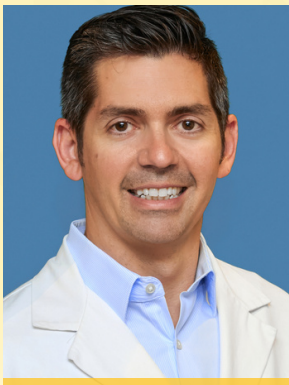
Estimates suggest that most Americans will suffer from a spinal condition like low back pain at least once in their lifetimes. Thus, safe and effective options to treat these conditions are integral to improving patients' well-being and outcomes.

In recent years, minimally invasive surgical options for spine have grown in prevalence due to their ability to reduce the length of hospitalization, lower complication rates, and minimize recovery time for patients. Minimally invasive techniques also enable neurosurgeons to perform complex procedures with smaller incisions and with less damage to muscles, which often contributes to a more streamlined surgery.

In tandem, the development of robotic technology is transforming the way in which spinal neurosurgeons operate. The Globus Excelsius Spinal Robot is one cutting-edge platform that is revolutionizing minimally invasive spine surgery. Dr. Michael Dorsi, the Director of Community Neurosurgery in the UCLA Neurosurgery Department, is a pioneer in the use of robotic-assisted technology in the greater Los Angeles area.

"Technologies like the Excelsius Spinal Robot aim to eliminate human error as the robot aids in the placement of spinal instrumentation," Dr. Dorsi explains. "The robotic platform provides surgeons with real-time imaging that allows customizable and patient-specific surgical planning. The neurosurgeon then uses the robotic arm to align and maintain the trajectory for placement of spinal instrumentation. The use of robotics improves surgical accuracy, enhances patient safety, and results in improved clinical outcomes."

Dr. Dorsi says that robotics systems are still in their infancy and, as the technology continues to advance, will grow to have an increasingly prominent role in the field of neurosurgery. Non-profit accreditation organizations like the Surgical Review Corporation (SRC) are recognizing the significance of implementing these technologies due to the impact they have on patient safety. The SRC recently recognized Dr. Dorsi as a Master of Spine Surgery and, in addition, designated his spinal robotics program as one of the first centers of excellence in the country.



Dr. Michael Dorsi

Dr. Dorsi continues to utilize this technology for the treatment of spinal patients at UCLA Health community clinics throughout Ventura County.

Learn more about Spine care at UCLA Health here.

Appointments with Dr. Dorsi can be scheduled here.

GRANTS AND AWARDS

UCLA JONSSON COMPREHENSIVE CANCER CENTER FELLOWSHIP AWARD
"Drug Resistance Mediated by Extrachromosomal DNA in GBM“

Awarded to: Dr. Yagmur Muftuoglu (Resident, PGY-4)

DAVID GEFFEN SCHOOL OF MEDICINE AT UCLA
Residents and Fellows Award for Excellence in Teaching with Humanism

Awarded to: Dr. Joseph Bell (Resident, PGY-7)

NIH-NINDS - R25 RESEARCH TRAINING GRANT
"Evaluating the Mechanisms of Cell Death and Tumor Selectivity of Cold Atmospheric Plasma in Malignant Glioma Using a Cerebral Organoid Tumor Model"

Awarded to: Dr. Sophie Peeters (Resident, PGY-7)

NIH/NATIONAL CENTER FOR ADVANCING TRANSLATIONAL SCIENCE (NCATS)
"Visualization, Quantitation, and Targeting of Infiltrating Glioblastoma Cells with pH Sensitive Amine Chemical Exchange Saturation Transfer Magnetic Resonance Imaging"

Awarded to: Dr. Kunal Patel (Assistant Professor)

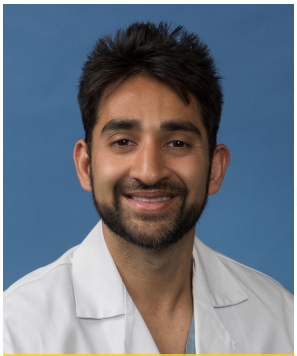
NEW FACULTY

Welcoming Dr. Kunal Patel to the UCLA Neurosurgery Faculty

Dr. Kunal Patel was born in Cleveland, Ohio and raised in Cypress, California. Dr. Patel graduated at the top of his class with Alpha Omega Alpha honors at Weill-Cornell Medical College, New York, NY and completed a 1-year research Howard Hughes Medical Institute fellowship at the University of California, San Diego.

Dr. Patel recently completed his residency training at the University of California, Los Angeles with an enfolded fellowship in neurosurgical oncology.

Dr. Patel is an author on over 75 medical research publications, has had his research funded by the Broad Center for Regenerative Medicine, Jonsson Comprehensive Cancer Center, Burrough's Wellcome Fund, Howard Hughes Medical Institute, and American Brain Tumor Association. He has won research awards through the American Association of Neurological Surgeons, Congress of Neurological Surgeons, and North American Skull Base Society. He has been awarded resident performance awards for research, for the ABNS Board Examination, and for teaching.



Dr. Kunal Patel

Schedule an appointment with Dr. Patel here.

Welcoming Dr. Samer Ghostine to the UCLA Neurosurgery Faculty

Dr. Samer Ghostine is a Board-Certified, Fellowship-trained Neurosurgeon who specializes in complex and minimally invasive spine surgery. He earned his master's degree in Physiology and Biophysics and medical degree from Georgetown University School of Medicine. Subsequently, he completed a surgical internship and residency at Loma Linda University Medical Center. Dr. Ghostine also completed an intra-residency and post-graduate fellowship in spine at Cedars-Sinai Medical Center. Before joining UCLA, Dr. Ghostine was a faculty member at UC Riverside, where he served as the chief of Neurosurgery and Vice-Chair of Neurosciences.

Dr. Ghostine manages adult patients with lumbar and cervical stenosis, low back pain and neck pain, among other spinal problems. He practices in a state-of-the-art, safe, and comfortable environment aiming at providing excellent and innovative care.

Dr. Samer Ghostine

Dr. Ghostine's research interests are in robotic applications for the spine and neuromodulation for the treatment of chronic low back pain. He is currently serving as the Vice-President of the California Association of Neurological Surgeon (CANS).

Schedule an appointment with Dr. Ghostine here.

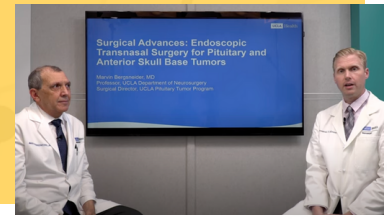
WEBINAR SERIES

New Webinar Series Provides Insight Into Neurosurgical Topics and Developments

Dr. Jeremiah Johnson is hosting a series of webinars featuring lectures by Neurosurgery faculty and interdisciplinary collaborators. The webinars feature a variety of topics, including Embolization for Chronic Subdural Hematoma, Superior Semicircular Canal Dehiscence, Endoscopic Transnasal Surgery for Pituitary and Anterior Skull Base Tumors, and Moyamoya Disease. The webinars aim to provide insights into recent developments in important neurosurgical topics and will be released on an ongoing basis on the UCLA Health YouTube channel.

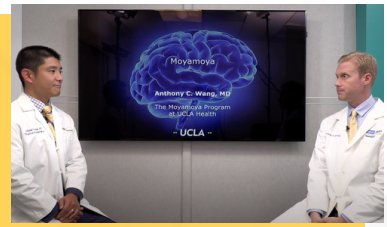
MMA Embolization: An Emerging Treatment Technique for Chronic Subdural Hematomas

Dr. Geoffrey Colby & Dr. Jeremiah Johnson



Surgical Advances: Endoscopic Transnasal Surgery for Pituitary and Anterior Skull Base Tumors

Dr. Marvin Bergsneider & Dr. Jeremiah Johnson



Moyamoya

Dr. Anthony Wang & Dr. Jeremiah Johnson

Neurosurgery Research Update: Superior Semicircular Canal Dehiscence

Dr. Isaac Yang, Dr. Quinton Gopen, & Dr. Jeremiah Johnson

ANNOUNCEMENTS

US News and World Report Rankings

Every year, Neurologists and Neurosurgeons from across the nation vote on which hospitals offer the best, most comprehensive care for patients.

This year, UCLA Health ranked number six in Neurology and Neurosurgery out of over a thousand hospitals evaluated. We thank our incredible care team for their commitment to excellence and superb patient care.

APPOINTMENTS

Scheduling an Appointment as a Patient

To make an appointment with a UCLA neurosurgeon, please call 310-825- 5111 or visit our website for more information.

For information about spine related conditions and treatments, visit the UCLA Spine Center in Santa Monica.

Over the past several years, UCLA Health has been dedicated to making services more accessible to patients outside the immediate Los Angeles area. To make a Telemedicine appointment with a UCLA neurosurgeon, please visit our website or call 310-825-5111.

Referring as a Healthcare Professional

Our partnership with health professionals in the community is key to our success at UCLA Health. Registered nurses and referral coordinators are available to assist referring physicians. Case managers can access services at UCLA Health through the toll-free UCLA Physician Referral Service phone line 1-800-UCLA-888 (825-2888). Visit our website to learn more.

GIVING

Thank you for your interest in supporting the UCLA Department of Neurosurgery. Donations help fund innovative research that has the potential to alter patients' lives. We are grateful for your life-changing generosity.

Donate Now

If you would like more information, please contact:

Nora McCarl
Senior Director of Development, UCLA Neuroscience
(310) 210-5795
nmccarl@mednet.ucla.edu

COMMUNITY

Fourth Annual Volleyball Tournament

On Saturday, September 16, Neurosurgery Residency Programs across the United States joined together in Santa Monica to participate in our Fourth Annual Volleyball Tournament.

Dr. Sophie Peeters (PGY-7 and Neurosurgical Oncology Fellow) started the event in 2018, inspired by other programs' softball tournaments.

The event serves as an excellent way to engender inter-program bonding and friendly competition and raises money for the Neurosurgery Education and Research Foundation (NREF), which supports resident research.

The UCLA team took home the tournament trophy this year! Congratulations to our amazing faculty and resident team.