DEPARTMENT OF ANESTHESIOLOGY Annual Report 2020 – 2021 Academic Year



Steven J. Lisco, MD Myrna Newland, MD, Endowed Professor of Anesthesiology

Chair, Department of Anesthesiology

University of Nebraska Medical Center

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Message from the Chair

In the past year, our department has demonstrated a remarkable capacity for perseverance in the face of uncertainty. Though this second year of the pandemic has brought with it both successes and challenges, our department has remained resolute in furthering all aspects of our mission and the values that guide our tireless endeavors.

I invite you to celebrate the UNMC Department of Anesthesiology's 50th anniversary. This is nothing short of a special milestone. In the 1960s, our department consisted of one faculty physician, two certified registered nurse anesthetists (CRNAs), and a single resident. Today, our numbers have grown to over 200 highly qualified professionals, which represents an extraordinary level of growth over the last five decades. In this special edition of our annual report, join us in reflecting on our amazing history by tracing our historical timeline and enjoying the wealth of images lifted from our archives.

In the last academic year, we welcomed Karsten Bartels, MD, PhD, MBA, as the department's first vice chair of research. Dr. Bartels' work has been instrumental in our department's commitment to conducting innovative research. We also welcomed Jorge Gálvez, MD, MBI, as the next vice chair and division chief of pediatric anesthesiology. Dr. Gálvez's exceptional clinical expertise has served our pediatric patients well. The department continued distinguishing itself as an eminent leader in anesthesiology. Sowmya Yelamanchili, PhD, established the STAR Fellowship, bringing anesthesiology research training to diverse communities. Hanjun Wang, MD, was one of nine UNMC researchers awarded the 2020 Distinguished Scientist Award. Daniel W. Johnson, MD, received the Spirit of Community Service Award for his dedication to serving our community. Rebecca Aron, MD, was appointed as director of wellbeing, a new role in which she worked with Sasha Shillcutt, MD, vice chair of strategy, to improve and promote wellness in the department. Several faculty members were awarded endowments, and our trainees received honors for their pursuits of knowledge and discovery.

I am incredibly proud of the accomplishments we've made and the honors our team has earned this year. These accolades are no small feat, and they are key to establishing notable markers for our future colleagues to look back on with great pride.

Thank you for your continued interest in the UNMC Department of Anesthesiology. We hope you enjoy this truly historic 2020 – 2021 Annual Report.

Steven J. Lisco, MD Myrna Newland Endowed Professor of Anesthesiology Chair, Department of Anesthesiology, College of Medicine University of Nebraska Medical Center

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More About us

The Department of Anesthesiology provides patient care across the entire perioperative spectrum at Nebraska Medicine locations and Children's Hospital & Medical Center. The department is divided into five clinical divisions.

Aside from patient care, the department is also focused upon educating the next generation of anesthesiologists. Approximately 60 residents and fellows receive their specialty education in the department. Fellows train in ACGME-certified subspecialties of Adult Cardiothoracic Anesthesiology, Critical Care, Pediatric Anesthesiology, Chronic Pain Management, and Regional Anesthesia & Acute Pain Management. Additionally, the department offers non-ACGME fellowship training in perioperative echocardiography, liver transplant anesthesiology, and pediatric cardiac anesthesiology.

Our mission is to deliver high-quality and compassionate medical care, provide premier educational programs, and perform innovative research.

Endowments Fund Growth

In six short years, the UNMC Department of Anesthesiology has received eight endowments from generous donors. Three endowments were established in 2021 alone. Funds generated from these endowments advance projects the faculty recipient is passionate about and positively impact our people, department, university and hospitals.



Steven J. Lisco, MD, 2018 Myrna Newland, MD, Endowed Professorship in Anesthesiology Fund

Established: 2018 Fund Usage: Departmental missions of clinical research, education, and faculty development



Sasha Shillcutt, MD, 2021

Dr. Gail Walling Yanney Endowed Professorship in Anesthesiology

Established: 2018 Fund Usage: Diversity, equity, and inclusion initiatives



Hanjun Wang, MD, 2020 Margaret R. Larson Professor of Anesthesiology Established: 2012 Fund Usage: Research support and faculty development



Mohanad Shukry, MD, PhD, 2021

Carol Lydiatt, MD, and Daniel Lydiatt, MD, Professorship Fund **Established:** 2019 **Fund Usage:** Faculty development, pediatric anesthesiology

➢ What is an endowment?

An endowment is a donation of money or property to a nonprofit organization. Donations to the UNMC Department of Anesthesiology are processed through the NU Foundation or Children's Foundation, which utilize investment strategies to make the most of charitable gifts. The principal amount is kept intact and invested, while the interest income is dispersed periodically to the recipient and used toward academic efforts in accordance with donors, leaders, and recipients' goals. Recipients usually have a renewable term as holders of the endowment.



Scan this QR code with your smartphone camera to learn how you can support innovation in the UNMC Department of Anesthesiology.



Jorge A. Gálvez, MD, MBI, 2021

Jane Kugler, MD, and Douglas Vonderfecht, MD, Family Professorship Fund

Established: 2019 Fund Usage: Faculty development, pediatric anesthesiology



Karsten Bartels, MD, PhD, MBA, 2021

Robert Lieberman Chair of Anesthesiology

Established: 2021 Fund Usage: Support for outcomes-based research and programmatic growth



Madhuri Are, MD, 2021

Robert Lieberman Professor of Anesthesiology and Pain Medicine

Established: 2021 Fund Usage: Clinical research and educational support in pain medicine



Gurudutt Pendyala, PhD, 2021

Robert Lieberman Professor of Anesthesiology Research

Established: 2021 Fund Usage: Preclinical and translational pain research

Other endowments available for the department include:

- > Department of Anesthesiology Global Health Program Fund
- > Shillcutt Women's Leadership in the Department of Anesthesiology
- > John H. Tinker Anesthesiology Graduate Education Fund

Leadership Update

A Year in the Life: Executive Vice Chair, Dr. Shukry

In July 2020, Mohanad Shukry, MD, PhD, began his role as executive vice chair in UNMC's Department of Anesthesiology. It was a time of constant change in the heart of the pandemic. But in Bennett Hall's administrative office, Dr. Shukry knew it was time to keep getting things accomplished.



Mohanad Shukry, MD, PhD, executive vice chair

Previously, Dr. Shukry served as the division chief of pediatric anesthesiology, a position that provided him the opportunity to work with multiple team members between Children's Hospital & Medical Center and UNMC. Dr. Shukry still remembers his excitement during his interview for the executive vice chair role.

"I was excited for the opportunity to add valuable contributions to the department and to the College of Medicine in a new way," he said. "I've always been interested in academic medicine because I'm an academic physician at heart. I enjoy learning, teaching, and mentoring, as much as providing clinical care. I also enjoy discovery and innovation."

Steven J. Lisco, MD, chair of the UNMC Department of Anesthesiology, praised Dr. Shukry's work. "In the last year, Dr. Shukry has demonstrated a remarkable commitment to our department through both his leadership and vision," said Dr. Lisco. "I'm extremely proud of the achievements and initiatives that Dr. Shukry has made possible through his continuous hard work over the last year."

"It was hard to leave my team at Children's during the pandemic. I had to really contemplate the transition," Dr. Shukry said. "The good news? I was staying in the same department. I knew that I'd still be involved in furthering our pediatric mission by bringing each of the department's division-specific goals together so that we could progress as a team."

In his new role, Dr. Shukry's first task was to lead the national search to recruit a new division chief and vice chair of pediatric anesthesiology, a position that would later be filled by Jorge A. Gálvez, MD, MBI, in April 2021. He also assisted Dr. Lisco in the recruitment of the department's inaugural vice chair of research, Karsten Bartels, MD, PhD, MBA. Dr. Shukry then began preparing the department for the College of Medicine's internal review, which was the first since Dr. Lisco's appointment as the department chair. While overseeing the department selfreflection process and assembling more than 200 pages of an internal report document, Dr. Shukry worked closely with the department's vice chairs, division chiefs, education programs directors, and other leaders. "In the process of organizing the internal report, I learned more about the department from the inside out," he said. "Being among the vice chairs and Dr. Lisco, and reflecting on the department's successful journey over the last decade, I was able to observe strong leadership firsthand."

But as the executive vice chair, Dr. Shukry said that his role's ultimate purpose is service to others. This led to initiatives like Behind the Drapes, a bi-weekly electronic newsletter distributed within the department. "Starting in the heart of the pandemic taught us the importance of communication," he said. "With the pandemic, it would be easy to focus on the negatives. But I'm an eternal optimist. We wanted to create a culture of recognition and celebration, and *Behind the Drapes* was the clearest way to celebrate our team and share their outstanding achievements, and more."

"Ten years from now, we'll be able to look back and know what was happening within our department because we documented everything. There is a saying in anesthesiology: 'if it's not charted, it did not happen.'"

Dr. Shukry also oversaw the development of the academic achievement dashboard to centralize discovery and research within the department. Collaborating with Dr. Lobato, the vice chairs,

and the research team, the dashboard was created to allow faculty, residents, and CRNAs to submit their academic achievements to one platform. The dashboard helps members of the department view those achievements and plan for collaboration or mentorships, as well as cut back on direct requests when needing to satisfy ACGME program accreditations. The dashboard is a beneficial step in strengthening collaboration inside the department, and it serves as a resume for the faculty, the divisions, and the department.

Another focus for Dr. Shukry has been elevating the quality of care in the perioperative area for both adult and pediatric patients. His approach emphasizes collecting objective and accurate data and using the data to educate and make meaningful changes. "The department has been providing outstanding quality care. As the number of patients we care for and the complexity of medical diseases increases, we need to be deliberate with our approach to quality care," Dr. Shukry said.

The department established a local quality dashboard and partnered with Nebraska Medicine to participate in the Multicenter Perioperative Outcome Group (or MPOG, a national, anesthesiology-led perioperative quality database) to improve patient care and to participate in research focusing on quality outcomes. To emphasize education in quality and safety, the department increased the number of quality assurance conferences and created a leadership position focused on quality and safety education.

Over one year into his position, Dr. Shukry said that hope lies in the department's people — in their values and in their tenacity. "Considering how large our department is and considering the events of the last few years, our department has done well in adapting to the speed of change," he said.

"We are the winning team," Dr. Shukry said. "My colleagues are dedicated to their patients, their communities, and to each other. It is a privilege to lead such a dedicated team." V

Dr. Bartels is Anesthesiology's Inaugural Vice Chair of Research

When Karsten Bartels, MD, PhD, MBA, was a high-school graduate in Germany, one year of military or civil service was required by law. Dr. Bartels elected to work as the German equivalent of a paramedic technician—a position that transports highly skilled physicians from the hospital to life-or-death emergencies in the field.

I was 18 years old and driving physicians around in fast, German cars with lights and sirens," he said. "It was an ideal job."

It was there that Dr. Bartels first learned to intubate and place IVs in patients. He established rapport with the anesthesiologists he transported, and on his last day of civil service was invited to tag along on an emergent helicopter ride.

"That day I knew I was going to be an anesthesiologist," Dr. Bartels said.

Between then and now, Dr. Bartels has acquired seven advanced degrees in the areas of anesthesiology, research, and business. He believes adamantly in working hard, constantly improving yourself, and serving your community.

"There is no finish line," he said. "It's about doing what you are passionate about and being an apprentice all of your life. The impetus of being the best you can be is pushing everyone else to achieve the best they can. That's why I'm in academic medicine."

When Dr. Bartels got the call inviting him to become a professor and the first vice chair of research in UNMC's Department of Anesthesiology, he was pulling weeds at an organic farm in western Kansas with his wife. They were on vacation. After their original vacation plans fell through, they opted to pull the plug on technology and metropolitan living and instead connect with the earth, service, and rural living.

"We waited to fill this role until we knew we had the perfect candidate," said Steven J. Lisco, MD, chair of the UNMC Department of Anesthesiology. "Dr. Bartels was the obvious choice because of his outstanding clinical resputation and research career. We are looking forward to his leadership and vision as we grow our research program."



Karsten Bartels, MD, PhD, MBA

Dr. Bartels officially joined the department on April 1. He aims to build an already successful and funded research division into a national leader with impact across the entire translational research spectrum. He brings a passion for mentorship and encourages that culture within the department.

"I knew this was a very dynamic department that went from humble beginnings to a full-fledged clinical powerhouse with every fellowship under the sun," he said. "The resources available at UNMC were a huge reason I came here and will give me the leverage to achieve our goals. That amplifies everything."

Dr. Bartels' wife, Lena Mayes, MD, is a pediatric anesthesiologist and joined the department and Children's Hospital & Medical Center faculty later in the year after their 10-year-old son, Wolfie, completed school in Colorado. V



The Bartels File

Dr. Bartels grew up in Germany where he attended medical school at the University of Freiburg. He completed his anesthesiology residency at Harvard Medical School / Massachusetts General Hospital in the same class as Daniel W. Johnson, MD, division chief of critical care in the UNMC Department of Anesthesiology. Dr. Bartels subsequently pursued three fellowships: the first in pain medicine at Johns Hopkins Medical Institutions, the second in cardiothoracic anesthesiology at Duke University, and the third in critical care medicine at Duke

Before joining UNMC, Dr. Bartels served as an associate professor of anesthesiology at the University of Colorado Denver with secondary appointments in medicine, surgery and psychiatry. While at UC Denver, he earned a doctorate in clinical science and investigation, and a master's in business administration.

Dr. Bartels' research efforts center on patient safety, clinical outcomes, and pragmatic clinical trials in perioperative medicine. A major focus is to provide meaningful and concrete mentoring to students and trainees interested in a career in academic anesthesiology. Dr. Bartels' work has been funded by the Society of Cardiovascular Anesthesiologists, the International Anesthesia Research Society, the Colorado Center for Improving Value in Health Care, and the National Institutes of Health.

Leadership Update

Dr. Gálvez Aims to Make Impact at UNMC, Children's

When Jorge A. Gálvez, MD, MBI, was nearing the end of medical school at Yale, he received an email from the dean of students. A short one. "Come see me in my office," it read.



Jorge A. Gálvez, MD, MBI

W ith the trepidation any student would feel, he presented himself before the dean. But she simply wanted to share a letter she had received from a patient.

The woman had been at the hospital for an elective mastectomy. Dr. Gálvez, taking an anesthesiology elective, had clasped the woman's hand and said a few words of encouragement as she was taken into the operating room.

It was something he always did. He didn't even remember the specific patient who had written the letter.

But, for the first time, he realized the impact the gesture had made.

"Right before surgery is an important time and frightening time," he said. "And as anesthesiologists, that is when we connect." Dr. Gálvez arrived at UNMC and Children's Hospital & Medical Center determined to continue to have a powerful impact. He serves as division chief of pediatric anesthesiology at Children's, and the Jane Kugler, MD, and Douglas Vonderfecht, MD, Family Professor and vice chair of pediatric anesthesiology in the UNMC Department of Anesthesiology.

"Dr. Gálvez has an outstanding track record in both the clinical and academic domains," said Steven J. Lisco, MD, chair of the UNMC Department of Anesthesiology. "He is a talented and trusted leader. We look forward to seeing Dr. Gálvez's presence positively impacting the institution and community."

Dr. Gálvez said he wasn't looking to make a job switch in the middle of a pandemic, but the expertise and talent at UNMC and Children's hospital tconvinced him to join the staff. As division chief, one of his main goals will be to recruit and grow excellent clinicians and faculty members.



The Gálvez file

Dr. Gálvez was born in Caracas, Venezuela, and immigrated to the United States at the age of 11. He studied biology, photojournalism, chemistry, and Spanish before embarking on his medical education at Yale, where he completed both medical school and training in anesthesiology.

Prior to joining Children's and UNMC, Dr. Gálvez was an attending anesthesiologist in the Department of Anesthesiology & Critical Care Medicine at Children's Hospital of Philadelphia, where he also served as assistant professor of anesthesiology & critical care at the University of Pennsylvania School of Medicine. His additional areas of expertise include clinical informatics, neonatal anesthesia, pediatric airway management, craniofacial reconstruction, and advanced techniques for vascular access. He is a leader in the field of biomedical informatics, specifically in the implementation and optimization of electronic health record systems for pediatric perioperative care, both nationally and internationally.

Furthermore, he has developed an interest in pediatric medical device development and has collaborated with the U.S. Food and Drug Administration through the Pediatric Medical Device Consortium Program.

"I am so excited to have Dr. Gálvez join our team," said Christopher Maloney, MD, PhD, executive vice president, chief clinical officer, and physician-in-chief at Children's. "He brings excellent clinical skills and leadership and his commitment to data science is welcomed as we continue our drive to become a datadriven, decision-making organization."

Dr. Gálvez also hopes to use his expertise in biomedical informatics to support and improve patient care. He holds a master's degree in biomedical informatics from Oregon Health and Science University and is boardcertified in clinical informatics. His academic career has focused on developing clinical decision support tools to guide policy implementation and improve clinical practice.

- "There's a great deal of interest in advancing clinical informatics within the pediatric perioperative environment, including critical care and neonatal care at Children's and UNMC," he said.
- "I am excited to bring my expertise to Omaha and explore program development and collaboration throughout the institution, including the University of Nebraska at Omaha College of Information Science & Technology and the faculty there. I look forward to collaborating with faculty, doctoral, graduate, and undergraduate students to advance the field of pediatric perioperative clinical informatics."

In addition, he found the Omaha community a welcoming one. Dr. Gálvez, who has a son on the autism spectrum, was impressed by the embrace, not just of the hospital and university community, but the wider Omaha community. School officials took time to meet with him about their programs; others discussed the many community resources.

- "My son has been my best teacher," he said. "Health care settings are really stressful for him. My obligation is to help children with medically complex needs in a way that's not stressful for them. This is central to how I care about patients."
- "Listening to children and families, and meeting them where they're at, that's one of the joys of working in pediatrics," he said. ♥

I am excited to bring my expertise to Omaha and explore program development and collaboration throughout the institution, including the University of Nebraska at Omaha College of Information Science & Technology and the faculty there. I look forward to collaborating with faculty, doctoral, graduate, and undergraduate students to advance the field of pediatric perioperative clinical informatics.

— Jorge A. Gálvez, MD

High Quality Care

Data Drives Anesthesiology Wellbeing Plan

In 2019, as part of the UNMC Department of Anesthesiology's Strategic Plan, Rebecca Aron, MD, director of wellbeing, and Sasha Shillcutt, MD, vice chair of strategy, set out to deliver the tools that would help protect their colleagues from the perils of burnout.



Rebecca Aron, MD, director of wellbeing



Sasha Shillcutt, MD, vice chair of strategy

Then, under one year into the five-year plan, COVID-19 happened. One might think of a global pandemic as a crushing blow to a hospital's wellbeing goals. Instead, it acted as wind in the department's proverbial sails and expedited the implementation of a resource hub on the department intranet and three new wellbeing programs. They are a peer-driven support network, an official response plan for adverse events, and a peer-to-peer positive feedback mechanism.

"We added these measures not only because they are evidence-based and cost effective, but because they are effective methods of combatting burnout," said Dr. Shillcutt. "Having a personal peer supporter is one of the top three tactics to avoid burnout. Having a peer you can talk to in your workplace during times of workplace stress is associated with less likelihood of leaving the institution or developing a negative behavior."

Drs. Aron and Shillcutt distributed a survey in June 2020 asking faculty and CRNAs to anonymously report their levels of stress. A follow-up survey was conducted in September. The surveys revealed key information that inspired the programs: the belief that employee wellbeing is valued was waning, only about half of faculty said they could easily access mental health resources at work, and nearly 20 percent of those surveyed felt they did not have a peer at work to confide in.

"Data from prior publications suggests that depression, suicide, and substance abuse disorders remain a problem in medicine and anesthesiology," said Dr. Aron. "Experts guide wellbeing programs to have resources for people to get help without stigma, fear, or ability to pay. Following that evidence and our survey data, we created tailor-made solutions. We plan to re-survey and augment programs as needed."

Peer-Driven Support Network: "Battle Buddies"

It takes just a few moments to text or call to check in on someone. The impact could be life changing. That is the thought process behind the Battle Buddies peer-driven support network that was instituted near the start of the COVID-19 pandemic by several other healthcare organizations across the Nation, including Minnesota Health.

The UNMC Department of Anesthesiology implemented Battle Buddies in November 2020, just ahead of swelling COVID-19 case counts and the holiday season. Colleagues paired up and vowed to validate one another, provide feedback, and identify issues that need further support. They could choose their battle buddy and were encouraged to pick someone who might be at a similar stage in their life and career.

Buddies are encouraged to check in with one another two to three times a week, or more if warranted, and ask each other questions like, "What is hardest right now? What worried you today?" Battle buddies are encouraged to be proactive, too. They are guided to anticipate, plan, and deter by anticipating upcoming stressors and describing likely responses, communicating a personal resilience plan, and deferring to a professional mental health support system if needed.

"Having a battle buddy helps you affirm your experiences and identify potential stressors before they can snowball," Dr. Aron said. "The program is designed to help colleagues talk about stressors with someone who maybe has a deeper understanding of those situations than loved ones outside of the healthcare professions do. That can help to keep work at work and make home time more enjoyable."

Peer Support Plan for Adverse Events

This initiative establishes official roles and procedures within the department for responding to adverse workplace events, such as a significant patient death, trauma, medical error or a difficult interaction with a colleague, patient or visitor. Trained peer supporters and department leaders promote a supportive culture of confidentiality and emotional care over an extended period of time following the event. The procedure is built around four main steps: reach out, listen, remain connected, and refer.

When an adverse event occurs, the involved faculty member reports the event to the clinical director who

Excerpts from real notes of appreciation:

can work to relieve the affected colleagues of clinical duties, allowing them to debrief instead of continuing clinical care.

Each division or subgroup in the department has several trained peer supporters. Supporters check in with the colleague within 48 hours to normalize feelings, validate competence, assess needs for resources, and direct as appropriate. They check in again at two-week and six-month post-event benchmarks.

Additionally, relevant department leaders are notified of the peer that may need support. The program has brought faculty, trainees, and CRNAs together in times where team support is most critical.

"It's been shown that people can develop emotional consequences long after a traumatic event," Dr. Aron said. "Trauma affects everyone differently, and, if left untreated, can contribute to symptoms of burnout. Anyone can initiate this process, so it's another way we can take care of each other."

Appreciation Mechanism

In January 2021, the department debuted a positive feedback mechanism modeled after Nebraska Medicine's mechanism. Anyone can visit www.unmc. edu/anesthesia/appreciation to complete a short form including a note of gratitude that is shared with the colleague and their supervisor. Appreciation in the workplace can bring a sense of fulfillment, make daily routines feel more meaningful, and forge stronger teams.

Initiation of these programs began within the Strategic Plan's executive committee and rolled down to subcommittees and department leaders. Aside from Dr. Shillcutt, Dr. Aron, and the Strategic Executive Committee, colleagues contributing to these wellness initiatives include:

- > Tim Glidden, director of nurse anesthesia
- Nicholas Heiser, director of anesthesiology at the Lauritzen Outpatient Center
- Joseph Pawlowski, associate residency program director for performance and wellbeing
- Michelle Thomas, echocardiography program coordinator
- > Danielle Beebe, communications specialist 🕅

de also pricess his migue sense of humon to work. which is something the used so much right now.

> She was very understanding of the hard situation we were in and extremely flexible with the changing plans as the night progressed.

High Quality Care



Ellen Roberts, MD, vice chair of clinical operations



Thomas Schulte, MD, medical director of perioperative services

Gaining Ground on COVID-19

When COVID-19 first made landfall in the United States, few could imagine the story that would unfold throughout 2020. Fewer could predict that one year later, in 2021, the pandemic would still influence daily life. Despite these challenges, leaders at UNMC, Nebraska Medicine, and the Department of Anesthesiology have continued adapting to COVID-19 by refining earlier protocols and procedures.

A lot of work in the last six to nine months has been shifting patients to other sites to free up beds at UNMC for more ill patients. It's slowly working," Ellen Roberts, MD, said. As vice chair of clinical operations, Dr. Roberts oversees the clinical operations and medical directors at UNMC's main campus, Bellevue Hospital, and the surgical centers at Fritch and Village Pointe.

"Early on, we spent a lot of time developing our clinical and operational pathways and protocols. Now, with shifts in scheduling, our teams work with high-acuity sick patients more often and for longer periods of time," Dr. Roberts said. "We've built on our patient triage strategy and staffing models to get patients to the best location for their care."

To supplement their strategy, the clinical team developed criteria to manage classifying and relocating patients and medical resources. Vaccination status is one of several criteria. "We've continued testing, even in vaccinated individuals. Patients must have a negative test result within the last three days to be eligible for elective surgery. This helps protect patients and all of our perioperative personnel," Dr. Roberts said.

The clinical team worked with other UNMC departments to create a Physician of the Day (POD) role to further alleviate logistical

challenges throughout the whole system. Physicians share this role to manage and resolve bottlenecks related to patient numbers and medical complexity. Daily, the designated POD receives a report that includes information about available hospital beds and nurses, as well as patient discharge rates, and they work with other team members to free up hospital beds. The POD is available for 24 hours, guided by a comprehensive workflow that ensures constant support for personnel involved in hospital bed management.

Dr. Thomas Schulte, medical director of perioperative services and the POD designee, described some of the POD's duties. "Every patient that comes through goes to a patient placement unit, and then they are notified about the hospital bed they will get," he said. "Sometimes nurses need a physician to help them decide the best unit for a patient's care and consulting us helps make informed decisions for our patients and our staff."

"Overall, I think we've all done well in adapting and changing," Dr. Roberts said. "Our department always rises to the occasion." V

Dr. Johnson Named 2021 Spirit of Community Service Award Recipient

Daniel W. Johnson, MD, received the Spirit of Community Service Award on April 15, 2021, at a UNMC Faculty Senate ceremony honoring faculty for their service, mentorship, and teaching.

The Spirit of Community Service Award recognizes a faculty member who demonstrates a continued commitment to service, or enables others to do so, without compensation. The award is presented annually to one honoree who exemplifies a serviceoriented spirit in their work.

A nominator commended Dr. Johnson's perseverance during the COVID-19 pandemic. "Dr. Johnson had the courage and the conviction to speak out at a time when others chose to remain silent, even knowing that doing so would draw threats and criticism. He worked publicly and privately to help our community respond to the coronavirus pandemic and did so for no reason other than an unwavering desire to help those around him. I hold Dr. Johnson in the highest esteem for his bravery and commitment to the ideals of the University of Nebraska Medical Center."

Dr. Johnson completed his residency in anesthesiology and fellowship in critical care medicine at Massachusetts General Hospital, where he then worked as a faculty physician. He joined the faculty at UNMC in 2013. Dr. Johnson, an associate professor, currently serves as the department's division chief of critical care and as associate medical director of the Nebraska Biocontainment Unit.

"Dr. Johnson is an exemplary member of our department, a true champion for public health," said Steven J. Lisco, MD, chair of the UNMC Department of Anesthesiology. "His others-first mindset is an asset and reflects our dedication to providing extraordinary patient care in all forms. Dr. Johnson is, without doubt, deserving of this high honor."

Back in 2014, the Omaha World-Herald named physicians, nurses, and other Nebraska Biocontainment Unit staff as "Midlanders of the Year," an honor that included Dr. Johnson. Between September and November 2014, three patients infected with the highly contagious and often fatal Ebola virus arrived in the Nebraska Biocontainment Unit. Dr. Johnson and the team labored to swiftly administer critical care services to the patients. It was an experience in patient care and service that medical staff will never forget.

"Dr. Johnson demonstrated an extraordinary capacity for care and courage in a time of crisis," Dr. Lisco said.

Dr. Johnson cited influential mentors throughout his life who emphasized the importance of caring for and looking after others. "Growing up, I benefited from many Omahans who gave generously of their time and talents to our community. My coaches, teachers, neighbors and relatives always seemed willing to go the extra mile to help people in need—whether they knew them personally or not. My mom, in particular, was and is constantly involved in multiple forms of community service. This attitude is part of what makes Nebraska such a wonderful state, so I try to be involved in community service when I can," Dr. Johnson said.

Many have praised Dr. Johnson for his commitment to public health awareness in Nebraska and beyond. In March 2020, he gained national media attention after a letter titled "I'm a Doctor at Nebraska Medicine. Here's What I'm Telling My Family About COVID-19" was popularized on social media. The post garnered millions of views and thousands of shares.

Since the posts, Dr. Johnson has continued advocating for public health.



Daniel W. Johnson, MD, division chief of critical care, and recipient of the 2021 Spirit of Community Service Award

"A year ago, it was clear to many UNMC faculty members that the general public did not grasp the gravity of the growing pandemic. Several of us took to social media and traditional media outlets to 'sound the alarm' regarding how many lives were at stake and what people could do to protect themselves," Dr. Johnson said.

"At different points in the pandemic, we have raised our voices to try to minimize the damage that the virus could inflict on our communities. I consider being a UNMC faculty member to be a huge privilege, and it is a great honor to work with my amazing colleagues to promote public health." ♥



Scan this QR code with your smartphone camera to learn more about Dr. Johnson's messages to the public about COVID-19 safety and prevention.

High Quality Care

Cardiothoracic Division Update

The Cardiothoracic Division garnered national attention and made strides in innovative research and professional development this year.

anesthetic gas known

to have fifty times the

global warming impact

than other anesthetics.

desflurane gas usage

at Nebraska Medicine

the institution praised

Dr. Chacon's work for

starting conversations

throughout the campus.

Jeffrey Songster,

MD, and Nicholas

investigation into

Markin, MD, led an

the known benefits

of the preoperative

pulsatility index (PAPi)

measured by the OR's

aiming to discover if

the value could be

cardiac anesthesia

After performing a

assistance device

found that PAPi

cases, investigators

values under general

anesthesia differed

team before surgery.

retrospective review of

nearly 300 left ventricle

pulmonary artery

was reduced, and

The quantity of

Highlights

- » National Recognition at Annual Conferences
- » Research Facilitates New Discoveries
- » Dr. Shillcutt Awarded Dr. Gail Walling Yanney Endowment

D espite the challenges of COVID-19, our team has continued to excel on a national level, perform groundbreaking research, and



Tara Brakke, MD,

cardiothoracic

division chief

provide unparalleled care of our cardiac patients," said Tara Brakke, MD, cardiothoracic division chief.

The division had a significant presence at both American Society of Anesthesiologists (ASA) and Society of Cardiovascular

Anesthesiologists (SCA) annual meetings. Numerous faculty in the division presented, moderated, and served on the SCA's Program Committee. Based on their outstanding presence at the meeting, faculty received secondary invitations to speak at other institutions, collaborate with other institutions, and publish their work in journals. The Cardiothoracic Division is nationally recognized as a leader in cardiac anesthesia, evidenced by the division's ability to recruit top talent and involvement on a global scale.

Multiple faculty members also expanded research efforts this year. Megan Chacon, MD, director of global health, led a department effort to identify strategies to reduce the environmental impacts of desflurane, a common



Megan Chacon, MD, director of global health

and evaluations of environmental practices



Jeffrey Songster, MD



Nicholas Markin, MD, director of perioperative imaging

from preoperative PAPi values. Dr. Songster said that recognizing this difference could eliminate the need for an additional procedure in the OR. Dr. Songster also led team members in a study regarding sufentanil and post-operative outcomes in cardiac surgeries, including pain.

Dr. Markin and Dr. Chacon researched cardiac donation after circulatory death (DCD) in both humans and animals. In the human studies, researchers created a protocol and a pathway to assist in the reanimation of donor hearts, in situ. This resulted in successful utilization of reanimation techniques at both UNMC and offsite facilities.

"This has expanded our organ donor pool and increased the number of heart transplants performed here at UNMC," Dr. Markin said. Researchers are developing a similar DCD model for large animals that will further develop the reanimation process and determine if



Sasha Shillcutt, MD, vice chair of strategy

Sasha Shillcutt, MD, vice chair of strategy, was named Dr. Gail Walling Yanney Professor of Anesthesiology, an endowment Dr. Shillcutt has ce diversity, equity, and

medications or other

optimize the process.

techniques can

been using to advance diversity, equity, and inclusion initiatives. Dr. Shillcutt has long been an expert in cardiothoracic anesthesiology and an advocate for women in medicine, and colleagues praised Dr. Shillcutt for her commitment to fostering positive growth within the department. "We are aiming to retain and attract the best and brightest in patient care, research, and education," Dr. Shillcutt said. "In order to achieve that we must be diverse, and in order to be diverse, we must be inclusive." V

Cardiothoracic Division

Austin Adams, MD Rebecca Aron, MD Karsten Bartels, MD, PhD Tara Brakke, MD, division chief Megan Chacon, MD Amy Duhachek-Stapelman, MD Katie Goergen, MD Kristi Lorenzen, MD Andrew Maresch, MD Nicholas Markin, MD Ellen Roberts, MD Thomas Schulte, MD Sasha Shillcutt, MD Jeffrey Songster, MD

Critical Care Division Update

The Critical Care Division's primary mission is to provide optimal clinical care for cardiology, cardiothoracic, vascular, surgical oncology, ENT, obstetric, and ECMO patients in a nurturing educational environment as learners master the foundations of critical care medicine.

The division continued to make an important impact throughout the COVID-19 pandemic, working on multi-disciplinary teams to treat affected patients with more tools than ever before. The entire division has benefitted from the recruitment of outstanding faculty physicians and nurse practitioners.

After the initial surge of COVID-19 patients in early 2020, the ICU team returned to more familiar operations in the summer. During that time, the Pulmonary Critical Care Medicine (CCM) teams exclusively cared for COVID-19 patients unless patients required ECMO. Later, in the fall of 2020, Nebraska Medicine experienced a massive surge in COVID-19 patients, and critical care anesthesiologists once again provided extensive care for COVID-19 patients.

"I'm extremely proud of all members of our department for the strength and perseverance they demonstrated as we emerged from the worst period of the pandemic to date," Daniel W. Johnson, MD, critical care division chief, said. "This team took care of themselves, one another, and our families. We all took turns covering each other's shifts while people had to quarantine because of known exposure or being COVID positive. Everyone stepped up and did their part."

In April 2021, Dr. Johnson accepted the Spirit of Community Service award from the UNMC Faculty Senate. Learn more about Dr. Johnson's public health advocacy on page 13 of this annual report.



Daniel W. Johnson, MD, critical care division chief and recipient of the 2021 Spirit of Community Service Award



Karsten Bartels, MD, PhD, MBA, joined the department as the inaugural vice chair of research in April 2021

The academic year proved successful for recruiting new faculty to the division. In April 2021, Karsten Bartels, MD, PhD, MBA, joined the department as the inaugural vice chair of research. Dr. Bartels is fellowship-trained in critical care, cardiothoracic anesthesiology, and pain medicine. Dennis Thiel, MD, who also joined in the spring, is fellowship-trained in critical care and cardiothoracic anesthesiology.

The addition of new faculty members brought more balance and variety to staffing schemes, allowing critical care anesthesiologists to provide more care once again in the operating room. New recruitment also allowed critical care faculty to dedicate more time to the department's research and educational missions. ♥

Highlights

- » Continued COVID-19 Leadership & Research
- » Dr. Johnson Awarded
- » Recruitment Fosters Division Growth

Critical Care Division

Anesthesiology Faculty Amanda Arnzen, MD Karsten Bartels, MD, PhD, MBA Joseph Baus, MD Erin Etoll-Jones, MD Daniel W. Johnson, MD, division chief Steven J. Lisco, MD Joseph Pawlowski, MD James Sullivan, MD Dennis Thiel, MD

Emergency Medicine Faculty Daniel Kalin, MD Elizabeth Mahal, MD

Shaun Thompson, MD

Nurse Practitioners Andy Artzner, APRN Vickie Dolan, APRN Lyndie Farr, APRN Kerry Mancuso, APRN

Jed Sanders, APRN

High Quality Care

Multispecialty Division Update

Near the start of the academic year, the Multispecialty Division was focused on maintaining COVID-19 protective protocols while getting OR operations back to normal.

Highlights

- » New Section Added
- » First-ever Transplant Fellow
- » Teacher of the Year Award & Recruitment Campaign

t was challenging to get back to a semblance of normal after that first COVID-19 wave, but we focused on caring for

our patients and for

each other and that

drove our mission."

said Robert Lobato,

MD, multispecialty

retrospect, we fared

division chief. "In

much better than

possible."

we initially thought

The division refined

its organizational

structure last year

with the addition

of the Non-OR

Anesthesiology

section, which is

anesthesiologists

who administer

headed by Jennifer

Rasmussen, MD. The

section encompasses



Robert Lobato MD multispecialty division chief



Jennifer Rasmussen, MD, new non-OR anesthesiology section head

anesthesia for procedures outside the operating room, such as gastrointestinal endoscopy, electroconvulsive therapy,

In addition, the division added a Liver Transplant Anesthesiology Fellowship with its inaugural fellow, Trevor Wilke, MD. Much of the work of establishing the program was done by the fellowship director, Corey

interventional radiology, and more.



Zetterman, MD, along with the Abdominal



Trevor Wilke, MD, division's first liver transplant fellow

as a consultant during transplant listing conferences to provide expert advice on anesthetic planning for complex transplant procedures, demonstrating the department's additive value throughout the perioperative process.

"This was a huge accomplishment for the department and division to get this fellowship launched successfully," Dr. Lobato said. "The clinical experience and case volume Dr. Wilke received during our first fellowship year is unparalleled in the region."

For the second year in a row, Kristin Wakin, MD, was awarded Teacher of the Year, an honor in which residents nominate and vote on their most impactful educators. Cale Kassel, MD, joined Bradley Fremming, MD, PharmD, as co-director of the Quality & Safety Committee. Dr. Lobato helped lead a large recruiting campaign to add faculty to the division, co-hosting a "How to Pick Your Dream Job in Anesthesia" webinar aimed at Dr. Kristin Wakin was awarded Teacher of the Year for a second consecutive year. From left: Clayton Damme, MD, Kristin Wakin, MD, and Maireen Miravite, MD, during the outdoor celebration for graduating residents

graduating residents and junior faculty. The webinar, co-hosted by Sasha Shillcutt, MD, opened with advice on fostering work/life balance, a primer to understand employment compensation packages, and finished with a pitch to join the department. 💙

Multispecialty Division

Skye Bakker, MD Kristina Birch, MD Sheila Ellis, MD Bradley Fremming, MD, PharmD Jeremy Hartley, MD Allyson Hascall, MD Scott Hofmann, MD **Richard Holcomb**, MD Cale Kassel, MD Robert Lobato, MD, division chief John Ohnoutka, MD Huiling Pang, MD Jennifer Rasmussen, MD Kyle Ringenberg, MD Jean Simonson, MD Jennifer Uggen, DO Kristin Wakin, MD Charles Walcutt, MD Trevor Wilke, MD Corey Zetterman, MD

Section Heads

Joseph Baus, MD, Trauma Anesthesiology & Advanced Airway Management Terry Huang, MD, Orthopedic Anesthesiology Cale Kassel, MD, Abdominal Organ Transplantation Anesthesiology Robert Lobato, MD, Thoracic Anesthesiology Kristi Lorenzen, MD, Vascular Anesthesiology Joseph Pawlowski, MD, Neuroanesthesiology Jennifer Rasmussen, MD, Non-OR Anesthesiology Kyle Ringenberg, MD, Complex Abdominopelvic & Enhanced Recovery

Charles Walcutt, MD, Obstetric Anesthesiology

Anesthesiology Section faculty. Dr. Wilke participated in more than 60 adult and pediatric transplant anesthetics during his clinical training. He also rotated with surgeons on the transplant service and acted

Organ Transplant

Pain Medicine Division Update

The Pain Medicine Division, containing the Acute Pain Service and Chronic Pain subdivisions, welcomed new faculty members to a diverse, growing team, and developed innovative procedures this year.

The Acute Pain Service (APS) is a vital component of the Pain Medicine Division and the UNMC Department of Anesthesiology. Team members provide excellence in the care to patients requiring regional analgesia, indwelling pain catheter management, and overall pain management in the inpatient setting. These services are provided at the Fritch Surgery Center, the Bellevue Medical Center, and the main hospital. The goal is to provide the best possible care to patients in the perioperative setting by minimizing oral opioid use and maximizing pain control in the safest way possible.

The APS also experienced a shift in leadership and membership. The service said farewell to Thomas Nicholas, MD, who relocated to Colorado for family reasons. Dr. Nicholas served as the director of the acute pain service, and his leadership was integral in the creation of pain pathways, patient safety protocols, and collaboration with other departments. Nicholas Heiser, MD, was named interim director of the APS.

The Chronic Pain Service team made strides this year with an increased number of procedures and patients served. New procedures were performed, such as the peripheral nerve stimulator, to assist patients with chronic back pain that persists despite other blocking methods. Chronic Pain team members have seen excellent patient outcomes with the new treatment method. The Minimally Invasive Lumbar Decompression (MILD) procedure was also added this year to help patients with back and leg pain due to spinal stenosis. This outpatient procedure takes an hour or less to conduct, and patients may be discharged without braces or post-operative antibiotics.

Additional clinical and office spaces are nearing completion at the Village Pointe facility. Preparations for more new clinical spaces have been made as the division continues to grow and serve more patients in the region suffering from chronic pain.



Madhuri Are, MD, pain medicine division chief



Raime Robinson, MD, first RAAPM fellow, graduated this year

the outstanding regional reputation that our department and UNMC have."

The division witnessed developments in research and recruitment. There have been multiple advances in research and publications from our residents. Mike Warden, MD studied cement volumes for compression fractures, and Apollo Stack, MD, conducted a systematic review on celiac plexus blocks for oncology patients. Marshall Ladd, DO, joined the Chronic Pain Service faculty. Dr. Ladd completed his residency in Anesthesiology at the University of Missouri, Columbia, and his fellowship in Pain Medicine at UNMC.

For the future, Dr. Are is focused on increasing diversity in the division, particularly in APS and Chronic Pain. "I have to say that Dr. Lisco has gone above and beyond by having women in leadership roles here. To me, it's important to do that at the division level. We keep our eyes out for people who may not fit in the square box of who we have historically trained and hired," Dr. Are

Dr. Madhuri Are, division chief of pain medicine, spoke about the success of the division's two fellowships. "Regional Anesthesiology and Acute Pain Medicine (RAAPM) is a new fellowship for the department, and it has successfully graduated its first fellow, Raime Robinson, MD. The Pain Medicine fellowship had an increase from two to three fellows within a five-year timeframe. The success of both of our fellowships reflects

Highlights

- » Faculty Growth
- » New Procedures Improve Patient Care
- » Diversity Efforts Guide Recruitment Plan

said. "If we start early, we can mentor them and give them opportunities they might not have had in the past." Dr. Are concluded saying it is important that faculty and trainees come from diverse backgrounds and cultures to foster an inclusive environment in both the division and the department. These efforts can only strengthen the department's commitment to diversifying its workforce, which continues to be a top priority. ♥

Pain Medicine Division

Acute Pain Service Faculty

Beth Burton, MD Nicholas Heiser, MD Terry Huang, MD Andrew Ingemansen, MD Kyle Johnson, MD Cale Kassel, MD Platt Niebur, MD Thomas Nicholas, MD

Chronic Pain Service Faculty

Madhuri Are, MD, division chief Kimberley Haynes-Henson, MD Marshall Ladd, DO Michael Lankhorst, MD Angie Rakes, MD

Physician Assistants

Holly Doerneman, PA Christa Nelson, PA Lea Sommer, PA

High Quality Care

Pediatric Anesthesiology Division Update

The Pediatric Anesthesiology Division leveraged resources, pioneered solutions in pediatric patients' care, and recruited new faculty this year.

Highlights

- » Specialized Equipment Aids Procedures
- » New Pediatric Chronic Pain Clinic
- » Dr. Gálvez Joins Department

The division weathered pandemic growth as the number of surgeries returned to normal. The division adapted to change without compromising COVID-19 protocols, even when met with PPE or barrier shortages. The division's commitment to maintaining elevated levels of care and acuity remained constant. In April and May 2020, beds were at 65% capacity at Children's Hospital & Medical Center (CHMC) but returned to normal capacities in later months.

Pediatric anesthesiologists at CHMC and UNMC have access to specialized tools for patient care, including ultrasonography equipment tailored to meet the needs of the smallest and most vulnerable patients. The high-frequency transducers offer high-resolution imaging of very superficial structures and can be used for image-guided procedures for vascular access and peripheral nerve blocks. It is truly like working with a microscope. "People think that using the ultrasound adds time to placing an IV, but the whole thing took less than 55 seconds," said Jorge Gálvez MD, MBI, division chief and vice chair of pediatric anesthesiology. "You can achieve success on the first attempt nearly every time."

Thomas Manning, MD, the associate section chief of pediatric pain management, implemented a new pediatric chronic pain clinic at CHMC. The program offers opportunities in rehabilitation and therapy to minimize the need for medical intervention. The multidisciplinary



Thomas Manning, MD, associate section chief of pediatric pain management



Jorge A. Gálvez, MD, MBI, new vice chair and division chief of pediatric anesthesiology

collaborating with the team to further develop pediatric perioperative care at CHMC and UNMC. "What I'm seeing from the foundations here are ahead of many other places in the country," he said. Dr. Gálvez also said that achieving a work-life integration and getting colleagues the tools they need have been critical to the division's success.

program is tailored "The to treat patients that the are not candidates tur for surgical, and rheumatological, Ga or gastrointestinal interventions. The pediatric chronic pain program is the first of its kind in Omaha that is tailored to provide Ar treatment plans to M

pediatric patients' needs. The division welcomed the new division chief, Jorge A. Gálvez, MD, MBI, who joined from The Children's Hospital of Philadelphia and offers his expertise in clinical informatics and innovative solutions for

pediatric perioperative

care to Children's and

UNMC. Dr. Galvez is

Marcellene Franzen, MD, and Shannon Hoy, CRNA, converse with a pediatric patient

"There were so many amazing things happening that people may not know about! My job is to turn up the volume and shine a spotlight on the amazing things happening at Children's," Dr. Gálvez said. ♥

Pediatric Division

Amy Beethe, MD Brittany Brown, MD Greta Duncan Wiebe, MD Andrea Dutoit, MD Marcellene Franzen, MD Jorge A. Gálvez, MD, MBI, vice chair and division chief Kerri George, MD Jessica Goeller, DO Ryan Hamlin, MD David Hoy, MD Michelle LeRiger, MD Thomas Lockhart, MD Thomas Manning, MD Maria Michaelis, MD Kaitlyn Pellegrino, MD Ahsan Qadeer, MD Nancy Rogic, MD Mohanad Shukry, MD, PhD Rachel Spitznagel, MD Kunal Sualy, MD D. Alan Tingley, MD Joby Varghese, MD Guy Williams, DO Jasper Williams, MD

CRNA Update

As the pandemic progressed, the CRNA team met challenges head-on with determination. The team welcomed new CRNAS and continued to improve training for crisis scenarios.

C RNA leadership focused on wellness and ways to continue fostering a positive work environment with COVID-19 protocols in mind. Leadership held listening sessions to understand key ways to support the team's success throughout the pandemic. This helped the hiring committee sustain a warm and welcoming atmosphere while interviews continued virtually.

"I applaud our new

CRNA hires," said

associate director of

nurse anesthesia. "It

was a difficult time to

join, but they should

be commended for

their understanding in

this rapidly changing

Tim Glidden, director

of nurse anesthesia,

committee for their

work. "The hiring committee continues to do an outstanding job. The members give up a lot of personal

time to interview

questions."

candidates and answer

praised the hiring

environment "

Tiffany Olson,



Tiffany Olson, associate director of nurse anesthesia



Tim Glidden, director of nurse anesthesia

The SRNA committee continued meeting the academic needs of learners in the challenging setting of the pandemic.

"A lot of the SRNA work is behind the scenes," said Tim Glidden. "Their work may seem mundane, but there's a lot of important work to be done." Comprised of CRNAs, the committee is primarily responsible for connecting students with educational opportunities and working with office staff to ensure onboarding proceeds without complication. The committee also assigns and monitors student cases to manage student training.

"I think our SRNA committee sometimes goes unnoticed because they do their work so smoothly, and everything falls into place," said Tiffany Olson.

The clinical care committee continued work in simulation labs, with CRNAs Nick Stalnaker and Leslie Bonnet at the helm of training efforts. For several months, training groups attended forty-minute lab scenarios every Wednesday, in which trainees worked on simulated rare cases. The scenario training was the same across training groups. This is the first year that CRNAs have conducted simulation labs in this way, which has provided the team with more opportunities to run through scenarios that are rare in everyday clinical practices. Consistent training helps sharpen nurses' skills by challenging them to think through new

Highlights

- » CRNA Team Grows
- » Simulation Labs Support Training
- » SRNA Committee Recognition

treatment modalities when a crisis arises. To the CRNA team, patient safety, no matter how common or rare the situation, is number one.

"I am very proud of our CRNA group as a whole this past year," said Tiffany Olson. "The workplace has been full of new pandemicrelated stressors on top of the already stressful environment that we work in. Our CRNAs have done an excellent job taking care of each other and remaining committed to our department. Resilience and teamwork amongst the CRNAs has been pivotal this last year." ♥



A group photo during January 2021's CRNA Week. From left: CRNAs Jeff Bedoya, Christian Ford, Allison Russell, Emily Glaser, and Jonathan Huss

High Quality Care



New Members & Promotions

The Department of Anesthesiology proudly welcomed the following team members in the 2020 – 2021 academic year:

PHYSICIANS

Karsten Bartels, MD, PhD, MBA Gabriel Gallegos, MD Jorge A. Gálvez, MD, MBI Marshall Ladd, DO Dennis Thiel, MD Trevor Wilke, MD

SEARCH

CRNAS Lyndsie LaFleur Nicole Maschmeier Erin Meier

Rebecca VanWinkle Michael Wendell John Maru

Congratulations to the following faculty members who were promoted in academic rank on July 1, 2021:

ASSISTANT PROFESSOR Skye Bakker, MD

ASSOCIATE PROFESSOR Amy Beethe, MD Katie Goergen, MD Rachel Spitznagel, MD Sowmya Yelamanchili, PhD (with tenure) PROFESSOR Amy Duhachek-Stapelman, MD Thomas Schulte, MD

TENURE Hanjun Wang, MD

Honoring 50 Years

50 Years of Growth

The UNMC Department of Anesthesiology began as a small but mighty force in 1971. Its physicians, trainees, nurses, and staff had previously spent nine years within the UNMC Department of Surgery, as the Division of Anesthesia, until growth and ambition inspired a graduation from division to standalone department.

A 1972 – 1973 annual report discovered in the archives of UNMC's McGoogan Library revealed that, in the early years, the department had six physicians, various volunteer physicians, a dozen house officers, a half-dozen CRNAs, one faculty researcher, and a dozen supporting roles such as technicians and administrative assistants. By comparison, 50 years later, the department is comprised of roughly 80 physicians, 56 house officers, 72 CRNAs, five faculty researchers, and 30 supporting roles with a wide range of specialized skills. That's nearly 800% growth in personnel!

In the 1960s and 1970s, department faculty established renowned expertise in malignant hyperthermia (MH) and

advanced cardiac life support (ACLS). To this day, UNMC remains one of the few facilities in the nation to have such a high concentration of clinical experts available to respond to MH emergencies, as well as to educate peers nationally and internationally on how to do so. The department's ambition and early adoption to certify all its anesthesiologists in ACLS by the American Heart Association (AHA) led to a university-wide leadership role. Department faculty who were AHA-approved instructors certified hundreds of physicians in ACLS over many years.

By the 1980s, the department had roughly doubled in size. It also marked the start of UNMC's liver transplant program.



The department has a strong history of outstanding patient care, innovation, and excellent educational programs. It has been so gratifying to see the growth and achievements that have come from UNMC Anesthesiology, and it is such an honor to be a part of this amazing department for over 25 years.

Leaders in the department played an important role in establishing the service after shadowing another liver transplant team in Pittsburgh with intentions of starting one at UNMC. The program gradually grew over the years, and was, at one point, ranked as the number-three liver transplant program in the world.

The 1990s and 2000s marked major growth for the hospital system, which, in turn, led to rapid expansion in clinical volumes. In 1997, University Hospital and Clarkson Hospital merged, and the affiliation with Children's Hospital & Medical Center was established in 2007.

During the late 2000s, the department became renowned for its echocardiography expertise. Department cardiothoracic anesthesiologists became expert echocardiographers and led the charge to educate their peers — locally and nationally — to utilize echocardiography as a diagnostic tool to enhance patient care and clinician education. Through national society leadership, national conferences, and research, this group of experts made a global impact. Echocardiography became such a valuable aspect of patient care that the Perioperative Echocardiography Consult Service was established, providing on-demand imaging for any patient in the operating room.

Just after the department hit the 40-year mark in 2011, and with the recruitment of Steven J. Lisco, MD, as the new department chair, a period of rapid growth began. Over the next 10 years, the department would go from offering one fellowship to nine — including all six ACGME-approved fellowships. The residency program added the Clinical Base Year and enriched the education experience with multiple teaching modalities, including high fidelity simulation and a custom-made online resource of study guides prepared by faculty experts.

Research also rapidly grew with the addition of more than a dozen faculty and staff who investigated topics of drug addiction, inflammation, HIV, chronic heart failure, hypertension, lung diseases, and more. In the span of a few years, the department's research funding went from minimal to millions. Additionally, extramural funding expanded thanks to the establishment of eight endowments by six generous donors. Funds generated by the endowments continue to benefit research, education, faculty development, and more.

In 2016, clinicians began looking beyond operating rooms in their communities and briefly turned their focus to Gitwe, Rwanda, for the department's first surgical mission trip as part of its newly founded Global Health Program.

By the start of its sixth decade in 2020, the department has robust depth in its mission to provide compassionate medical care, premiere educational programs, and innovative research. ♥



Onoling 50 Years of Growth: Timeline

1960 1962

The Division of Anesthesiology within UNMC's Department of Surgery consists of one faculty physician, John Jones, MD, two CRNAs, and the department's first resident in the two-year program, Gail Walling Yanney, MD



1970 1970s

 Research and clinical activities on Malignant Hyperthermia begin. UNMC recognized as one of three muscle biopsy testing centers



1971

1979

1980

becomes a standalone department within the UNMC College of Medicine. John Jones, MD, was appointed as department chair of Anesthesiology.



- Anesthesiology 1978 faculty lead university-wide certification efforts for Advanced Cardiac Life Support (ACLS)
 - 🔵 Barbara J Hurlbert, MD, appointed by the American Board of Anesthesiology as department's first oral board examiner until the late 1980s.



Mid-1980s • Faculty growth continues. The residency enrolls ten residents per year.



1985

 UNMC's liver transplant program begins. Anesthesiology leaders play integral role in implementation and training processes. The program becomes one of the top transplant programs in the country.





1997

Merger between University Hospital and Clarkson Hospital expands clinical volume and joins the two workforces. CRNAs return to the department.



 John H. Tinker, MD (above, right), is appointed department chair of anesthesiology.

2000

2005

Early 2001 Children's Hospital & Medical Center completes relocation to a state-of-the-art facility at 8200 Dodge Street. 2002-2003 Oppartment Chair John H. Tinker, MD, begins expanding cardiac anesthesiology coverage.

The Nebraska Biocontainment Unit opens in University Tower. Critical Care anesthesiologists recruited to provide patient care



2007

2008

Cardiac anesthesiologists begin formal training in transesophageal echocardiography at the University of Utah.

Department launches National Echocardiography Training Program, which trains physicians from all over the country through its on-site course.



2009

 Anesthesiologists from Children's Hospital & Medical Center fully integrate with the UNMC Department of Anesthesiology



2010

2010

 Residents and faculty present at the Midwest Anesthesia Resident Conference in Cincinnati, OH



2012

2013

 Department consists of 33 faculty, 21 CRNAs, 1 research faculty, and 12 residents per CA1, CA2 and CA3 class. The categorical residency program is created and adds the clinical base year. Between 2012 and 2014 CBY residency class size grows from four residents to 12

 Steven J. Lisco, MD, is appointed as department chair of anesthesiology. The department expands as an academic unit.



Research

 Walker Thomas, MHPTT, RDCS, recruited as the department's first sonographer



Patient Care

Education

23

• The Perioperative Echocardiography Consult Service is established, leading to development of the Echo Boot Camp.

 Adult Cardiothoracic and Pediatric Anesthesiology fellowships are established.

• Pediatric Anesthesiology is established as the department's first division.



 Pain Medicine division is established.

2014

2015

The Acute Pain Service is established.

The Critical Care fellowship is



• The Cardiac Anesthesiology and Critical Care divisions are established.



Medicine's Biocontainment Unit for Ebola virus treatment. Critical Care division faculty



are recruited to care for the patients.

2014-2019 Department expands research endeavors, recruiting faculty research scientists and clinical research nurses.



 The first Echocardiography CME course is held in Naples, FL. The course attracts clinicians from across the country.

• The Chronic Pain Fellowship is reinitiated and recertified.





• The Critical Care Anesthesiology service is established and rapidly grows, expanding to multiple teams and 24/7 coverage the following year.



• Global Health program embarks on first surgical mission trip to Gitwe, Rwanda, leading to yearly growth in patient care, education, and research.



• Megan Chacon, MD, appointed as director of global health.

2017

2018

2016

Pamela Buffett Cancer Center opens. Critical Care anesthesiology expands to threeteam model with 24/7/365 coverage.

• The Fred &



• Four department members join the Xtreme Everest research expedition to study hypoxia in high-altitude environments.



 The Perioperative Echocardiography fellowship is established.
 Digitization of



trainee curriculum begins with recruitment of instructional designer Faye Haggar, EdD. Curriculum is enhanced with clinical and exam-based simulation technology.

 The Regional Anesthesiology and Acute Pain Medicine Fellowship is established.



• Tim Glidden, director of nurse anesthesia, awarded the first APRN/ PA Excellence Award by Nebraska Medicine.

Division, the department's largest,

established as the fifth division.

The Multispecialty



2019

2020 2020

2021

 Amy Duhachek-Stapelman, MD, named UNMC 2019-20 Varner Educator Laureate.



 Regional Anesthesiology & Acute Pain Medicine Fellowship established.

• COVID-19 patients from the Diamond Princess cruise ship arrive at the Nebraska Biocontainment Unit for treatment. Critical Care division faculty are recruited to monitor patients.

• Multiple department members lead response to the COVID-19 pandemic, guiding their local and global communities in health safety and mental wellbeing.



 The Liver Transplant Fellowship is established.

• Over the past six years, seven new endowments have been awarded for a total of eight endowed appointments within the department. We are grateful for these generous donations that benefit department missions of research, faculty development, diversity, equity and inclusion, and more.



Honoing 50 Years of Growth: A Look Back





















































21









Photo Key

- 1. Gail Walling Yanney, MD, College of Medicine senior photo, 1961. Dr. Walling Yanney went on to become the department's first resident in 1962.
- 2. Southside canopy at South Laboratory (now Bennett Hall), 1963.
- 3. Amphitheater in the South Laboratory (now Bennett Hall), 1969.
- Members of the Department of Anesthesiology, early 1970s. From left: Dan Wingard, MD, Kenneth Barienbruch, MD, John Jones, MD (Chair), Denis Cuka, MD, Joe Redding, MD.
- Members of the Department of Anesthesiology, 1970s. From left: Dan Wingard, MD (Chair), Sandy Jessup, CRNA, James Chapin, MD, Jan Turner, CRNA, Bill Obrecht, CRNA.
- James Chapin MD, College of Medicine senior photo, 1972. Dr. Chapin received the Malignant Hyperthermia Association of the United States (MHAUS) Hotline Partnership Award during the American Society of Anesthesiology Annual Meeting in 2007.
- 7. K. Reed Peters, MD, College of Medicine senior photo, 1975.
- Carol Lydiatt, MD, College of Medicine senior photo, 1985. Dr. Lydiatt stayed as a pediatric anesthesiology faculty member for most of her career and established an endowment upon her retirement.
- Denise Drvol, MD, College of Medicine senior photo, 1986. Dr. Drvol was a compassionate pediatric anesthesiologist who worked more than 27 years at Children's Hospital.
- 10. Nancy Rogic, MD, College of Medicine senior photo, 1989.
- Sheila Ellis, MD, College of Medicine senior photo, 1992. Dr. Ellis served as an interim chair, vice chair for faculty development, and president of the medical staff for Nebraska Medicine.
- A resident group photo, June 1993. Back, from left: Rex Crumpacker, MD, Ed Drobny, MD, Mike Hurt, MD, Wendell Johnson, MD, Terry Gee, MD. Middle, from left: Terry Stock, MD, Jim Bertus, MD, Bob Foley, MD, Gaylon Nepper, MD, Dave McConnell, MD, Ben Howard, MD. Front, from left: Shannon Bonness, MD, Scott Hofmann, MD, Jeff Nichols, MD, Alan Brewer, MD, Jeff Hawthorne, MD, Joe Ford, MD, Nancy Rogic, MD, Diane Bottolfson, MD.
- Jean Simonson, MD, College of Medicine senior photo, 1993. Dr. Simonson served as residency program director for many years.
- A group photo of Class of 1994 residency graduates. Back, from left: Salah Nasser, MD, Wendell Johnson, MD, John Massey, MD, Dave McConnell, MD, Phil Essay, MD. Front, from left: Scott Hofmann, MD, Jeff Edwards, MD, Diane Bottofison, MD, Jeff Hawthorne, MD, Mike Zaino, MD.
- A resident group photo, 1996. From left: Gregg Hirz, MD, Jeff Munro, MD, Paul Mihalakakos, MD, Sheila Ellis, MD, Tony Ruggeroli, MD, Rick Schroeder, MD, Jeff Chvilicek, MD, John Navarro, MD ('97).
- Former department chair John H. Tinker, MD (left), and James Chapin, MD (right), 1998.
- 17. Ellen Roberts, MD, College of Medicine senior photo, 1999. Dr. Roberts serves as vice chair for clinical operations.
- John H. Tinker, MD, Candice Montzingo, MD, and sixth graders discuss the role of anesthesiologists in the operating room, 2005.
- Huiling Pang, MD, PhD, was the recipient of the UNO Women of Color Award in Science and Technology, March 2007.
- 20. A group photo following a Martin Luther King Jr. Day event at UNMC, January 2008. Back row, from left: Preston Love Jr., actor John Beasley, Ted Lange, and Vincent Lee Alston. Front row, from left: Tyrone Beasley, Linda Cunningham, Jo Giles, Myrna Newland, MD, Frank Pietrantoni.
- 21. John H. Tinker, MD, retired from his role as the longest-serving Department Chair in July 2008.
- 22. Residents at the Midwest Anesthesia Resident Conference (MARC), Cincinnati, OH, 2010. Back, from left: Allen Stoye, MD, Elford Stephens, MD, Travis Teetor, MD, Wes Prickett, MD, Kyle Ringenberg, MD. Front, from left: Jill Faraci, MD, Kim Harden, MD, Jeff Kasselman, MD, Michelle LeRiger, MD, Fred Rock, MD, Phil Strapp, MD, Nicholas Markin, MD.
- 23. Sasha Shillcutt, MD (left), and Tara Brakke, MD (right), passed the ASCeXAM and then the PTEeXAM in 2010, qualifying them to use transthoracic and transesophageal echocardiogram technology to improve patient care in and outside the operating room.
- Residents at the American Society of Anesthesiologists (ASA) conference in Chicago, IL, 2011. From left: Megan Chacon, MD, Jeana Pecha Pasternak, MD, Mark Reisbig, MD, Dustin Ward, MD, Michael Lankhorst, MD.
- 25. Gitwe Hospital exterior in Gitwe, Rwanda, 2011.
- 26. In the cardiac OR, Thomas Schulte, MD, utilizes transesophageal echocardiography, 2013.
- 27. Excitement at Match Day, 2018.
- In the lab of Hanjun Wang, MD. From left: Lu Qin, PhD, Hanjun Wang, MD, Juan Hong, PhD.

























































Photo Key

- 29. Faculty at the annual echocardiography course in Naples, FL, 2018. Back, from left: Greg Janelle, MD (University of Florida), Sonographer Walker Thomas, Nicholas Markin, MD, Mike Moulton, MD, Vince Pompelli, MD, Archit Sharma, MD. Front, from left: Amy Duhachek-Stapelman, MD, Sasha Shillcutt, MD, Megan Chacon, MD, Tara Brakke, MD, Shaun Thompson, MD.
- Local Gitwe Hopsital staff with Medical Missions for Children team members from Massachusetts, Michigan, Nebraska, and Utah, 2018.
- 31. Operating room in Gitwe, Rwanda, 2018.
- 32. A patient and Archana Ramesh, MBBS, in Gitwe, Rwanda, 2018.
- 33. Guiding a patient in an operating room at Gitwe Hospital, Rwanda, 2018.
- 34. A mannequin lies on a bed in a simulation lab, 2018.
- 35. Residents engage in a simulation lab. From left: Kristin Wakin, MD, Archana Ramesh, MBBS, Greg Shaw, MD, Catrina Johnson, MD.
- 36. Departure to Gitwe, Rwanda. From laft: Cale Kassel, MD, Shelby Gustin (Bonnemier), medical student, Michelle Thomas, Echocardiography Program Coordinator, Julia Hoffman, RN, Jeff Bedoya, CRNA, Kyle Johnson, MD, Britta Dosland, MD, Tim Glidden, Director of Nurse Anesthesia, Liz Zabawa, RN. 2019.
- Anesthesiology residents Rachel Quandahl, MD (left), and Michele Iverson, DO (right), engage in a neonatal simulation lab, 2019.
- 38. Peter Pellegrino, MD, PhD, prepares for a case, 2019.
- Sonographer Walker Thomas utilizes echocardiography on a gorilla at the Henry Doorly Zoo, 2018.
- 40. Critical Care team members engage in a neonatal crisis drill for Ebola, 2019.
- 41. Kristin Wakin, MD, and Peter Pellegrino, MD, PhD, in the operating room, 2019.
- 42. From left: Carol Lydiatt, MD, donor and retired pediatric anesthesiologist; Mohanad Shukry, MD, PhD, former pediatric division chief, executive vice chair, Jane Kugler, MD, donor and pediatric anesthesiologist; and Steven J. Lisco, MD, department chair, celebrate the announcement of Drs. Lydiatt and Kugler's endowed professorships that support pediatric faculty development, 2019.
- Pediatric anesthesiology faculty observe a scheduling board at Children's Hospital & Medical Center, 2019.
- 44. Ahsan Ωadeer, MBBS, during a pediatric cardiac anesthesiology case in the new hybrid catheter lab at Children's, 2019.
- 45. Interosseous training during Grand Rounds, 2020.
- 46. Graduating residents gather for a group photo at the pandemic-appropriate outdoor graduation celebration, 2021. From left Levi Zehr, MD, Mike Warden, MD, Dan McDonald, MD, Haiying (Tom) Liu, MD, Frin Renze, DO, Codi Guck, DO, Clayton Damme, MD, Maireen Miravite, MD, Redgy Fuller, DD, Michael Neilson, MD.
- Notes and treats from the Omaha community at a COVID-19 vaccine clinic, 2020.
 Anesthesia technicians pose for a brief photo during Anesthesia Tech Week,
- 2021. From left: Ted Raven, Erica Wyatt, Michelle Janky, Jackie Barillas. 49. Ellen Roberts, MD, and Brandon Alex, MD (cardiac anesthesia fellow), in the
- operating room, 2021.
- 50. From left: Austin Adams, MD, and Cole Sievers, MD, in the operating room, 2021.
- 51. From left: Codi Guck, DO, and Megan Chacon, MD, in the operating room, 2021.
- 52. From left: Katie Goergen, MD, Michael Neilson, MD, Thomas Lockhart, MD, and Erin Renze, DD, engage in point-of-care ultrasound (PoCUS) training, 2021.
- 53. The UNMC Department of Anesthesiology bolsters its national presence by annually attending and contributing to the national professional societies' meetings. From left: Steven J. Lisco, department chair, Jorge Gálvez, MD, MBI; Maireen Miravite, MD, Erin Renze, DD, Mohanad Shukry, MD, PhD.

Special Thanks

The UNMC Department of Anesthesiology extends a special thanks to Barbara J. Hurlbert, MD, Sheila Ellis, MD, Myrna C. Newland, MD, K. Reed Peters, MD, Jean Simonson, MD, Tim Glidden, CRNA, and Dianne Roth for their tremendous support in collecting, retelling, and sharing the historical material included in this report.

Honoring 50 Years

A Department Logo

In 1972, Joe Redding, MD, created a department logo to commemorate the UNMC Department of Anesthesiology's establishment as an independent entity within the College of Medicine in 1971.

VITAL SYMBOLS

There are four main symbols used in anesthesiology to communicate information about patient vitals. Physicians used these symbols on paper patient charts, and the practice has continued into the digital age. The X represents mean arterial blood pressure. Continuing clockwise to the right, the open circle represents respirations or the number of breaths per minute. The separated carats at the bottom-right denote systolic and diastolic blood pressure. The closed circle at the bottom-left represents heart rate.

THE MOTTO

"Universitas Nebraskensis Anaesthesiologica" is the latinized name for the Department of Anesthesiology. The bottom Latin phrase "Servare Vitam" translates roughly as "to save life" or "to protect life." The University of Nebraska system's official seal also features a Latin motto.



THE ROD OF ASCLEPIUS

This symbol represents medicine and healing. It features a serpent coiled around a rod or staff. The symbol is often mistaken for the Caduceus, which has two wings, two serpents, and instead represents commerce and trade.

THE LIGHTHOUSE

Adopted from the ASA's original seal in 1932, the lighthouse has become a well-known symbol in anesthesiology, representing knowledge and dependability. Using the "light" of their expertise, physicians symbolically guide patients through the "fog" of sleep to positive outcomes.

A Life of Service



Myrna C. Newland, MD Professor Emeritus of Anesthesia

In 2017, DigitalCommons@UNMC shared an oral history interview with Myrna C. Newland, MD, Professor Emeritus of Anesthesia and longtime leader in both the department and the community.

The Anesthesia Shuffle

THE AMESTHESIA SHUFFLE

In June 1986, UNMC Department of Anesthesiology residents created "The Anesthesia Shuffle" as a comedic parody of the Chicago Bears' classic song and video, "The Superbowl Shuffle."

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Scan this QR code with your smartphone camera to watch the department's hilarious rendition.

Of course, no music video is complete without a blooper reel.



Scan this QR code with your smartphone camera to enjoy behind-the-scenes outtakes from "The Anesthesia Shuffle."



Scan this QR code with your smartphone camera to listen to Dr. Newland's story.

Premier Education

Congratulations Resident Graduates!

Residents of the class of 2021 share their career plans after graduation.



Clayton Damme, MD (Chief Resident) Chronic Pain Fellowship, UNMC



Redgy Fuller, DO Chronic Pain Fellowship, UNMC



Codi Guck, DO Chronic Pain Fellowship, UNMC



Haiying (Tom) Liu, MD Cardiothoracic Anesthesia Fellowship, UNMC



Daniel McDonald, MD Cardiothoracic Anesthesia Fellowship, UNMC



Maireen Miravite, MD (Chief Resident) Pediatric Anesthesiology Fellowship, UNMC



Michael Neilson, MD West River Anesthesiology Consultants, Rapid City, SD



Benjamin Nelson, MD Valley Anesthesiology Consultants, Phoenix, AZ



Erin Renze, DO Pediatric Anesthesiology Fellowship, UNMC



Angela Shields, MD Pediatric Anesthesiology Fellowship, UT Southwestern



Michael Warden, MD Pain Management Fellowship, University of Toledo College of Medicine and Life Science



Levi Zehr, MD Critical Care Anesthesiology Fellowship, UNMC

Awards

Brad Paulson Award for an Outstanding Medical Student in Anesthesiology

Olivia Sonderman, MD

CBY Teacher of the Year

Christopher Bingcang, MD Department of Otolaryngology

CA1-CA3 Teacher of the Year Thomas Nicholas, MD Kristin Wakin, MD

Certificates of Academic Excellence (75th percentile or greater on ABA In-Training Exam) Teddy Black, MD

Jae Cauble, DO Clayton Damme, MD Michael Dancer, MD Redgy Fuller, DO Codi Guck, DO Zhaohui Hu, MD John Riley, MD Megan Rolfzen, MD Blaine Schlawin, DO Apollo Stack, MD Levi Zehr, MD

Premier Education

Incoming Residents

On Match Day (Friday, March 19, 2021), the UNMC Department of Anesthesiology welcomed eight new residents to join in July 2021 as CBYs, and two advanced residents to join in July 2022 as CA1s. The 10 residents will form the Class of 2025.

UNMC's Match Day ceremonies were held in Bellevue, NE at Falconwood Park's drive-in theater to safely accommodate an in-person event during the pandemic. Prospective residents and their loved ones enjoyed each other's company on the momentous day from their individual vehicles or in a green space while abiding by the CDC's guidelines to gather outside, remain socially distant, and wear masks.

We are pleased to welcome:



Blair Benton, MD University of Kansas School of Medicine-Wichita



Nathan Goergen, MD, PhD



Jane Goodson, MD University of Minnesota



Lauren Greufe, MD UNMC (Advanced)



William Guthmiller, DO Des Moines University (Advanced)



Paul Harding, MD



Jeremy Payne, MD



Zachary Schell, MD Indiana University



Elizabeth Ternent, DO Des Moines University



Taylor Ziegler, MD

Congratulations Fellow Graduates!

Fellows of the Class of 2021 share their career plans after graduation.

Cardiothoracic Anesthesiology



Brandon Alex, MD Anesthesia West, Omaha, NE



Stephen Brannan, MD Department of Anesthesiology, UNMC



Tammer Ghaly, MD Department of Anesthesiology, Yale, Bridgeport, CT



Kristina Koch, DO Winchester Medical Center, Winchester, VA

Critical Care



Emma Nash, MD Critical Care & Emergency Medicine, St. Luke's Medical Center, Milwaukee, WI



Thomas Perry, DO Department of Emergency Medicine, UNMC



Sean Rajnic, MD Department of Anesthesiology, UNMC



Cole Wrisinger, DO Private Practice Anesthesiology, Kansas City, MO



Brian Zhao, DO Cardiothoracic Anesthesia Fellowship, UNMC

Pain Medicine



James Dreessen, MD Department of Anesthesiology, UNMC



Amber Guck, DO Private Practice Anesthesiology, Naples, FL



Zack Smith, MD Central Texas Pain Center, Austin, TX

Pediatric Anesthesiology



Mackenzie Laurila, DO Children's Hospital & Medical Center, Omaha, NE

Regional Anesthesiology and Acute Pain Medicine



Raime Robinson, MD VA Medical Center, Las Vegas, NV

Liver Transplant Anesthesiology



Trevor Wilke, MD Department of Anesthesiology, UNMC

Premier Education

Incoming Fellows

Adult Cardiothoracic Anesthesiology



Haiying (Tom) Liu, MD



Dan McDonald, MD



Aldis Siltumens, MD Mayo Clinic



Brian Zhao, DO University of Louisville

Critical Care



Kyle Gronbeck, MD UNMC, Emergency Medicine



Molly Johnson, MD University of New Mexico, Emergency Medicine



Chandni Ravi, MBBS Rutgers New Jersey Medical School



Patrick Ward, DO University of Missouri



Levi Zehr, MD

Pain Medicine



Clayton Damme, MD



Redgy Fuller, DO



Codi Guck, DO

Pediatric Anesthesiology



Maireen Miravite, MD



Erin Renze, DO

A Team Approach to Residency Program Directorship

The UNMC Department of Anesthesiology's residency program restructured their leadership team, moving from two general associate program directors to a team of three associate program directors (APD) that each focuses on a facet of the resident experience.

In early September of 2020, Cale Kassel, MD, was named the associate program director for rotations and operations, and Joseph Pawlowski, MD, was named the associate program director for performance and wellbeing. The two faculty join Katie Goergen, MD, who has been an associate residency program director since 2016. Dr. Goergen will now focus primarily on resident education. These three faculty form a team that will oversee the entire resident experience and operate under the direction of program director Andrea Dutoit, MD, and vice chair of education, Amy Duhachek-Stapelman, MD.

"Drs. Kassel and Pawlowski have exhibited enthusiasm and excellence in education, mentorship, and patient care, and will be valuable additions to the residency education program," said Dr. Duhachek-Stapelman.

The restructuring of the anesthesiology residency education team aims to provide more expertise and timely support to residents and faculty alike.

"There are a lot of different responsibilities and facets to running and maintaining a busy residency program," said Dr. Dutoit. "By distributing these roles, each educator can really dive deep, innovate, and be attentive to each area to build it to be the best it can be. Having these roles also increases the education team's ability to respond to comments and inquiries in a timelier fashion while we balance our clinical, educational, and administrative responsibilities."

Dr. Pawlowski, who joined the department in Fall of 2018, believes that a successful

residency program is one that not only offers a robust curriculum, but also provides a supportive and healthy environment for trainees to experience a balanced life.

"I've been struck by how the faculty here so easily blend high expectations and professionalism with kindness and mentorship," Dr. Pawlowski said. "The people and tools are already in place to continue striving for a world-class residency program, and I'm excited to work with Dr. Dutoit and the other APDs with an eye toward the future. I believe the American Society of Anesthesiologist's motto, 'Vigilance,' can apply not only to patient care but to how we care for ourselves and each other."

Dr. Kassel, an alumnus of UNMC's Anesthesiology residency program, was named chief resident in 2014. Through that experience he saw the "behind-the-scenes" operations of residency, and recognized opportunities to teach and mentor residents.

"One of the greatest joys in teaching residents is seeing their development from a new resident who is nervous but eager to learn into a confident, capable anesthesiologist as they graduate," Dr. Kassel said. "What UNMC and Nebraska Medicine offer in terms of both breadth and depth of challenging cases is a great opportunity to develop world-class physicians. I am excited for the opportunity to work with the residency program leaders and the fantastic support staff we have." ♥



Katie Goergen, MD, associate residency program director for education



Cale Kassel, MD, associate residency program director for rotations and operations



Joseph Pawlowski, MD, associate residency program director for performance and wellbeing

Premier Education

Inaugural Liver Transplant Fellow Turns Faculty

Following completion of his residency at UNMC in June 2020, the Department of Anesthesiology welcomed Trevor Wilke, MD, as the first Liver Transplant Anesthesiology fellow.

aculty from the Multispecialty division established the fellowship in 2020, committed to the goal of training and mentoring future liver transplant anesthesiologists. The fellowship offers a broad clinical experience, including clinical experience with cadaveric adult and pediatric liver transplantation and living donor liver transplantation. In addition, the fellowship includes didactic lectures and conferences, a hands-on echocardiography rotation, a journal club, and regular clinical care meetings with anesthesiologists and surgeons, all of which are part of the fellowship's robust educational series.

Dr. Wilke discussed his experience as a liver transplant fellow.

"The liver transplant fellowship is going very well," Dr. Wilke said. "I have the opportunity to work with fantastic anesthesiologists every single day as well as our great surgical colleagues. The goal for me was to complete fifty transplants during my one-year fellowship. In less than six months, I completed 41 transplants, 8 of which were pediatric transplants."

In addition to his work in the operating room, Dr. Wilke has continued moving toward completion

of his requirements for a Basic Perioperative Transesophageal Echocardiography certification. He has also been involved in two research projects with faculty colleagues. The first project involved pediatric transversus abdominis plane (TAP) blocks for postoperative pain management, while the second project reviewed COVID-19's impact on liver transplantation cases.

Liver transplants have continued throughout the COVID-19 pandemic, which Dr. Wilke said is partly due to the institution's patient population. "When comparing numbers during the pandemic to the same timeframe in 2019, we have actually performed more transplants in 2020," he said. "We have been fortunate thus far at UNMC to have the ICU capacity to continue performing liver transplantations."

In a promotional video about the new fellowship, Dr. Wilke described his experiences with his colleagues. "The faculty on the transplant team are role models I've looked up to throughout my residency," he said. From faculty to residents, Dr. Wilke said that everyone knows one another by name and by face, which adds to the supportive atmosphere he joined as a new faculty member.



Trevor Wilke, MD, joined the faculty in July 2020

"Overall, the knowledge, experience, and skills I gained during my liver transplant fellowship were exceptional. I look forward to utilizing those tools when caring for the complex patients we see at UNMC, especially those undergoing a liver transplantation," Dr. Wilke said. "I want to thank those on the liver transplant team for the time and effort they put towards my education last year. We are excited for the next fellow to come through the program in July of 2022."

To learn more about the Liver Transplant Anesthesiology fellowship program, watch our promotional video by scanning this QR code with your smartphone camera.



Dr. Schlawin One of Six UNMC Gold Humanism Honor Society Resident Inductees

UNMC inducted its seventh class of Gold Humanism Honor Society (GHHS) members in February 2021. Among them was chief resident Blaine Schlawin, DO, one of only six UNMC residents selected annually for the honor.

Dr. Schlawin was nominated for his unique combination of passion, empathy, relaxed demeanor, and genuine care for everyone. Nominators noted that he takes extraordinary care of not only his patients, but of his colleagues as well.

- "When I work with Blaine there is not one faculty, fellow, resident, nurse, tech, cafeteria worker, or environmental services worker who does not greet Blaine by name," said an anonymous nominator. "He clearly goes out of his way to create a wonderful working environment which facilitates a cohesive and thus safer backdrop for patient care."
- "Blaine takes time to not only talk to patients about their medical conditions and plans for anesthesia care, but he is deliberate in listening beyond their words to tone, cadence, and body language which shows a high level of emotional intelligence and elevates his ability to provide physical, emotional, and mental care of his patients," the nominator said.

In recent years, Dr. Schlawin worked to make pediatric care at UNMC less traumatic for patients and their families. He collaborated with child life services and others in the perioperative area to develop the UNMC Perioperative Pediatric Anxiety Pathway. The multidisciplinary approach utilizes more expert support, evidence-based pharmacologic and non-pharmacologic practices, and education of nurses, physicians, nurse anesthetists, and others. "Blaine demonstrates all the qualities of a GHHS member, actively keeps the human aspect of clinical care in sharp focus and goes above and beyond the normal expectations to care for his patients, their families, and his colleagues from faculty physicians to those who help clean the operating rooms," said the anonymous nominator. "His selection to GHHS would only elevate the society's reputation for humanistic patient care."

"Dr. Schlawin has been an exemplary resident and human being," said Mohanad Shukry, MD, PhD, executive vice chair. "His positive interactions with everyone are a joy to witness, and we are thrilled he is staying with us for another year as a fellow in pediatric anesthesiology. We all have a lot to learn from Blaine."

The GHHS has 160 medical school chapters around the nation with more than 35,000 members in training and practice. UNMC's chapter was established in 2014. Each year, inductees are selected through a vetted peerand faculty-nomination process. Members must model, support, and advocate for compassionate, patient-centered care. ♥



Blain Schlawin, DO, anesthesiology chief resident and GHHS member

Blaine demonstrates all the qualities of a GHHS member, actively keeps the human aspect of clinical care in sharp focus and goes above and beyond the normal expectations to care for his patients, their families, and his colleagues—from faculty physicians to those who help clean the operating rooms.

Premier Education

Residency Program Adapts to Virtual Interviews

For the 2020 resident interview season, the UNMC Department of Anesthesiology's residency program adapted in response to the COVID-19 pandemic by conducting virtual interviews for residency candidates.

As COVID-19 restrictions eased in the summer of 2020, conditions appeared to be stabilizing, leading some educators to wonder how residency interviews would proceed in the fall. But when COVID-19 case numbers began to rise throughout the country, the education team knew that interviews would have to be conducted online.

The team set out to recreate the resident visitation experience virtually. Visitations and interviews are major steps in the matching process that allow applicants to evaluate all aspects of a residency program. For more feedback, the team thought it was best to go straight to the source by surveying the previous year's application pool and most importantly, recently matched CBYs. Respondents asked the team to consider more ways for applicants to explore resources on their own time.

"In some ways, we had to build our interview process from the ground up again," said Andrea Dutoit, MD, residency program director. "We had to get creative in order to ensure a virtual experience that truly engages applicants and provides them with the content they desire."

For the virtual interview process, the team opted to provide applicants with a combination of asynchronous and synchronous activities. Applicants selected for interviews received an email one week prior to their interview day that included all necessary links, dates, and times. For each applicant, the team reduced the total number of interviews and divided the day into two sessions to decrease individual session times. Additional online resources, including videos, were also created and made available to interviewees.

"One of our CBYs suggested that we include a video option for the residency overview presentation to help applicants manage the stress and anxiety of interviewing and being on camera. A video with this information makes for a more transparent process by allowing applicants to explore that information on their own time and not solely during the interview," Dr. Dutoit said.

There are tangible benefits to conducting residency interviews virtually. "For one, it's easier to follow our schedule and ensure that applicants get the most out of their time with us," said Dr. Dutoit. "Another benefit is reduced cost. Travel and time investments were less of an obstacle for applicants."

While the first round of virtual interviews in 2020 was very successful, the educational team plans to make changes to the 2021 interview cycle in hopes of optimizing the experience for applicants and matching another great



Andrea Dutoit, MD, resident program director

group of residents to the UNMC Anesthesiology Residency Program. Even when in-person interviews are again an option, anesthesiology residency programs nation-wide agree that virtual interviews will continue to be a part of the recruitment process, Dr. Dutoit said.

"Adapting has required many hours of thought and feedback," she said. "I appreciate the interview committee, our faculty, the residents, and all the time they've spent investing in feedback to help us create something special." V



On interview days prior to COVID-19, applicants had direct access to the people and facilities where they could spend the next four years. To safely replicate that experience, our residents volunteered to talk about the structure and culture of the program.

Scan this QR code with your smartphone camera to hear their stories.



Learning Portal Ready for Pandemic

Four years ago, the UNMC Department of Anesthesiology shifted the way educational content was presented to trainees. Created in response to resident and fellow feedback, there was a major overhaul focused on increasing digital learning opportunities and decentralizing didactics.

This included moving formal didactics to the afternoon, significantly decreasing structured time in the classroom, shifting content discussions from the classroom to the clinical setting, incorporating active learning, and providing digital learning resources to supplement clinical rotation curriculum by building a Learning Portal.

This approach to learning, while not new in higher education, was innovative in graduate medical education. As one of the first programs in the nation to offer online curriculum, our trainees valued the self-directed learning opportunities and ease in accessing materials. The portal included over 500 specialtyspecific content items like keywords, lectures, interactive modules, and supplemental rotation content.

"Being able to provide this content to our trainees is invaluable. We do not have to seek external, third party produced resources," said Faye Haggar, EdD, director of education development & academic technology. "Additionally, since the content is created by our expert faculty, our trainees do not have to worry about accuracy or reliability, as they may when doing a web search of a topic."

Importantly, the existence of a Learning Portal before the onset of COVID-19 allowed the department to transition to online learning seamlessly, which provided trainees with academic continuity. The department's learning technology was a strategic differentiator in the success of continued teaching, evidenced by the Learning Portal's usage statistics. During the first six months of the pandemic (April 2020 to September 2020), the Learning Portal saw 20 unique visitors each day, which represents 34% of trainees. This was an increase of 54% from six months prior to the pandemic, in which 13 unique visitors accessed the portal each day.

"Increased portal use has highlighted the need to provide more digital learning opportunities. Projects in our department queue include podcasts, e-learning modules, and interactive videos. Additionally, our trainees are interested in creating digital content as part of their academic portfolios," Dr. Haggar said.

"The learning portal is another innovative way our department members advance our mission," said Mohanad Shukry, MD, PhD, executive vice chair. "The platform allows asynchronous learning and creates a learning community. Dr. Haggar, our faculty, and our learners should be commended for their efforts. Few other academic departments in the country have such a resource."

A former trainee described the Learning Portal as a "one-stop shop" for case preparation, citing keywords, clinical protocols, facultycreated videos, and research and presentation information as valuable materials to access on-demand. Dr. Haggar echoed this, saying that the Learning Portal has value in a postpandemic world, and students will continue to benefit from remote access to supplemental resources. ♥



Faye Haggar, EdD, director of education development & academic technology

Being able to provide this content to our trainees is invaluable. We do not have to seek external, third party produced resources.

– Faye Haggar, EdD

Innovative Research

Research Lab Personnel

The UNMC Department of Anesthesiology's research team consists of PhD and MD research faculty, instructors, research nurse coordinators, and administrators who work together to support the department's research objectives.

LEADERSHIP



Vice Chair of Research

MBA

Professor

Anesthesiology

ADMINISTRATION



C. Melissa Campbell Research Administrator II



Faye Haggar, EdD Assistant Professor Director of Education and Academic Technology



EDUCATION & TECHNOLOGY RESEARCH LABORATORY

Danstan Bagenda, PhD Assistant Professor Statistical Researcher

DR. BARTELS LABORATORY

Karsten Bartels, MD, PhD,

Robert Lieberman Endowed Chair of



Karsten Bartels, MD, PhD, MBA Professor Vice Chair of Research Robert Lieberman Endowed Chair of Anesthesiology



Julie Hoffman, RN Research Nurse Coordinator



Lace Sindt, RN Research Nurse Coordinator

DR. PENDYALA LABORATORY



Gurudutt Pendyala, PhD Associate Professor Anesthesiology Research Faculty Robert Lieberman Professor of Anesthesiology Research



Victoria Schaal Research Technologist



Sneh Koul Research Technologist



Adrian Flores Graduate Research Assistant



Jordan Hernandez Graduate Research Assistant



Melody Nguyen Graduate Research Assistant

DR. SCHILLER LABORATORY



Alicia Schiller, PhD Assistant Professor & Anesthesiology Research Faculty



Nicholas Markin, MD Associate Professor & Director of Perioperative Imaging



Walker Thomas, MHPTT, RDCS Assistant Professor & Cardiac Sonographer



Peter Pellegrino, MD, PhD Chief Anesthesiology Resident

DR. WANG LABORATORY



Hanjun Wang, MD Associate Professor & Research Faculty Margaret R. Larson Professor of Anesthesiology



Nikolay Karpuk, PhD Senior Research Scientist



Juan Hong, PhD Postdoctoral Fellow



Kajal Kamra Graduate Research Assistant



Oliver Kitzerow Graduate Research Assistant



Zhiqiu (Claire) Xia Graduate Research Assistant

DR. YELAMANCHILI LABORATORY



Sowmya Yelamanchili, PhD Associate Professor Research Faculty



Subhash Chand, PhD Postdoctoral Research Associate



Mason Savine Research Technologist



Austin Gowen Graduate Research Assistant



Olivia Loh Graduate Research Assistant



Katherine Odegaard Graduate Research Assistant



Dr. Wang Receives Distinguished Scientist Award



Hanjun Wang, MD, associate professor (with tenure), anesthesiology

Department research faculty member Hanjun Wang, MD, was one of nine UNMC researchers to receive the 2020 Distinguished Scientist Award at a virtual ceremony in February 2021. The honor is sponsored by UNMC Chancellor Jeffrey P. Gold, MD, and recognizes researchers who have been among the most productive scientists at UNMC during the past five years.

Dr. Wang's research focuses on neuromodulation and cardiopulmonary diseases. He aims to develop novel therapies to treat cardiopulmonary diseases and chronic pain. Dr. Wang's laboratory has a long track record in exploring the role of skeletal muscle afferents in mediating cardiopulmonary dysfunction and exercise intolerance during physical activity in chronic heart failure (CHF).

He hopes his research will make a difference because of his lab's special interest in the role of sensory/ visceral nerves in modulating cardiopulmonary activity in diseases such as heart failure, lung injury, peripheral arterial disease, and hypertension. The potential contribution of sensory dysfunction to the development of these diseases has been largely ignored in this field. Dr. Wang's research provides a more mechanistic understanding how sensory dysfunction causes or contributes to further development of various cardiopulmonary diseases. Eventually, he wants to develop novel neuro-modulation therapies to treat these diseases. In collaboration with Iraklis Pipinos, MD, in the UNMC Department of Surgery, Dr. Wang and his team are exploring a new role of skeletal muscle afferents in mediating claudication in peripheral arterial disease (PAD). The teams are developing a novel therapeutic concept to treat claudication by selective ablation of skeletal muscle afferents with the ultrapotent neurotoxin, resineferitoxin (RTX).

In addition, in collaboration with the lab of Irving Zucker, PhD, Dr. Wang also demonstrated a therapeutic potential of using RTX to treat cardiovascular dysfunction in CHF and hypertension.

Another collaboration between Dr. Wang and Dong Wang, PhD, explores a new therapeutic concept that removal of neural inflammation in peripheral sensory/autonomic ganglia by local delivery of some anti-inflammatory nanomedicine can improve cardiopulmonary dysfunction in CHF and acute lung injury. ♥

Team Explores Drug-Free Hypertension Treatment

A multidisciplinary team, led by UNMC Anesthesiology faculty researchers, is exploring a treatment for a chronic disease. Hypertension, or high blood pressure, is a leading risk factor for heart attacks and strokes. It affects almost 30 percent of the population worldwide, and is often treated with multiple drugs, at high doses, with potentially significant side effects.

N ow, a multidisciplinary team of UNMC researchers is working on an innovation that could turn a once-promising idea into a game-changing breakthrough: a drug-free hypertension treatment.

Renal nerves deliver signals from the fight-or-flight centers of the brain to the kidney, contributing to high blood pressure. It is well-established in animal models of hypertension; removal of these nerves by an invasive surgical procedure reduced or normalized blood pressure.

"There are preclinical studies showing this is effective," said Yiannis Chatzizisis, MD, PhD, professor of cardiovascular medicine.

Thus, the development of minimally invasive, catheterbased devices to destroy these nerves in humans generated extraordinary excitement, drawing billions of dollars of private investment from major medical device companies.

But the first pivotal clinical trial, published in the *New England Journal of Medicine*, showed no blood pressure difference between the renal denervation and a placebo procedure. The consensus was that the patients in this early trial simply did not receive effective treatments.

"This is not like a stent or a new valve where you can instantly see the effects of the intervention. You have no idea if you've performed a successful (renal denervation) procedure or not," said Alicia Schiller, PhD, assistant professor of anesthesiology, the project's principal investigator.

Dr. Schiller, anesthesiology chief resident Peter Pellegrino, MD, PhD, their mentor, Irving Zucker, PhD, professor of physiology, Dr. Chatzizisis, and Hanjun Wang, MD, associate professor of anesthesiology, invented software that uses blood pressure and flow signals from the kidney artery to see if these renal nerves were still functional. Using this technology, investigators could know immediately whether the procedure was effective. If ineffective, the patient would receive another round of denervation.

This new validation technology, coined as "sympathetic vasomotion," is safe, quick, and uses the data from a common catheter. "Nothing fancy," Dr. Chatzizisis said.

This idea was born from Drs. Schiller's and Pellegrino's dissertation work with Dr. Zucker. The research then flourished with Dr. Pellegrino's technical expertise and engineering background and Dr. Chatzizisis' interventional cardiology expertise. Their invention was patented with help from UNeMed, UNMC's technology transfer and commercialization office.

The team's original studies were funded by a Nebraska Research Initiative grant and published in *Hypertension* in October 2020. These studies used invasive surgical denervation and pharmacological interventions to destroy or block the renal nerves, both of which could be detected with their technology.

The team wondered if the procedures would work when a catheter-based device is used to destroy the nerves.

To find out, they teamed up with Medtronic, a medical device company, to compare the effect of surgical renal denervation with renal denervation using Medtronic's Spyral catheter. "If the technology works in these preclinical studies, the next test will be in the human cardiac catheterization lab," said Dr. Chatzizisis, who performs the catheter-based renal denervation in animals.

If successful, this technology could be applied to other abnormalities of the sympathetic nervous system to treat a wide variety of diseases. 🕅



Alicia Schiller, PhD assistant professor, anesthesiology research faculty



Hanjun Wang, MD associate professor, anesthesiology research faculty



Peter Pellegrino, MD, PhD anesthesiology chief resident



STAR Fellowship Engages Students and Mentors with Research

In June 2021, the UNMC Department of Anesthesiology implemented its firstever summer training research program.



Sowmya Yelamanchili, PhD, associate professor, anesthesiology

The Summer Training in Anesthesiology Research (STAR) Fellowship was created with the goal of bringing hands-on lab experiences to students at different levels in their medical education. The fellowship was spearheaded by Sowmya Yelamanchili, PhD, in collaboration with Karsten Bartels, MD, PhD, MBA, vice chair of research, and Steven J. Lisco, MD, chair of the UNMC Department of Anesthesiology.

"When Dr. Yelamanchili presented this idea, I knew we had the opportunity to create something truly special," said Dr. Lisco. "The STAR Fellowship is an example of our department's culture of research mentorship and scientific collaboration. It provides students the foundational experience necessary to further their interests in scientific research and medical education."

The ten-week program is the first of its kind at UNMC to offer in-lab experience to high school students, undergraduates, and medical students simultaneously, inspired by Dr. Yelamanchili's own mentorship experiences and desire to broaden students' interests in anesthesiology.

"This is a tremendous opportunity for students to enrich themselves with science, especially with anesthesiology research," Dr. Yelamanchili said. "The spark starts at the high school level — from the grassroots — and we need to encourage students' interests in research to develop the next generation of world-class basic and clinician scientists."

From the forty applications submitted by area schools and colleges, the program selected ten students. The fellows included four high school students, three undergraduate students, and three medical students who went on to study in the labs of Drs. Bartels, Pendyala, Schiller, and Yelamanchili. During the fellowship, students were mentored in conducting basic, preclinical, and clinical research in a translational research environment. By working alongside scientists in each of these three areas, students could engage with the investigative process on a deeper level. Students were encouraged to help form a hypothesis, conduct experiments, analyze their data, and discover if those outcomes matched their initial hypothesis.

Dr. Yelamanchili highlighted the importance of guidance for students, saying, "As mentors, we need to not only mentor our students, but we also need to broaden the community for mentoring. We tell students how important research is for our growing medical community." The STAR Fellowship provided students with an opportunity to learn and appreciate the importance of research in medicine. Because

RESEARCH PROJECTS

Following their lab assignments, STAR fellows were paired with department mentors as they conducted research during the 10-week program.

Dr. Bartels Lab

Reducing Work-Related Screen-Time in Healthcare Workers During Leisure Time – The REDUCE-SCREEN Study Juana Mora Valdovinos, University of Nebraska at Omaha Primary Mentor: Karsten Bartels, MD, PhD

Dr. Pendyala Lab

Speedballing: The Dicey
 Duo of Fire and Ice

Pranavi Athota, Millard North High School Primary Mentor: Victoria Schaal, Research Technologist

- Neurotonin: HAND-le with Care
 Stuti Jain, Millard North High School
 Primary Mentor: Jordan
 Hernandez, Graduate Student
- Int-oxy-cating the Synapse
 Danielle Meyer, Creighton Preparatory
 School
 Primary Mentor: Victoria Schaal,
 Research Technologist

Dr. Schiller Lab

- > The Use of Gamification in Teaching Students How to Read Scientific Literature Drew Kortus, UNMC Primary Mentors: Alicia Schiller, PhD; Priscila Rodrigues Armijo, Surgery Research Fellow
- A Narrative Review of the Terminology Used to Describe Procedure Skill Level
 Will Roeder, UNMC
 Primary Mentors: Alicia Schiller,
 PhD; Priscila Rodrigues Armijo,
 Surgery Research Fellow
- Quantification of Soft-Skills to Improve Medical Training Morgan Swope, UNMC Primary Mentors: Alicia Schiller, PhD; Priscila Rodrigues Armijo, Surgery Research Fellow

Dr. Yelamanchili Lab

 The Tale of Two Drugs: Oxycodone and Methamphetamine
 Sarup Kunwor, University of Nebraska at Omaha

Primary Mentor: Mason Savine, Research Technologist

- Characterization of Cortical Synaptosome Protein Alterations in Response to Juvenile mTBI Luke Miles, Dartmouth College Primary Mentor: Austin Gowen, Graduate Student
- Impacts of Pre-natal/Oxycodone
 Exposure on Later-life mTBI
 Related Cortical Inflammation
 Sanjay Srinivasan, Burke High School
 Primary Mentor: Austin
 Gowen, Graduate Student

seasoned researchers have a deeper understanding of research and patient care, Dr. Yelamanchili called the fellowship a long-term investment in students who are early in their medical careers.

At the fellowship's conclusion, students each presented an eight-minute summary of their research, followed by a ten-minute question-and-answer session. "They were very excited to look at the results and go back to see what we had done," Dr. Yelamanchili said. "It was heartening to see such young, brilliant minds accomplish so much in those ten weeks." The ceremony concluded with each of the students receiving a certificate of accomplishment from Dr. Lisco.

"The STAR Fellowship provides a glimpse into the bright future of our department and its research innovations. The fellowship attracts a large pool of applicants that reflects the diversity of our community," Dr. Lisco said. "Dr. Yelamanchili's leadership provides an environment for students to engage in challenging and rewarding experiences in anesthesia research."

Dr. Yelamanchili acknowledged the generous support from the Department of Anesthesiology for the program and ongoing basic and clinical research. She concluded saying, "Given the tremendous response we received, we now look forward to next year and many more years to follow." ♥

Innovative Research

Pendyala Leads Study Detailing Effects of Opioid Misuse During, After Pregnancy

Research faculty at UNMC have found significant detrimental generational impacts of the prescription opioid oxycodone on offspring exposed during and after pregnancy.



Gurudutt Pendyala, PhD, associate professor, anesthesiology

The findings were published online in the journal Translational Psychiatry and were led by Katherine Odegaard, a graduate student in the lab of Sowmya Yelamanchili, PhD, an associate professor in the UNMC Department of Anesthesiology and a co-corresponding author on the study.

"Prescription opioid abuse during and after pregnancy is a rising public health concern," said Gurudutt Pendyala, PhD, lead author and associate professor in the synaptic biology laboratory in the UNMC Department of Anesthesiology.

Using a rodent (rat) model, Dr. Pendyala said the team was able to pinpoint neurodevelopmental disruption that has lasting impacts on behavior and weight.

When exposed to the opioid the researchers found a differential expression of several neuropeptides associated with the hypocretin system. Hypocretin, also known as orexin, is a neuropeptide hormone associated with sleep, arousal, appetite, and energy; it's produced in the hypothalamus region of the brain.

Prenatal opioid exposure induced an overproduction of the hormone, resulting in behavioral and phenotypic abnormalities. "This is a very significant finding and could make these offspring more vulnerable to rewardseeking behaviors akin to addiction, as well as obesity," Dr. Pendyala said.

These generational impacts were also observed in a second generation of offspring that had not been exposed to opioids but were born of mothers that had been in utero, indicating that the initial impact could carry from generation to generation, Dr. Pendyala said.

"The findings are significant in that they show how far-reaching the effects can be from the first generation having been exposed in the womb and the impact on them to the next generation born that was never exposed in utero but was still affected," he said.

Dr. Pendyala said the clinical importance of the research led him to collaborate with Steven J. Lisco, MD, chair of the UNMC Department of Anesthesiology, and Sowmya Yelamanchili, PhD, associate professor in the UNMC Department of Anesthesiology.

"The data takes us one step closer to understanding the genetics behind drug use, especially the transgenerational risk of addiction to prescription opioids. These provocative findings open a new line of investigation with a lot of clinical relevance," Dr. Lisco said.

"Our immediate goal now is to reduce the expression of hypocretin using antagonists and see if they quell the behavior and weight changes observed early during development and subsequent vulnerability to drug use during adulthood," Dr. Yelamanchili said. V

From left: Steven J. Lisco, MD, chair of the UNMC Department of Anesthesiology; Katherine Odegaard, graduate research assistant; Sowmya Yelamanchili, PhD, and Gurudutt Pendyala, PhD.



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