



Department of Anesthesiology

ANNUAL REPORT | 2024-25 ACADEMIC YEAR

Message from the Chair



The UNMC Department of Anesthesiology has developed one of the most robust global health and humanitarian aid programs in the world, with the help of generous philanthropists and exceptionally well-trained support and logistics staff. Our teams go where it's dangerous or difficult to go, to help those in need. We work in war zones and refugee camps. We provide essential equipment and supplies. We help courageous local clinicians support their communities.

During the past year, the UNMC Department of Anesthesiology has undergone a resurgence. We hired 15 new physician anesthesiologists and 20 new certified registered nurse anesthetists (CRNAs). We facilitated procedural expansion for our gastrointestinal medicine endoscopy teams. We supported the addition of three new operating rooms at the Fritch Surgery Center at the Lauritzen Outpatient Center on the UNMC campus. We worked with the interventional cardiology and cardiac surgery teams to significantly increase heart and vascular procedural volume in the cath lab, as well as in the operating rooms at Nebraska Medicine. We worked with the perioperative services team at Bellevue Medical Center to increase surgical and dental procedural access. We helped open a new operating room in the Hixson Lied operating room space at Nebraska Medicine.

The UNMC Department of Anesthesiology also established a new CRNA staffing model at the Village Pointe GI Endoscopy Center and leveraged telemedicine and predictive data analytics computer tools to expand access to our preoperative evaluation and care services in Omaha and in Kearney. In the critical care domain, our anesthesiology intensive care unit team expanded its services to cover not only extracorporeal membrane oxygenation (ECMO) and other critically ill cardiac device patients, but also liver transplant patients, thoracic and vascular surgery patients, surgical oncology, and head and neck surgery patients. At the same time, our pain medicine team increased access to the most sophisticated and advanced pain management procedures for patients from throughout Nebraska.

From a research perspective, the UNMC Department of Anesthesiology surged into the elite ranks. The most recent Blue Ridge rankings of federal funding published in February, placed our department 19th nationally, a remarkable achievement for a relatively small department. In fact, the UNMC Department of Anesthesiology was the most highly ranked clinical department at UNMC in terms of federal research funding within its specialty.

As we approach the 2026 Residency Match, it is worthwhile pointing out that our education program is among the most competitive in the country. Our residents earned one of the highest pass rates on the American Board of Anesthesiology examinations. The recent Accreditation Council for Graduated Medical Education review of department's residency and fellowship programs was exceptionally good. Clinical and didactic teaching by our faculty combined with use of state-of-the-art simulation facilities helped an extraordinarily hard-working group of residents and fellows perform well.

It is an honor to serve as chair of a department with such outstanding colleagues. Dedicated to the welfare of others. Willing to sacrifice for those they serve. Committed to excellence in everything they do.

Andrew Patterson, MD, PhD

Chair, University of Nebraska Medical Center Department of Anesthesiology

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Andrew Patterson, MD, PhD, named new chair of the UNMC Department of Anesthesiology.

Andrew Patterson, MD, PhD, was named the new chair of the UNMC Department of Anesthesiology, effective March 1, 2025.

Bradley Britigan, MD, dean of the UNMC College of Medicine, announced the appointment to UNMC leaders and department members in December 2024.

Dr. Patterson, a professor and former department chair at Emory University, returned to UNMC, where he had served on the anesthesiology department's faculty from 2015 to 2018.

"Dr. Patterson is a strong leader whose experience will help the department of anesthesiology continue its upward trajectory," Dr. Britigan said. "We are pleased to welcome him back to UNMC and the college of medicine."

Dr. Patterson said he was delighted to be returning to UNMC.

"The department is one of the strongest in the country in many domains," he said, pointing to the Blue Ridge Institute for Medical Research rankings as an example. "The UNMC Department

of Anesthesiology has exceptional researchers – Dr. Karsten Bartels, the department's vice chair of research has said the department is 'punching above its weight,' and that's not an exaggeration at all. When you look at the scientific accomplishments within the department, UNMC is right up there with elite academic institutions like Harvard, Vanderbilt and Stanford."

Dr. Patterson also spoke highly of the department of anesthesiology's educational and clinical care teams.

"The ICU team, the critical care anesthesia team led by Dr. Dan Johnson, has become an international leader. It earned a reputation for excellent clinical care and selfless commitment to others during the Ebola crisis several years ago. Its reputation has continued to rise since then, and it has developed one of the premier critical care ultrasound groups in the nation.

"The members of the department of anesthesiology at UNMC have a model work ethic, which is one of the primary reasons the department has earned such an outstanding reputation," Dr. Patterson said. "The exceptionally hard-working physicians in the department, working with some of the most talented and dedicated CRNAs in the country, combined with some of the most highly regarded teachers in all of anesthesiology – it's an honor to be asked to serve as department chair for such an incredible department."

Dr. Patterson also said he is excited to work with collaborators across UNMC on global health efforts and humanitarian aid work, which always have been a high priority for him.

"That's one element I'm most proud of over the past 25 years, my humanitarian aid work," he said. "At Emory, with much support, I helped Dr. Cinnamon Sullivan build one of the strongest

anesthesiology global health programs. I'm looking forward to collaborating with the many established global health leaders at UNMC to build a similar anesthesiology global health program."

UNMC Interim Chancellor H. Dele Davies, MD, said it was a pleasure to welcome Dr. Patterson back to the medical center.

"We are excited for Dr. Patterson's return, which marks an opportunity to build upon the solid foundation already in place," he said. "Not only is he a talented faculty member and clinician, but he also played a leading role in the founding of the Interprofessional Academy of Educators during his prior appointment here as its associate director. We are confident that under Dr. Patterson's guidance, the anesthesiology department will continue to grow, inspire the next generation of medical providers and make meaningful contributions to education, research and patient care."

At the time of the announcement, James Linder, MD, CEO of Nebraska Medicine, and Nebraska Medicine President and Chief Operating Officer Michael Ash, MD, also praised the selection of Dr. Patterson.

Dr. Ash said, "We are thrilled to welcome Dr. Drew Patterson back to Nebraska Medicine and UNMC as the chair of anesthesiology. His impressive achievements at Emory highlight his exceptional leadership and vision, and we are confident he will bring his remarkable talents to further elevate our already outstanding department. We look forward to the innovative strides Dr. Patterson will lead as we continue to advance excellence in patient care, education and research."

"The anesthesiology department is positioned for ever-increasing growth and success," Dr. Britigan said. "I look forward to seeing it flourish under Dr. Patterson's leadership."

Nicholas Markin, MD, appointed vice chair of education and innovation

Nicholas Markin, MD, was appointed vice chair of education and innovation for the UNMC Department of Anesthesiology.

An Omaha native and UNMC alumnus, Dr. Markin is a cardiac anesthesiologist, academic leader and innovator with a longstanding commitment to advancing patient care, medical education and perioperative imaging. He earned his medical degree from the UNMC College of Medicine in 2007, completed his anesthesiology residency at UNMC and pursued fellowships in perioperative echocardiography at the University of Utah and adult cardiothoracic anesthesiology at UNMC.

Dr. Markin served as director of ultrasound education and program director of the perioperative echocardiography fellowship. He also served as medical director of perioperative imaging at Nebraska Medicine.

"I'm excited for the opportunity to join the leadership team and continue their great work," Dr. Markin said. "I look forward to continuing the mission and exploring how technology, including AI, can personalize and optimize training for residents and fellows."

His academic work includes more than 75 peer-reviewed publications and numerous invited lectures and workshops at national and international conferences. His interest in artificial intelligence and educational innovation has led to his involvement with the UNMC Center for Intelligent Health Care.



Dr. Markin also is an accomplished inventor, holding patents for technologies such as the Three-Dimensional Echocardiography Phantom and the Infectious Aerosol Capture Mask. He is a member of the Alpha Omega Alpha Honor Medical Society.

"I get to do all the things I love: clinical work, research and driving innovation," he said. "This role allows me to focus my efforts on making a difference."

Stephen Brannan, MD, named director of perioperative echocardiography

Working closely with Dr. Markin and the department's educational leadership team, Dr. Brannan has led the expansion of point-of-care ultrasound education and will continue advancing echocardiography education, quality and patient care across the department.

Born in Lincoln, Nebraska, and raised in northern Minnesota, Dr. Brannan returned to Omaha for medical school at Creighton University before completing his anesthesiology residency at UNMC in 2015. He completed fellowships in critical care anesthesiology in 2019 and cardiac anesthesiology in 2020, joining the UNMC faculty in 2021.

As director, Dr. Brannan aims to uphold the program's high standards while adapting to the evolving needs of learners. He plans to work closely with residency and fellowship leaders to refine training experiences, expand faculty development opportunities and ensure perioperative echocardiography remains a cornerstone of patient care.

His role also includes maintaining essential equipment, collaborating with cardiology and cardiac surgery colleagues, and ensuring consistent, high-quality echocardiographic services.

Dr. Brannan's interest in anesthesiology stems from its blend of intellectual challenge and procedural skill, with cardiac anesthesiology offering both technical mastery and close multidisciplinary collaboration.



"I enjoy the opportunity to teach medical students, residents, fellows, SRNAs and every learner who comes through our department," he said. "I've benefited greatly from the time and mentorship others invested in me, and I value the chance to give that back."

HIGH QUALITY, COMPASSIONATE CARE

Mentorship in action: Rebecca Aron, MD, and Dash Pierce, MD, turning a quiet moment into meaningful training on Family Day 2024.



Cardiothoracic Anesthesiology Division update

The Cardiothoracic Anesthesiology Division has maintained its dedicated team, with no personnel changes in the past year.

The division's commitment to excellence in patient care, education and research remains steadfast, driven by the expertise of its faculty members. The division continues to provide perioperative echocardiography support to patients undergoing anesthesia, cardiac surgical patients, and for patients having specialized structural procedures in the cardiac catheterization lab.

"There continues to be an increase in the need for specialized care of these complex patients and the expertise required to support our cardiology

colleagues," said Tara Brakke, MD, division chief. "It is an exciting area of growth for our team and offers options for some of the most critically ill patients."

Division members have made significant contributions to the advancement of cardiothoracic anesthesia on a national level, most notably at the Society of Cardiovascular Anesthesiologists annual meeting held in Montreal, Canada, in April 2025. Faculty members, including Rebecca Aron, MD, Steve Brannan, MD, Amy Duhachek-Stapleman, MD, Nick Markin, MD, Sasha Shillcutt, MD, and Walker Thomas represented the department. The faculty served as society leaders, content experts, session moderators and lecturers. The team, including four cardiothoracic

fellows and one resident, presented abstracts and complex cardiac cases. Dr. Brakke served as the co-chair of the program committee, specifically planning the problem-based learning discussions and workshops.

"These physicians did a tremendous job representing our department on a national stage," Dr. Brakke said. "We truly are advancing the field and inspiring our peers to reach new levels, while gaining education to grow ourselves."

Four cardiothoracic anesthesiology fellows and one resident had complex case presentations accepted at the SCA annual meeting.



Jeffrey Songster, MD, leads ultrasound instruction at the ASA Annual Meeting.

Adult cardiothoracic anesthesiology fellow Megan Rolfzen, MD, achieved a significant milestone in her career by obtaining her first research grant and being honored with two prestigious awards: the Society of Cardiovascular Anesthesiologists In-Training Grant and the Lisa Wise-Faberowski Resident Prize for Research Excellence from the Association of University Anesthesiologists.

The fellowship program continues to thrive, successfully filling all available positions, despite the broader national trend of declining applicants for anesthesia subspecialty fellowships. The program, now hosting five fellows, remains a cornerstone of the division's educational mission. Rebecca Aron, MD, and Austin Adams, MD, serve as the program director and associate program director, respectively, ensuring fellows receive top-tier training and mentorship.

"There has always been a lot of interest in the program, which helps with filling these positions, so two years ago we increased the number of fellows to five," Dr. Aron said. "Our cardiac volume increased, and we have more cardiac rooms open, so it benefits us to have more fellows on hand for the increased volume."

Outside of the cardiac rooms, adult cardiothoracic anesthesiology fellows have the opportunity for more unique clinical experiences. Dr. Rolfzen was part of the global health trip to Zambia in September 2024. Annual departmental honors were presented at the graduation banquet in June 2025, including Teacher of the Year Awards which recognize faculty who have gone above and beyond in providing an excellent educational experience for residents and fellows. This year, Stephen Brannan, MD, was awarded the Cardiothoracic Anesthesiology Teacher of the Year Award.

The division had a productive and impactful year, with achievements across clinical, educational and research platforms. Looking forward to the next year, division leadership and faculty remain committed to advancing the field of cardiothoracic anesthesia and maintaining its position as leaders in both clinical and academic medicine.

Cardiothoracic Anesthesiology faculty

Tara Brakke, MD,
division chief

Austin Adams, MD,
associate director, adult cardiothoracic anesthesiology fellowship program

Rebecca Aron, MD,
director, adult cardiothoracic anesthesiology fellowship

Stephen Brannan, MD
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
Dennis Thiele, MD
Troy Wildes, MD

Senior cardio sonography technologist

Walker Thomas
Steven Weiss



Critical Care Division update

The UNMC Critical Care Division continued to play a vital role in the department's clinical, educational and research missions throughout the 2024-2025 academic year.

Faculty provided 24/7 coverage across multiple ICUs, led interdisciplinary care teams and remained at the forefront of complex perioperative critical care. Starting in March of 2025, all patients from the UNMC Division of Transplant Surgery are receiving ICU care from Critical Care Anesthesiology (CCA). With this change, CCA now provides ICU care for all solid organ transplant patients at Nebraska Medicine. To help meet new clinical demands, the division welcomed Andrew Patterson, MD, PhD, Mark Cheney, MD, and Amanda McClanahan, APRN, to the team.

Division Chief Daniel Johnson, MD, said the division remained highly engaged with resident and fellow training, delivering bedside teaching, procedural instruction and formal didactics in both the ICU and OR settings. Faculty contributed to the core curriculum for anesthesiology residents and collaborated with surgical and emergency medicine teams in joint critical care conferences. The division also supported ongoing development of the successful Critical Care Fellowship Program under the leadership of Shaun Thompson, MD, program director.

Faculty and trainees represented the division at national conferences, presenting clinical research and quality improvement projects in forums such as the Society of Critical Care Medicine, American Society

Nicholas Linares, DO, and Sean Rajnic, MD, discuss patient care with the ICU team during rounds.

of Anesthesiologists, Society of Critical Care Anesthesiologists, American Thoracic Society and the American Osteopathic College of Anesthesiologists.

Research efforts focused on prospective clinical trials and clinical outcomes. Faculty in the division published original research and review articles in leading academic journals, including the New England Journal of Medicine, Chest, Lancet Respiratory Medicine, Anesthesiology, Anesthesia & Analgesia, the British Journal of Anaesthesia and the Canadian Journal of Anesthesia.

Multiple faculty members enjoyed visiting professorships and delivered grand rounds at esteemed academic anesthesiology departments, including the University of Wisconsin,



Zahid Iqbal, MD, and Kerry Mancusco, APRN, collaborate on patient care.

the University of Maryland and Louisiana State University. Several book chapters were published, including a chapter in the specialty's flagship textbook, *Miller's Anesthesia* (10th Edition).

Leadership within the division continued to grow. Faculty served in institutional quality roles, ICU directorships and on national committees related to perioperative critical care. Ongoing quality improvement projects focused on ICU workflow, airway safety and interprofessional communication. Multiple division members continue

to serve on the UNMC Faculty Senate. Michelle Iverson, DO, was named director of resident education for the general ORs, Amanda Arnzen, MD, was named director of trauma anesthesiology and Stephen Brannan, MD, was named director of perioperative imaging.

"This past year, our team has continued to deliver high-acuity care while also advancing education and research in meaningful ways. It was a year of tremendous growth, yet we remained committed to delivering the best possible critical care to each individual patient," Dr. Johnson said.

Critical Care faculty

Daniel Johnson, MD,
division chief

Amanda Arnzen, MD
 Stephen Brannan, MD
 Mark Cheney, MD
 Wesley Burdick, MD
 Erin Etoll-Jones, MD
 Zahid Iqbal, MD
 Michelle-Anne Iverson, MD
 Wahida Khan, MD
 Steven Lisco, MD
 Andrew Patterson, MD, PhD
 Joseph Pawlowski, MD
 Sean Rajnic, MD
 Sajid Shahul, MD
 James Sullivan, MD
 Dennis Thiel, MD
 Shaun Thompson, MD
 Levi Zehr, MD

Advanced Practice Providers

Lyndie Farr, APRN
 Gina Hall, APRN
 Vickie Lambert, APRN
 Joseph Manasek, APRN
 Kerry Mancuso, APRN
 Amanda McClanahan, APRN
 Alicia Peterson, APRN
 Jed Sanders, APRN

CRNA Division update

The CRNA Division continues to grow in both clinical leadership and educational excellence, with major initiatives launched this year that reflect the group's dedication to high-quality care, innovation, and mentorship.

On June 1, 2025, the division launched an Independent CRNA Practice staffing model at Nebraska Medicine Gastroenterology at Village Pointe Health Center – a milestone in operational evolution. Led by Jaime Kobs, CRNA, Tiffany Olson, DNP, and Nick Stalnaker, the team developed protocols and patient selection criteria to ensure a safe, consistent and patient-focused care model. Daily lead CRNAs were identified to oversee clinical operations and maintain excellence in anesthetic delivery at the site.

Nick Denich, DNP, was appointed director of SRNA clinical education, the first to hold this role. He created a clinical experience gradation system to match SRNA learning needs by training level and also serves as a liaison with Clarkson College and Bryan College of Health Sciences to support recruitment and mentoring.

Jaime Kobs, CRNA, was appointed associate director of nurse anesthetists at Village Pointe Health Center. Kobs will serve as the CRNA leader for the Village Pointe campuses Outpatient Surgery Center and Gastroenterology, where she will oversee scheduling, onboarding and collaborate with operational leaders to enhance workflows across both the Village Pointe and main campus endoscopy units.

Kobs has been a CRNA with the UNMC department for nine years and has been with Nebraska Medicine for 18 years. She has served as a co-chair of the education committee and has been integral, department leaders say,



Amy Mitchell, CRNA

serving as an advocate and mentor for student registered nurse anesthetists, providing guidance in their growth, development and conduct.

The newly formed CRNA Unit-Based Council focuses on retention through CRNA-led initiatives. Chaired by Ellen Brightweiser, the council includes: Caressa Kiichler, Jaime Kobs, Erin Meier, Amy Mitchell, Kelsey Nieto, Tiffany Olson, Melissa Smith, Nick Stalnaker, Jill Luebbert and Perri Zach.

Olson said the group is focused on practical improvements to scheduling, communication, work-life balance and professional development.

The CRNA team has been actively involved in community service, with Ellen Brightweiser organizing multiple events with the Food Bank of the Heartland throughout the year. "These efforts reflect the division's commitment to care that goes beyond the walls of the hospital," Olson said.

Sarah McMillin, CRNA, represented the division on an international medical mission trip in 2024, continuing the tradition of CRNA service on a global scale.

CRNA education remains a cornerstone of the division's mission. Current student numbers include:

- Bryan College of Health Sciences: 10 seniors, nine juniors
- Clarkson College: 10 seniors, 10 juniors

Four recent graduates from these programs joined the team in July: Amanda Kingslan, Jill Luebbert, Perri Zach and Taylor Mueller.

Several CRNA team members hold key leadership roles with the Nebraska Association of Nurse Anesthetists:

- Laura Fraynd – President
- Annette Ellis – President-Elect
- Meagan Freml – Director
- Andrea Ryan – Director



Jessica Buell, CRNA, named Extraordinary Nurse

Nebraska Medicine has named CRNA Jessica Buell 2025's Extraordinary Nurse in the UNMC Department of Anesthesiology.

Buell, who is employed by both UNMC and Nebraska Medicine, was nominated by her peers and selected by department leaders for the honor, which is awarded annually by Nebraska Medicine during National Nurses Week.

Buell's first role at Nebraska Medicine began in 2005, where she worked as an RN. Later, she worked in the cardiac ICU at Bryan Medical Center in Lincoln, Nebraska. Throughout her training, Buell enjoyed the people, organization, autonomy and teamwork she experienced. These factors ultimately influenced her decision to apply for a position as a CRNA at Nebraska Medicine and UNMC, a

position she started in 2011. Today, her work continues to be as dynamic as it is rewarding.

Nominators and supervisors applauded her work ethic, saying she goes above and beyond to provide great patient care. Additionally, nominators said, Buell is hard-working, always positive and picks up for other others when needed.

"Jessica shows up every day with an excellent work ethic and attitude," said Tiffany Olson, CRNA, chief of the UNMC Division of Nurse Anesthesia. "Her wealth of experience results in excellent patient care and makes her the perfect mentor and resource for her colleagues, and her work educating and supporting our Student Registered Nurse Anesthetists is truly exemplary."



Jessica Buell, CRNA



Nathan Goergen, MD, PhD, delivers focused, hands-on care during a complex anesthesiology case.

Multispecialty Division update

The UNMC Multispecialty Anesthesiology Division experienced a year of significant transition and growth under the leadership of Allyson Hascall, MD.

Charles Walcutt, MD, and Kristin Wakin, MD, were promoted to associate professor. In addition, Dr. Wakin stepped into a new leadership role as section head of obstetric anesthesia. Another key leadership transition included Rachel Quandahl, MD, assuming the role of director of the liver transplant anesthesiology fellowship program.

The division continues to play an active role in academic and national leadership. Faculty members contribute to national organizations, including the Society for the

Advancement of Transplant Anesthesia (SATA) and the ASA Committee on Transplantation.

In January 2025, the division virtually hosted the Midwest Regional Meeting for SATA. Trevor Wilke, MD, Maireen Miravite, MD, Charles Walcutt, MD, and Jeffrey Songster, MD, presented at the meeting, which was chaired by Cale Kassel, MD. The division also remains involved in the SATA Liver Transplant Anesthesia Database, a national effort to improve transplant outcomes by analyzing anesthesia-specific variables.

At the institutional level, the division was well-represented at the UNMC Transplant Symposium, where several research posters were presented. Topics included the anesthetic management of isolated intestinal transplants and renal outcomes in

liver transplantation during the IV fluid shortage. Kaili Jorgens, MD, (now a CBY resident) and medical student Luke Weidemayer presented these studies.

Dr. Kassel said ongoing research projects within the division include the anesthetic management of pediatric kidney transplants and the use of rectus sheath catheters in pediatric kidney recipients.

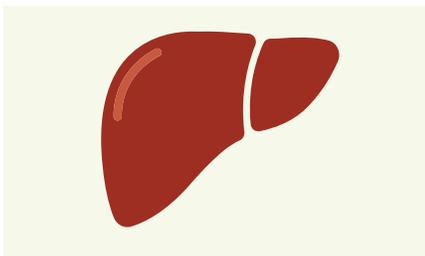
The division welcomed six new multispecialty anesthesiologists in July and August 2025. This expansion was strategically timed with the opening of three new operating rooms at the Fritch Surgery Center in November 2025. These additions will increase the division's capacity and support its mission to provide high-quality, comprehensive anesthetic care across Nebraska Medicine.



Charles Walcutt, MD

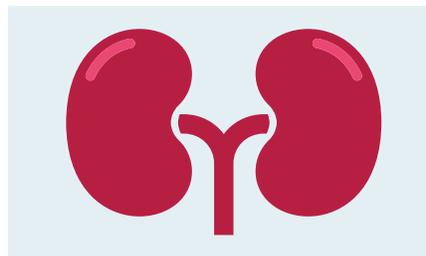
Abdominal Transplant Anesthesiology by the numbers

For calendar year 2024



150 Liver Transplants

- 15 liver transplants for children under 12
- 6 transplants for children 2 and under
- 6 pediatric liver/small bowel/pancreas transplants



186 Kidney Transplants

- 12 kidney transplants for children under 18
- 3 of those on children under 2

2024 was the highest number of liver transplants UNMC and Nebraska Medicine have done, and there is continued growth in that area.

Multispecialty faculty

Allyson Hascall, MD,
division chief

Rafael Arsky-Lombardi, MD
David Baxter, MD
Hannah Bowe-Brown, MD
Richard Chen, MD
Sheila Ellis, MD
Huma Fatima, MBBS
Marcus Finch, DO
Bradley Fremming, MD, PharmD
James Gilbert, MD
Nathan Goergen, MD, PhD
Jane Goodson, MD
Paul Harding, MD
Nicholas Heiser, MD
Scott Hofmann, MD
Richard Holcomb, MD
Kyle Johnson, MD
Cale Kassel, MD
Dina Kogan, MD
Gary LaCroix, MD
Lisa Murray, MD
Platt Niebur, MD
John Ohnoutka, MD
Huiling Pang, MD
Rachel Quandahl, MD
John Skoog, MD
Jean Simonson, MD
Charles Walcutt, MD
Stephanie Wieman, MD
Corey Zetterman, MD

Section heads

Cale Kassel, MD, *abdominal organ transplantation anesthesiology*

Kristi Lorenzen, MD, *thoracic and vascular anesthesiology*

Joseph Pawlowski, MD,
neuroanesthesiology

Kristin Wakin, MD, *obstetric anesthesiology*



Kimberley Haynes-Henson, MD, and fellow Dan Nicholls, MD, delivering precision-based pain management.

Pain Medicine Division update

The UNMC Division of Pain Medicine continues to set the bar for collaborative, patient-centered care across both inpatient and outpatient settings. Under the leadership of Madhuri Are, MD, the division not only has sustained its core mission of delivering exceptional pain care but has expanded services, introduced innovative procedures and deepened cross-disciplinary collaboration.

Dr. Are said the division's culture is defined by mutual respect and a "we're in this together" approach. Whether responding to complex, individual needs for a single patient or assisting colleagues with new procedural training, the team consistently rallies to provide support. New procedures are implemented with a team-based approach – tag-teaming cases to ensure safety, quality and collective learning.

Chronic pain services

The strength of the chronic pain services team lies squarely in its people. Dr. Are credits its success to a tightly knit, highly collaborative team of faculty and advanced practice providers (APPs), whose commitment to compassionate care and academic excellence is unwavering. Their synergy has earned the division respect from partners across departments, including surgery, primary care and oncology.

The chronic pain team welcomed two outstanding faculty members, Robert Muellemann, MD, and Peter Pellegrino, MD, PhD, who have brought a high level of clinical skill and empathy to patient care. Lisa Glandt, APRN, who joined January 2025 has played a pivotal role in navigating the complex landscape of insurance approvals and prior authorizations, increasing access and timeliness of care.

Clinical Innovation

Clinically, the division launched several cutting-edge therapies that expanded treatment options for patients with chronic and previously refractory pain.

These include Intracept®, a minimally invasive basivertebral nerve ablation procedure that addresses low back pain; permanent peripheral nerve stimulation systems, which build upon prior success with temporary systems and provide a long-term solution for patients whose pain returns after initial relief; and the TenJet® procedure, a percutaneous, ultrasound-guided treatment for chronic tendinopathies that eliminates damaged tendon tissue without the need for steroids or surgery. Another key addition is Qutenza®, a high-dose capsaicin patch designed to treat painful peripheral neuropathy, especially in the feet. This non-systemic, non-opioid therapy uses patented polymer technology to drive high concentrations of capsaicin across the skin, resulting in nerve degeneration and pain relief, with evidence suggesting healthier nerve regeneration over time.

Education and Training

The division welcomed three fellows in July 2025 – Jordan Cruz, MD, Kyle McCauley MD, and Alexander Schoofs, MD – and plans to revitalize efforts to recruit a regional anesthesia and acute pain medicine fellow next year.

Looking ahead, Dr. Are is spearheading the development of opioid stewardship educational modules aimed at training health care professionals across Nebraska Medicine. These modules will focus on safe prescribing practices and prevention of opioid use disorder, and will be offered as a free, CME-accredited resource.

Key goals for 2025-2026 include:

- Expanding service locations, including outreach to new sites such as Elkhorn, Nebraska.



Representing UNMC on the national stage at the ASRA Annual Meeting.

- Launching ketamine infusion services.
- Introducing additional treatments, including:
 - lovera® (cryoanalgesia) for acute rib pain in trauma settings.
 - Capsaicin 8% patches for patients with diabetic or peripheral neuropathy.
 - Suzetrigine, a novel agent for acute pain management in the inpatient setting.

Dr. Are said the most rewarding aspect of leadership is watching her team succeed. “When my colleagues are able to bring relief to their patients because they have the right tools, training and support, that’s success for me,” she says. “It’s never about one person. It’s about all of us doing the work and doing it together.”

In addition to clinical expansion, the division has increasingly emphasized research and scholarly activity.

Faculty have been actively involved in mentoring fellows on their research projects, ensuring robust academic development and compliance with ACGME requirements. Several investigators are working on grant submissions, including applications for NIH K awards and other external funding opportunities. There is also growing interest in integrating physiological, closed-loop spinal cord stimulation into future research directions.

The division continues to engage in forward-thinking collaborations across specialties. Looking ahead, the team is working to launch ketamine infusion services for patients with chronic pain who have exhausted other treatment options. Plans also are underway to extend the division’s footprint into new geographic areas, including outreach to underserved communities and new locations like the upcoming Elkhorn, Nebraska, site.

Pain medicine by the numbers, 2024-25

Outpatient:

Number of patients seen (total including by APPs): 10,803

Number of procedures done in clinic, procedural suite and ORs for pain: 8,557

Inpatient:

Number of patients seen (total including by APPs) Acute Pain Service: 3,305

Number of procedures done at bedside and the perioperative setting by APS: 3,585

Pain Medicine faculty

Madhuri Are, MD,
division chief

Acute pain service

Nick Heiser, MD
medical director

Austin Adams, MD
David Baxter, MD
Andrew Ingemansen, MD
Zahid Iqbal, MD
Cale Kassel, MD
Kyle Johnson, MD
Rafael Arsky Lombardi, MD
Andrew Maresch, MD
Platt Niebur, MD
Jeffrey Songster, MD

Chronic pain

Kimberley Haynes-Henson, MD
Marshall Ladd, DO
Michael Lankhorst, MD
Robert Muelleman, MD
Peter Pellegrino, MD, PhD

Physician assistants

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

Pediatric faculty

Jessica Goeller, DO,
vice chair and division chief

Amy Beethe, MD
Micaela Bethel, MD
Andrew Braith, MD
Brittany Brown, MD
Greta Duncan Wiebe, MD
Andrea Dutoit, MD
Marcellene Franzen, MD
Ryan Hamlin, MD
Michelle LeRiger, MD
Thomas Lockhart, MD
Thomas Manning, MD
Maria Michaelis, MD
Maireen Miravite, MD
Kaitlyn Pellegrino, MD
Erin Renze, DO
Nancy Ann Rogic, MD
Stephanie Shin, DO
Rachel Spitznagel, MD
Katherine Stiles, MD
Kunal Sualy, MD
David Tingley, MD
Joby Varghese, MBBS
Timothy Welch, MD
Guy Williams, DO
Jasper Williams, MD

Pediatric Division update

The UNMC Division of Pediatric Anesthesiology continued to advance its mission across clinical care, education and research in 2024-2025. From national presentations and publications to leadership appointments and trainee achievements, this academic year demonstrated the depth and momentum of the team's work.

National engagement remained a priority for faculty. Vice Chair of Pediatric Anesthesiology Jessica Goeller, DO, was elected president-elect of the American Osteopathic College of Anesthesiologists, further elevating the department's profile in national osteopathic anesthesiology. TJ Lockhart, MD, continued to serve as councilor for the Association of Anesthesiology Subspecialty Program Directors Pediatric Council and held roles on the education and simulation committees of the Society for Pediatric Anesthesia (SPA). Dr. Lockhart also led the "Pediatric Inhalation Burn Injury" Maintenance of Certification in Anesthesiology simulation at the American Society of Anesthesiologists annual meeting.

Andrea Dutoit, MD, was named president-elect of the Association of Academic Chairs in Pediatric Departments and continued her work on the executive council of the Organization of Program Directors Associations. Tim Welch, MD, contributed to the Congenital Cardiac Anesthesia Society (CCAS) through national curriculum development and service on the Congenital Heart Surgery Database Committee.

"Our faculty are not only educators and clinicians, they're shaping the future of pediatric anesthesiology at the national level," Dr. Goeller said.

Faculty and trainees represented the division at multiple high-impact national meetings during the year. At the SPA, Society for Pediatric Pain Medicine and CCAS annual meetings in April 2025 in Anaheim, attendees included Dr. Goeller, Dr. Lockhart, Greta Duncan-Wiebe, MD, Kaitlyn Pellegrino, MD, Stephanie Shin, MD, and Kunal Sualy, MD. Faculty contributed a range of educational content, including problem-based learning discussions, moderated poster sessions and hands-on workshops. Presentations addressed topics such as intraoperative disseminated intravascular coagulation management, regional anesthesia in pediatric sickle cell disease and health literacy among pediatric caregivers. Faculty also served as instructors for MOCA simulation and advanced vascular access training. Lectures from CRNA Ann Veys and Dr. Duncan-Wiebe on caring for autistic and neurodiverse patients further reflected the division's focus on inclusive and adaptive pediatric care.

Trainee scholarship, including pediatric-focused presentations, remained strong. Faculty mentorship played a critical role in guiding these projects to high-caliber regional presentation. At the Midwest Anesthesia Residents Conference in April 2025, Jenna Wright, DO, presented "Epulis tumor in neonate," mentored by Dr. Duncan-Wiebe. Medical student presenters also made significant contributions, including Andrew Rappolt's poster presentation titled "Complications of



Erin Renze, DO, combines technical expertise and compassionate care for pediatric patients.

a gastrocolic fistula diagnosed during colonoscopy”; mentored by Andrew Braith, MD.

In addition to conference participation, the division remained active in academic publishing. A multicenter study on caregiver health literacy, co-authored by Drs. Pellegrino and Goeller, was published in “Anesthesia & Analgesia” in November 2024. Brittany Brown, MD, led a retrospective study on the use of abdominal fascial plane blocks in pediatric intestinal rehabilitation patients, which appeared in the “Graduate Medical Education Research Journal” in December 2024.

The division also contributed meaningfully to regional education. In September 2024, Dr. Lockhart served as course director at the Pediatric Point-of-Care Ultrasonography Workshop held at Children’s Nebraska. Also in September

“We continue to prioritize visibility in national conversations about pediatric care, both clinically and academically.”

– Jessica Goeller, DO

2024, Dr. Brown presented on pediatric airway management at the Pediatric Trauma Treatment & Rehabilitation Conference. She also served as a panelist in the May 2025 SPA Spotlight Series webinar, guiding medical students on how to be competitive applicants for anesthesiology residency.

At the Society for Education in Anesthesia Spring Meeting in April 2025, Dr. Brown and resident Zach Walkenhorst, MD, co-presented on the state of medical student education in anesthesiology, reflecting the team’s dedication to mentorship and development.

“We continue to prioritize visibility in national conversations about pediatric care, both clinically and academically,” Dr. Goeller said.

As the division looks ahead, its foundation in research, education and national service remains strong. “This past year reaffirmed the impact that focused, collaborative efforts can have in pushing pediatric anesthesiology forward, both within the department and beyond,” Dr. Goeller said.

PREMIER EDUCATIONAL PROGRAMS



Chief residents Paul Harding, MD, and Jane Goodson, MD, were recognized for their leadership and achievement at residency graduation.

Residency program overview

The residency program marked a year of continued excellence – highlighted by program growth, strong national engagement and notable achievements by residents and faculty. Through expanded training opportunities, thoughtful investment in educational resources and a continued focus on excellence, the program reinforced its commitment to developing skilled, compassionate anesthesiologists prepared for the future.

A major milestone was the Accreditation Council for Graduate Medical Education approval of the residency program's expansion to 14 positions per year, a strategic step that reflects both the strength of the program and the growing demand for well-trained anesthesiologists. The 2025 incoming CA-1 class will be the first to include 14 residents.

Residency Program Director Andrea Dutoit, MD, said the 2025 match set records for interest and competitiveness, with 16 new residents joining the program: 12 categorical, two advanced, and two physician-only reserved positions.

To further strengthen the educational experience for both faculty and trainees, the department invested in "Anesthesia Toolbox," an online platform provided through the American Society of Anesthesiologists (ASA). This comprehensive resource includes nationally vetted learning materials used by more than 120 residency programs across the country. It offers

rotation-specific study guides, quizzes, clinical pearls, podcasts, simulation scripts, problem-based learning discussions and faculty teaching materials—ensuring UNMC trainees have access to high-quality content anytime, anywhere.

Residents remained active and visible across regional and national academic conferences, presenting more than 25 abstracts and projects throughout the year. Presentations took place at major meetings including the ASA, Midwest Anesthesia Residents Conference, Society of Cardiovascular Anesthesiologists, Society for Pediatric Anesthesia, Society for Critical Care Anesthesiologists, Society for Technology in Anesthesia, and Regional Anesthesiology and Acute Pain Medicine, with participation in legislative conferences as well. Notably, Lauren Costello, MD, represented the program as a Foundation for Anesthesia Education and Research resident scholar at the ASA annual meeting in October, highlighting the department's commitment to academic medicine.

Several residents earned impressive honors this year. Jane Goodson, MD, Jeremy Payne, MD, and Elizabeth Ternent-Rech, DO, were inducted into the University of Nebraska Chapter of the Alpha Omega Alpha National Medical Honor Society during its 111th induction ceremony on May 6 – an outstanding accomplishment recognizing their academic achievement and professionalism.

Leadership transitions this year included Amy Duhachek-Stapelman, MD, moving into her role as vice president of education at Nebraska Medicine and Nick Markin, MD, being appointed vice chair of education and innovation within the department. Nationally, Dr. Dutoit was appointed to the executive board of the Organization of Program Directors Associations in November 2024 and served as president-elect of the Association of Academic Chairs in Pediatric Departments. She transitioned into the role of president in November 2025.

Two faculty members also were honored with national-level board examiner appointments: TJ Lockhart, MD, and Dr. Dutoit were both selected to serve as ABA applied examiners beginning in 2025, contributing to the next generation of board-certified anesthesiologists.

This year has reinforced the department's position as a leader in anesthesiology education, built on a foundation of academic excellence, faculty engagement and a deeply invested resident cohort.

"Expanding our residency class, investing in national educational resources, and seeing our trainees thrive on big stages – it's been a landmark year for anesthesiology education at UNMC," Dr. Dutoit said.

Midwest Anesthesia Resident Conference

UNMC medical students and anesthesiology residents again delivered exceptional performances at the annual Midwest Anesthesia Resident Conference, held April 25-27 in Indianapolis.

The event, sponsored by the Association of Midwest Academic Anesthesia Chairs (AMAAC) and hosted by Indiana University, the University of Louisville and the University of Toledo, brought together trainees and faculty from across the region in a collaborative, educational setting.

This year's conference attracted participants from 37 anesthesia departments across the Midwest. Since its inception in 1961, MARC has grown into a cornerstone for academic development in anesthesiology, with annual attendance surpassing 600 individuals, making it the largest anesthesia resident conference in North America.

Residency Program Director Andrea Dutoit, MD, said MARC is important because it serves as a platform for education, collaboration and professional development amongst anesthesia residents, students and faculty. "This annual event provides a setting designed to foster support and growth for anesthesiology trainees by showcasing the breadth of their experiences in research and clinical education," she said. "I am very proud of all the residents and faculty mentors whose dedication and hard work were evident this year."

The mission of MARC is to support and promote resident and student research, foster scholarly exchange and provide a platform for residents to present challenging clinical cases and innovative research projects.

Presentations were evaluated by a panel of judges, with awards given for first, second and third place in both oral and poster presentation categories. Special monetary awards, sponsored by AMAAC, were presented to the top three recipients in the Basic Science poster category.

UNMC participants continued the department's strong tradition of academic excellence at the conference. In 2025, four residents were recognized for their outstanding work:

Robert Guidangen, MD – First Place, Pain Medicine Anesthesiology

"Spinal cord stimulation for complex abdominal pain in a multivisceral transplant patient"

Mentor: Kimberley Haynes-Henson, MD



Andrew Patterson, MD, PhD (center), with award recipients: Cameron Evans, MD, Melanie Kaiser, MD, Jenna Wright, DO (on behalf of Robert Guidangen, MD), Hayden Broderson, MD (on behalf of Zac Egr, MD)

Cameron Evans, MD – Second Place, Pediatric Anesthesiology

"Anesthetic Considerations in Pediatric Patients with Mitochondrial Disorders"

Mentor: Cale Kassel, MD

Melanie Kaiser, MD – Third Place, Critical Care Anesthesiology

"Utilization of combination VV ECMO and Impella placement in cardiopulmonary failure"

Mentor: Joseph Pawlowski, MD

Zachary Egr, MD – Third Place, Cardiovascular Anesthesiology

"PFO closure using echonavigator for 3D mapping and fluoroscopic guidance: a case report"

Mentor: Nick Markin, MD

Department Chair Andrew Patterson, MD, PhD, applauded all participants and thanked faculty mentors for their guidance and support.

"The MARC conference this year in Indianapolis was a tremendous success and once again, UNMC was well-represented," said Dr. Patterson. "Several of the individuals who represented us received awards for their outstanding work. The event clearly demonstrated how exceptional anesthesiology trainees are and how effectively the specialty is attracting the best and brightest medical students."



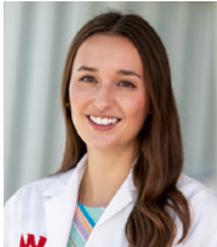
Graduating residents



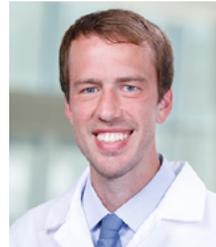
Lauren Costello, MD
*Pediatric Anesthesiology
 Fellowship, Children's Nebraska/
 UNMC, Omaha, Neb.*



**Nathan (Nate)
 Goergen, MD, PhD**
*Faculty, Department of
 Anesthesiology, UNMC,
 Omaha, Neb.*



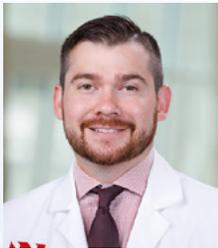
Jane Goodson, MD
*Faculty, Department of
 Anesthesiology, UNMC,
 Omaha, Neb.*



**William (Brett)
 Guthmiller, DO**
*Private Practice, Orange City
 Area Health System,
 Orange City, Iowa*



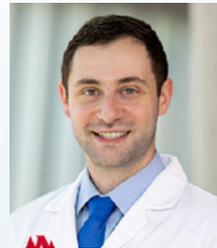
Paul Harding, MD
*Faculty, Department of
 Anesthesiology, UNMC,
 Omaha, Neb.*



Gary LaCroix, MD
*Faculty, Department of
 Anesthesiology, UNMC,
 Omaha, Neb.*



Blair Mack, MD
*Critical Care Anesthesiology
 Fellowship, UNMC,
 Omaha, Neb.*



Jeremy Payne, MD
*Private Practice, Boys Town
 National Research Hospital,
 Omaha, Neb.*



**Zachary (Zach)
 Schell, MD**
*Private Practice, Univ of
 Missouri at Capital Region
 Medical Center,
 Jefferson City, Mo.*



**Elizabeth (Liz)
 Ternent-Rech, DO**
*Pediatric Anesthesia
 Fellowship, Oregon Health
 & Science University,
 Portland, Ore.*



Taylor Ziegler, MD
*Critical Care Anesthesiology
 Fellowship, Vanderbilt University
 Medical Center, Nashville, Tenn.*

Graduating fellows

Adult Cardiothoracic Anesthesiology



Tyler Abarca, MD
Private Practice, Midwest
Physician Anesthesia
Services, Columbus, Ohio



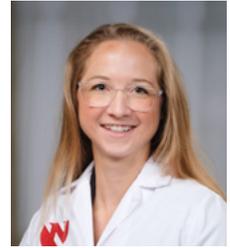
Scott Breeden, DO
Faculty, Department of
Anesthesiology, Indiana
University School of
Medicine, Indianapolis, Ind.



**Christopher
Konkell, DO**
Private Practice, U.S.
Anesthesia Partners (USAP),
Las Vegas, Nev.



Jaimi Philip, MD
Private Practice, St. Peter's
Hospital, Albany, N.Y.



**Megan (Meg)
Rolfzen, MD**
Faculty, Cardiac
Anesthesiology; Research
Fellowship, University of
Michigan, Ann Arbor, Mich.

Critical Care



Wesley Burdick, MD
Faculty, Department of
Anesthesiology, UNMC,
Omaha, Neb.



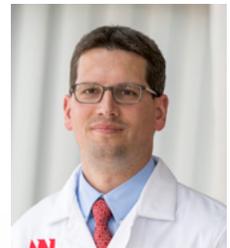
**Timothy
McNamara, DO**
Critical Care & Emergency
Medicine, AdventHealth,
Orlando, Fla.



James Bolduc, DO
Private Practice,
Interventional Pain
Medicine, Orlando, Fla.



Leith Hobbs, DO
Pain Medicine Physician,
Unity Health, Searcy, Ark.



Dan Nicholls, MD
Interventional Pain and
General Anesthesia, Ivinson
Memorial Hospital,
Laramie, Wyo.

Pain Medicine

Teacher of the Year Awards

CBY Teacher of the Year –
Jayme Dowdall, MD (ENT)

CA1 Teacher of the Year –
Andrew Maresch, MD

CA2 Teacher of the Year –
Sean Karre, MD (Omaha VA Hospital)

CA3 Teacher of the Year –
Cale Kassel, MD

**Cardiothoracic Anesthesiology
Teacher of the Year** –
Stephen Brannan, MD

**Critical Care Anesthesiology Teachers
of the Year** – Dan Johnson, MD, and Dan
Kalin, MD (UNMC Emergency Medicine)

Pain Medicine Teacher of the Year –
Redgy Fuller, DO

Brad Paulson Memorial Award –
Trevor Daubert

Certificates of Academic Excellence were awarded to the following:

Each year, the residency program recognizes residents who achieved academic excellence by performing in the top 25% of trainees nationally on the Anesthesiology In-Training Examinations that are administered in February.

Tyler Austin, MD
Hayden Brodersen, MD
Timothy Colwell, MD
Zachary Egr, MD
Ifunanya Ejikeme, DO
Cameron Evans, MD
Robert Guidangen, MD
Melanie Kaiser, MD
Christopher Keenan, MD
Jennie Keum, MD

Saad Khan, MD
Sara Linza-Moscato, DO
Jeremy Payne, MD
Zachary Schell, MD
Ian South, MD
Alec Seei, DO
Noah Svec, MD
Abigail Tesnohlidek, MD
Taylor Ziegler, MD

Incoming residents

Class of 2029



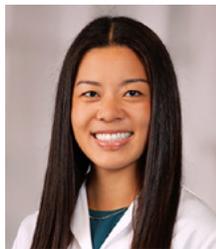
Patrick Arnold, MD
University of Nebraska
Medical Center



Victor Berkland, MD
California Northstate University



Branden Chamberlain, MD
Creighton University



Joy Chang, MD
University of Kansas



Trevor Daubert, MD
University of Nebraska
Medical Center



Joseph Davidson, MD
Creighton University



Alexander Duncan, MD
University of Nebraska
Medical Center



Kaili Jorgens, MD
University of Nebraska
Medical Center



Lauren McGill, MD
University of Nebraska
Medical Center



Joshua Mohs, MD
University of South Dakota



Vernon Rockett, MD
Creighton University



Kaihlen Schoettmer, MD
University of South Dakota

Advanced starting July 2026 as a CA1



Garrett Dee, DO
Rocky Vista University



John Sharp, DO
Midwestern University

Joining Class of 2028 as CA1



Galeh Margossian, DO
Kansas City University



David Watson, MD
University of Kansas

Incoming fellows

Adult Cardiothoracic Anesthesiology



Lueke Anderson, DO
University of Kansas



Lawrence Dautel, MD
University of Oklahoma



Miles McNeir, DO
West Virginia University



**Andrew Russell
Cheung, DO**
*University of Arizona
of Medicine*

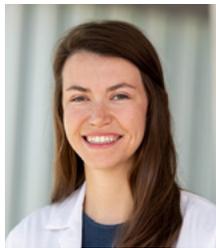


Annie Yao, DO
*Rush University Medical
Center*

Critical Care



Gullerana Ahmad, MD
St. Agnes Medical Center



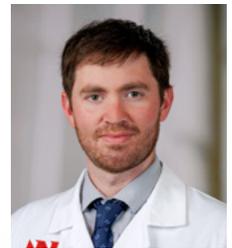
**Blair Benton
Mack, MD**
*University of Nebraska
Medical Center*



Nicholas Linares, DO
Christus Spohn-Shoreline



Mason Patel, DO
HCA Medical City Arlington

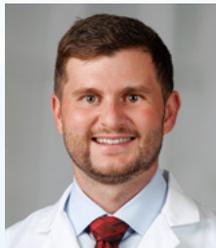


Nathan Pfister, MD
University of Iowa

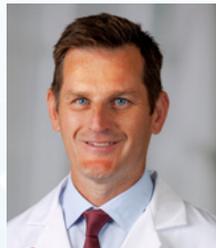
Pain Medicine



Jordan Cruz, MD
University of Missouri



Kyle McCauley, MD
University of Oklahoma



**Alexander
Schoofs, MD**
University of Missouri

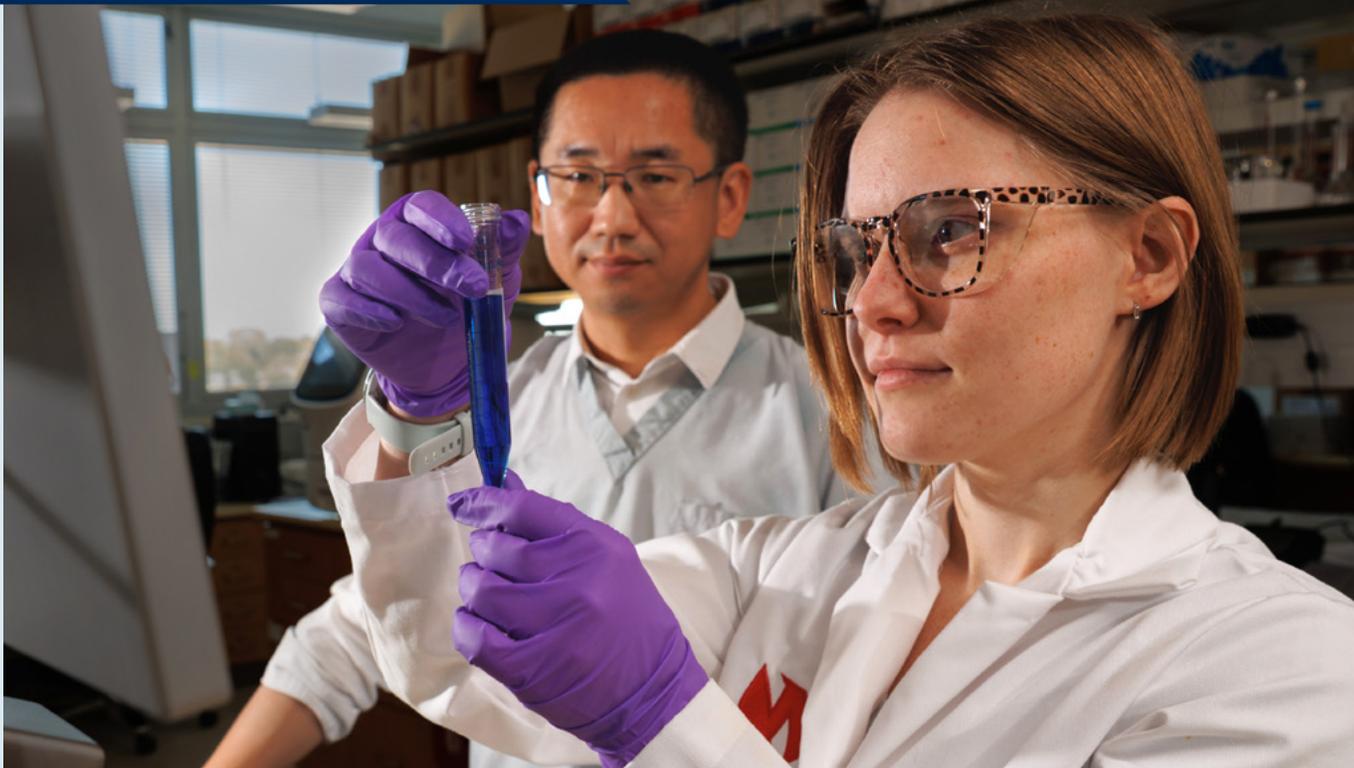


**Lauren (Greufe)
Costello, MD**
*University of Nebraska
Medical Center*



Colton Roessner, MD
*Ohio State University
Hospital*

Pediatric Anesthesiology



Hanjun Wang, MD, and Reesa Wilcox

From the laboratory of Hanjun Wang, MD

The laboratory of Dr. Wang conducts high-impact research in neurocardiology and cardiovascular physiology, advancing translational discoveries in the neural control of heart disease.

Dr. Wang serves as principal investigator on three R01 grants and one R21 grant, supporting research on heart failure, neuroinflammation, Nrf2 signaling and stellate ganglia-targeted therapies. He also collaborates on funded projects in fracture healing, peripheral nerve repair and pain therapeutics.

During 2024–2025, his team published eight peer-reviewed studies, including a novel tissue-clearing paper introducing a combined Passive Clarity

Technique and Clear, Unobstructed Brain/Body Imaging Cocktails and Computational Analysis protocol for mapping neural tissues. Dr. Wang was also invited to co-author a Journal of Physiology white paper on translational neurocardiology.

Current research focuses on:

- Neurocardiology and heart failure mechanisms
- Novel cardiac and neuromodulatory interventions
- Regenerative and nonaddictive pain therapies

The lab welcomed three new research team members this year, expanding its capacity to advance clinically relevant cardiovascular neuroscience.

Research at a Glance

Funding: Four active NIH grants (three R01s, one R21) totaling more than \$8 million, and an AHA Predoctoral Fellowship awarded to Samuel Gillman, graduate trainee

Publications: Eight papers, including a Journal of Physiology white paper on translational neurocardiology and a novel tissue-clearing study in *Acta Physiologica*

Focus areas: Neurocardiology, heart failure mechanisms, Nrf2 signaling, and cardiovascular intervention innovation



Georgette Kanmogne, PhD, Biju Bhargavan, PhD, and Narendran Annadurai, PhD

From the laboratory of Georgette Kanmogne, PhD

Dr. Kanmogne's laboratory studies the molecular mechanisms linking HIV infection, neuroinflammation, vascular injury and cognitive decline, with a focus on protecting the blood-brain barrier, other brain cells and improving long-term brain health.

Her research is currently supported by a five-year NIH R01 grant (\$3.6 million) examining how CCR5 antagonists, including maraviroc, may prevent HIV-related neurodegeneration, amyloid pathology and cognitive impairment.

For 2024-2025, her lab published five peer-reviewed papers, including a recent study in *Acta Neuropathologica*

Communications demonstrating that HIV infection dysregulates brain transporters and kinases that regulate Tau phosphorylation and amyloid-beta clearance, resulting in CCR5-mediated increase in Alzheimer's-like pathology.

Ongoing work explores CCR5 signaling, HIV-Alzheimer's disease overlap, role of HIV genetic diversity in HIV-associated neurocognitive impairment, role of viral-induced vascular pathology in lung and CNS comorbidities; these studies guide the development of translational approaches to protect brain and vascular health and decrease these comorbidities.

Research at a Glance

Funding: NIH / NIMH R01 grant (\$3.6 million)

Publications: Five peer-reviewed papers, including in *Acta Neuropathologica*, *Communications*, *Cells*, and the *International Journal of Molecular Science*

Focus areas: HIV neuropathology and associated CNS comorbidities (including neurovascular aging and Alzheimer's-like pathology), chemokine receptor signaling, blood-brain barrier dysfunction and vascular injury in HIV infection, brain and lung comorbidities



Subhash Chand, PhD, and Shanee Clemencia

From the laboratory of Subhash Chand, PhD

Dr. Chand's laboratory advances translational research at the intersection of stem cell biology, extracellular vesicle (EV) therapeutics and neuroinflammation, with a focus on improving outcomes in cardiovascular and neurocognitive disease.

This year, the lab received an Amnion Foundation seed grant to explore mesenchymal stem cell-derived extracellular vesicles (MSC-EVs) for cardiac repair, establishing proof-of-concept for EV production, cargo enrichment and targeted delivery to heart tissue.

The team contributed to two peer-reviewed publications, including a *Journal of Extracellular Biology* review on EV-based drug delivery and a *Molecular & Cellular Proteomics* study examining how early-life pesticide exposure disrupts neural communication.

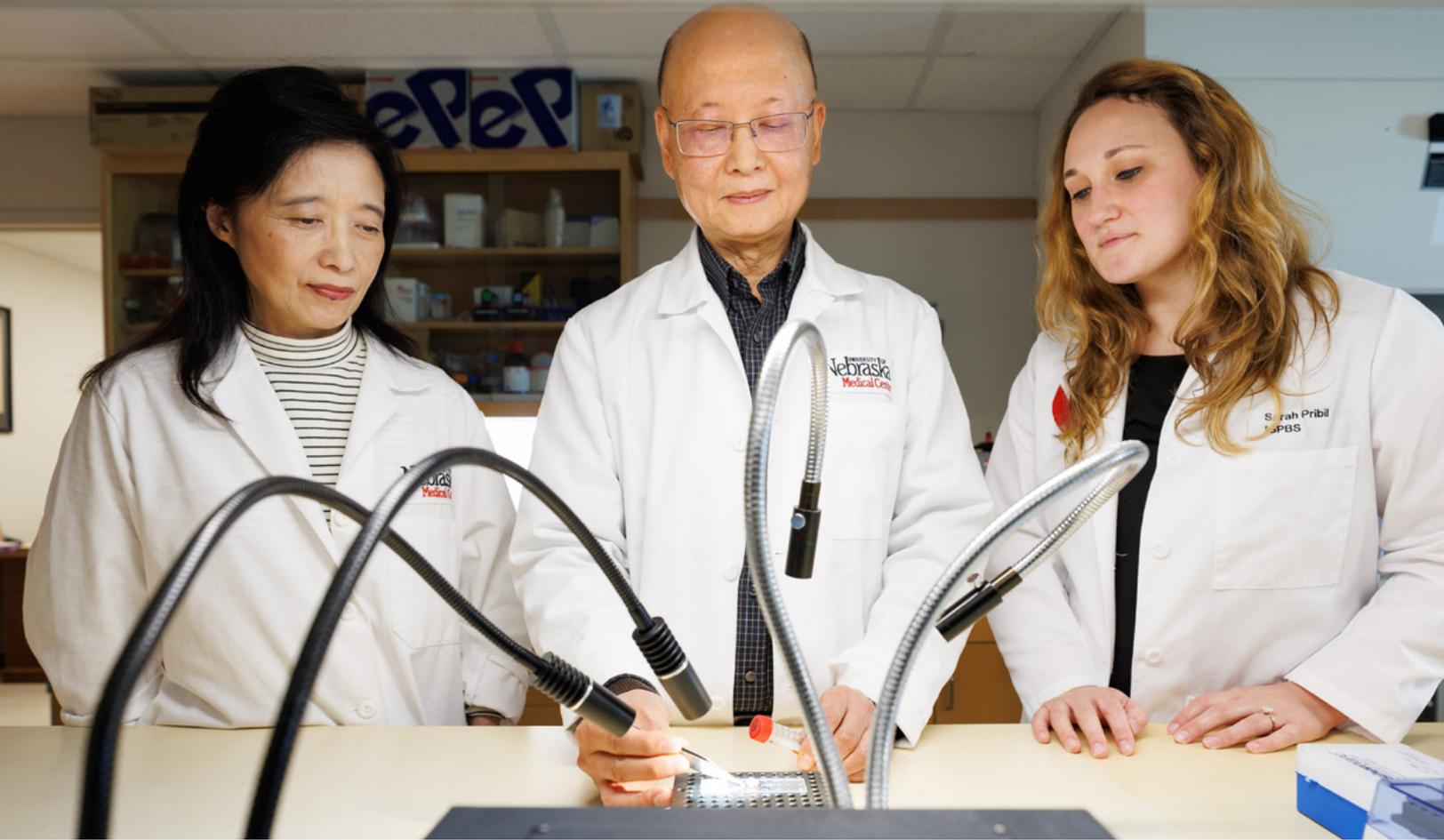
Ongoing work explores HIV- and substance use-related neuroinflammation, evaluating cannabinoids as potential therapeutic tools to reduce inflammation and improve cognitive outcomes in vulnerable populations.

Research at a Glance

Funding: Amnion Foundation Seed Grant (\$2,500) to explore mesenchymal stem cell-derived extracellular vesicles for cardiac repair

Publications: Two peer-reviewed papers in *Journal of Extracellular Biology* and *Molecular & Cellular Proteomics* highlighting EV therapeutics and neurodevelopmental impacts of pesticide exposure

Focus areas: Extracellular vesicle engineering, regenerative medicine, neuroinflammation and targeted drug delivery



Li Yu, Lie Gao, MD, PhD, Sarah LuEtta Pribil Pardun

From the laboratory of Lie Gao, MD, PhD

Dr. Gao's laboratory investigates how exercise-driven antioxidant signaling and extracellular vesicles protect the heart and regulate heart-brain communication.

This year, he received an NIH R01 award to study how antioxidant enzymes transferred via circulating extracellular vesicles contribute to sympatho-inhibition and cardioprotection following heart failure and ischemic injury.

His team published four high-impact studies in *Physiology* (Bethesda), *Nitric Oxide*, *JACC: Basic to Translational Science* and the *European Journal of Pharmacology*, addressing Nrf2 signaling, neuroinflammation and cardiovascular drug effects.

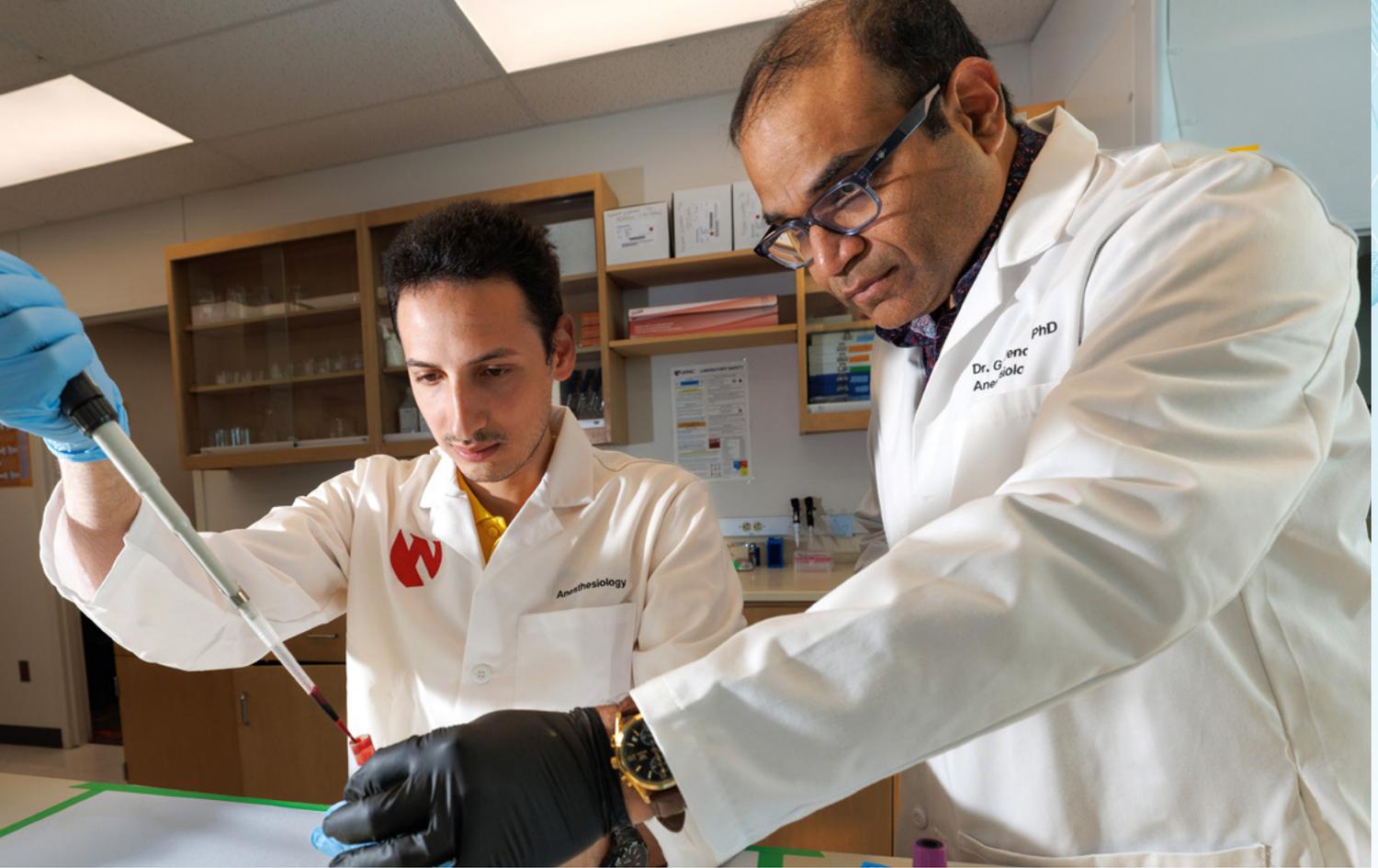
Ongoing projects examine muscle-driven antioxidant protection, cardiac aging, neurovascular signaling, and developmental drug exposure, advancing exercise-inspired strategies to improve long-term cardiovascular health.

Research at a Glance

Funding: NIH R01 grant (\$466,635) investigating inter-organ antioxidant signaling through extracellular vesicles in chronic heart failure

Publications: Four high-impact papers in *Physiology* (Bethesda), *Nitric Oxide*, *JACC: Basic to Translational Science*, and the *European Journal of Pharmacology*

Focus areas: Exercise physiology, heart-brain communication, Nrf2 antioxidant signaling and cardiovascular aging



Omar Shukri, MD, and Gurudutt Pendyala, PhD

From the laboratory of Gurudutt Pendyala, PhD

Dr. Pendyala's research program examines the neurobiological and developmental impacts of substance exposure, HIV infection and perinatal risk, with an emphasis on long-term brain and systemic health.

His lab recently secured multiple awards, including an NIH/NIDA R21 grant (pending) to study polysubstance use in HIV-positive adolescents, two Nebraska Foundation team seed grants and a UNMC opioid prevention pilot award exploring Omega-3 interventions in maternal opioid exposure. In addition, Dr. Pendyala's lab currently is funded by an R01 and two R21's.

His team published high-impact studies in Molecular Psychiatry and Molecular & Cellular Proteomics, examining early-life toxin exposure and neurodevelopmental outcomes.

Ongoing projects address perinatal substance effects, HIV-related CNS dysfunction, reproductive health impacts and nutraceutical interventions, supporting prevention-focused and translational treatment strategies.

Research at a Glance

Funding: NIH/NIDA R21 (\$438,950, pending), two Nebraska Foundation Team Seed Grants (\$200,000), and a UNMC Opioid Prevention Pilot Grant (\$75,000)

Publications: Two major 2025 papers in Molecular Psychiatry and Molecular & Cellular Proteomics on early-life exposure and neurodevelopment

Focus areas: Substance use and neurodevelopment, perinatal exposure, HIV and CNS function, and nutraceutical interventions



Sowmya Yelamanchili, PhD, and Dalia Moore

From the laboratory of Sowmya Yelamanchili, PhD

Dr. Yelamanchili's laboratory investigates neurodegeneration, addiction and infectious disease using advanced 3D cerebral organoids, extracellular vesicles and mitochondrial signaling models.

This year, she received a Nebraska Foundation Team Seed Grant to study anti-inflammatory tissue responses in brain organoid models of toxoplasma gondii, advancing human-relevant platforms for infectious disease research.

Her team published six peer-reviewed studies in journals including Molecular Psychiatry, Molecular & Cellular Proteomics and the Journal of Neuroimmune Pharmacology, covering topics such as early-life drug exposure, neuroimmune signaling and extracellular vesicle biology.

Current work focuses on HIV-associated neurocognitive disorders, addiction neuroscience, mitochondrial vesicles and sex-specific neurobiological risk, supporting translational strategies to protect brain health.

Research at a Glance

Funding: \$100,000 Nebraska Foundation Collaboration Initiative Team Seed Grant (2024–2025) for brain organoid studies of *Toxoplasma gondii* infection

Publications: Six peer-reviewed papers in leading journals, including Molecular Psychiatry, Molecular & Cellular Proteomics, and the Journal of Neuroimmune Pharmacology

Focus areas: Neurodegeneration, addiction neuroscience, infectious disease, and extracellular and mitochondrial vesicle biology

Clinical Research

The UNMC Department of Anesthesiology continues to expand its clinical research footprint through national collaborations, high-impact trials and active participation in multicenter studies.

Members of the clinical research team attended the annual Society of Clinical Trials meeting in Boston, underscoring their commitment to advancing patient-centered outcomes research. In addition, the research nursing team traveled to Philadelphia to support the launch of the Minimizing ICU Neurological Dysfunction with Dexmedetomidine-induced Sleep (MINDDS II) clinical trial, a pivotal multicenter study investigating perioperative delirium prevention in older adults.

At the national level, Elizabeth Puthumana, a 2024 Foundation for Anesthesia Education and Research Medical Student Anesthesia Research Fellow, presented her work at the American Society of Anesthesiologists annual meeting, further elevating the department's presence in clinical research.

Active clinical studies (2024–2025):

Health Behaviors in Routine Perioperative Care

PI: Karsten Bartels, MD, PhD

This multicenter study addresses knowledge gaps in the treatment of alcohol use disorder in perioperative care. It includes a retrospective chart review to identify barriers to implementing the Alcohol Use Disorder Identification Test-Concise, as well as a prospective cohort component to assess patient acceptability, feasibility of outcome collection and define optimal measures for future pragmatic trials.

Spinal Cord Stimulation for Painful Diabetic Neuropathy and Peripheral Arterial Disease

PI: Michael Lankhorst, MD

This proof-of-concept, randomized, blinded, sham-controlled crossover trial investigates the mechanisms of spinal cord stimulation (SCS) in patients with peripheral arterial disease and painful diabetic neuropathy. Participants who experience at least 50% relief of lower extremity pain during the trial period proceed to permanent SCS implantation.

Minimizing ICU Neurological Dysfunction with Dexmedetomidine-induced Sleep (MINDDS II)

PI: Shaun Thompson, MD

This Phase III, multicenter, double placebo-controlled, three-arm clinical trial, conducted in collaboration with Mass General Brigham, enrolls elderly cardiac surgery patients to examine how intravenous and sublingual dexmedetomidine affect postoperative delirium and functional outcomes, aiming to improve recovery and reduce neurological complications.



Shanee Clemencia highlights her research during the Celebration of Academics poster session in October.



Kaili Jorgens, MD, explains her research to Steven Lisco, MD.



Emely Sanchez Rodriguez with visiting professor Christina Pabelick, MD, (right).



Elizabeth Puthumana, MSARF fellow, 2024

Department of anesthesiology hosted research fellow

Elizabeth Puthumana spent eight weeks during the summer of 2024 as a visiting scholar from the University of Missouri-Kansas City School of Medicine.

Throughout the summer, Puthumana worked on two projects under the mentorship of Karsten Bartels, MD, PhD, professor, previous vice chair of research.

Puthumana was selected as one of 74 medical students nationwide to participate in the Foundation for Anesthesia Education and Research's Medical Student Anesthesia Research Fellowships program.

Puthumana said her parents instilled the value of helping others from an early age and many of her role models are in health care. Both reasons, she said, led her to enroll in a six-year program at UMKC where she will earn her bachelor's and medical degrees simultaneously.

"I always knew that I wanted a career in health care and volunteered in health care settings as a high school student," she said. "I was so drawn to the sciences, and I loved the idea of a unique way to use the sciences – to heal people."

Puthumana said she was drawn to anesthesiology while shadowing during medical school and that she loved not only the OR environment but the technical skill involved.

"I was studying for my board exams and found pharmacology and physiology came the easiest to me," Puthumana said. "Anesthesiologists are experts in

intubation and placing lines. They're the people who are called when there's a difficult airway, or there's a difficult IV that needs to be placed."

In collaboration with UNMC oncologic surgeon Juan Santamaria, MD, Dr. Bartels and Puthumana's first project looked at industry payments to physicians and other providers – "for example, payments from a pharmaceutical company or a medical device company paying for things like dinner or travel," she said.

The purpose of the study was to specifically investigate payments made to anesthesiologists and explore any differences by subspecialty, location or demographics. "Does gender play a role? Are men receiving more payments?" Puthumana said. "Are physicians who have been practicing for longer receiving more payments from these companies, and is it influencing their practice?"

They also investigated hospital efforts to provide equitable care and if high-performing health systems in that realm are more likely to attract trainees.

"We're seeing if equity efforts correlate with an institution's ability to fill their residency spots and whether a hospital's ability to provide equitable care is something that matters to applicants, and whether it has an impact on the institution's overall attractiveness in the match process," Puthumana said.

"I'm most excited to see how these projects go and see how the results turn out. I'm growing a whole new set of skills that I didn't have coming into this program."

Puthumana presented her findings at the American Society of Anesthesiologists annual meeting in October 2024.

Throughout medical school, a lot of her endeavors have been academic and service-based, so she was excited and honored to be selected as a research fellow, she said.

"I was introduced to research and started doing projects with mentors at my home institution, and I was motivated to apply for this program because I wanted to explore research specifically in the realm of anesthesiology," Puthumana said. "I'm really happy to be at an institution that supports research endeavors for students – there are so many resources available here."

"Giving enthusiastic learners opportunities to independently drive meaningful scholarly projects is critical to building, recruiting and retaining the academic leaders of the future," Dr. Bartels said. "Dr. Puthumana certainly thrived at UNMC, and we are glad that she chose to spend her summer with our team."

Puthumana said the program gave her a strong foundation going into residency and continuing a career as a researcher.

Perioperative Medicine, Quality and Safety

The past academic year was marked by meaningful progress, innovation and collaboration, said Troy Wildes, MD, vice chair of perioperative medicine, quality and safety.

Dr. Wildes said a key achievement is the successful completion of a comprehensive project on inpatient glycemic management. This work also was reflected in a recent publication focusing on glycemic treatment devices, underscoring the team's commitment to improving perioperative glucose control. A follow-up publication assessing clinical impact has been submitted.

"Our team's work on glycemic management reflects exactly what we aim for: evidence-based changes that improve patient care, backed by data and shared through scholarship," Dr. Wildes said.

The department became a member of the Multicenter Perioperative Outcomes Group (MPOG) in 2024. MPOG is a non-profit academic consortium of more than 100 investigators representing 51 hospitals across 21 states and two countries. MPOG's goal is to improve patient care, using electronic health care data. Dr. Wildes noted significant gains in multiple MPOG quality metrics, particularly in:

- **Train-of-Four Monitoring:** There was a marked improvement in appropriate neuromuscular blockade monitoring, moving performance above the MPOG target line and maintaining that level throughout the year.
- **Glucose Management:** Post-intervention data showed clear progress in perioperative glucose control, with UNMC and Nebraska Medicine achieving and sustaining benchmark targets.

In collaboration with Palantir, the patient safety and quality team began piloting advanced AI tools to enhance preoperative patient triage. Dr. Wildes explained that the new platform extracts relevant data from medical records to identify patients who would benefit from a preoperative clinic appointment but were not previously scheduled. The tool replaces a basic point-based risk assessment system with a far more nuanced and dynamic risk stratification model.

"This is the first time we've had a tool that intelligently flags high-risk patients based on their entire medical history, not just a checklist," Dr. Wildes said. "It's a leap forward in how we prepare patients for surgery."

Dr. Wildes and team also celebrated the completion of a department-wide redesign of the safety processes surrounding preoperative nerve blocks. This involved:



Troy Wildes, MD

- Implementing a detailed, standardized verification protocol.
- Enhancing interprofessional collaboration with preoperative nursing staff.
- Developing an electronic checklist within the EMR to improve reliability and documentation.
- Creating and approving a training module for sustained adoption across clinical teams.

This initiative strengthens procedural safety and improves overall workflow consistency for block procedures.

Another highlight this year was the clinical anesthesia year three (CA-3) resident quality project. The project addressed waste and safety related to sharps container use in the OR. The team implemented targeted education via posters and briefings, aimed at reducing improper disposal and promoting safety and cost savings. Dr. Wildes applauded their efforts saying, "It's a great example of frontline innovation with measurable impact."

The department continued regular departmental quality conferences, which provide a forum for trainees to present real cases and identify safety takeaways. "These sessions are a key part of our department's culture of continuous improvement and learning," Dr. Wildes said.

The team also welcomed new advanced practice providers to its perioperative and quality teams. "Their fresh perspectives and energy already have contributed to ongoing quality and safety initiatives," Dr. Wildes said.

"All of this work, whether it's technology, process redesign, or education, comes down to teamwork. Our people are the engine that drives quality and safety forward," Dr. Wildes said.

Global Health Mission in Zambia

Two teams from the UNMC Department of Anesthesiology provided training and clinical support during a global health trip to the University Teaching Hospital in Lusaka, Zambia, as part of the Global Academic Anesthesia Consortium. In addition to providing hands-on and didactic clinical training to the residents of UTH, this annual trip provides medical and cultural education to UNMC residents, fellows and faculty.

Megan Chacon, MD, said the educational aspect and sustained presence is what differentiates this program from global health trips in the past, which were strictly clinical.

“The consortium allows for a continuation of training over several years,” she said. “The participating institutions share planning and curriculum development, leaving UTH faculty and residents with the skills to handle complex cases and OR management long after we’re gone.” The GAAC has a presence at the UTH 10 months out of the year.

Dr. Chacon said the first of two teams faced some unique challenges this year because of drought conditions. The hospital was mostly unaffected, but residential and retail buildings were often without power.

Dr. Chacon said the trip provided UNMC trainees and faculty the opportunity to practice medicine in a resource-limited environment, as well as increase critical thinking skills. “The residents saw how limited supplies and resources change the way we think about both the practice of anesthesia and limiting waste during an anesthetic,” she said.



Nate Goergen, MD, PhD, mentors a University Teaching Hospital resident during a global health training visit to Zambia.

Cardiothoracic anesthesiology fellow Megan Rolfzen, MD, said that although medical care in different time zones parallels the United States temporally, the resource limitation is completely different than the environment in which UNMC professionals train. “Although knowledge may exist, the lack of resources limits extensive complication management, which is the biggest differentiator,” she said.

“It is important to see how medicine, surgery and anesthesia is performed worldwide, because it provides perspective on how we can be environmental, social and emotional stewards of the capital we are fortunate enough to possess,” Dr. Rolfzen said.

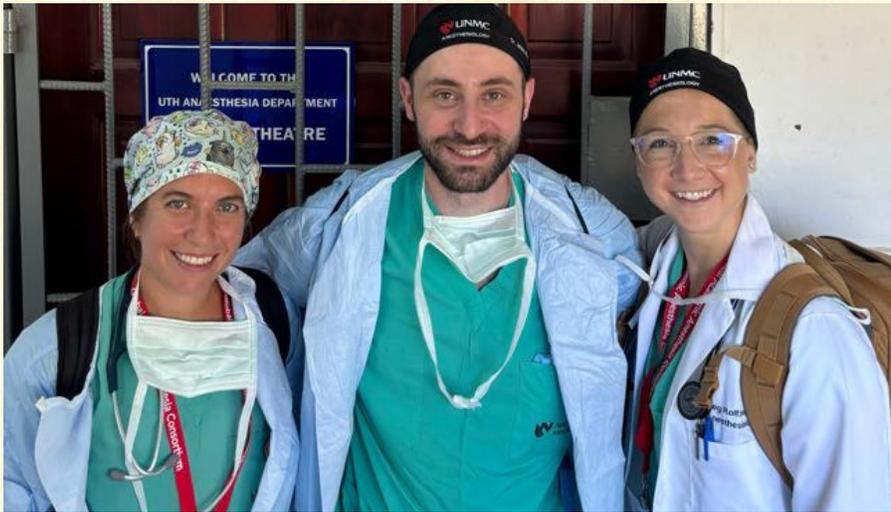
Lucas Deschenes, MD, said helping and caring for people is at the core of an anesthesiologist’s role. “Whether you’re a physician or a patient, nobody

has ever made it through life without someone’s help.”

He said with only 30-35 anesthesiologists in the entire country of Zambia, the average wait time for an internal fixation of a long-bone fracture is often more than six months – a similar surgery in Nebraska would be done often within a week. “Patients we see at UTH are grateful that they receive medical care at all,” Dr. Deschenes said.

One of the primary goals of the trip was to provide regional anesthesia and point-of-care ultrasound training to the residents at UTH, Dr. Chacon said.

“The residents have been very keen and receptive to point-of-care ultrasound utilization, which has had tangible benefits,” Dr. Rolfzen said. “For example, we helped place a lower extremity block for postoperative analgesia.”



Elizabeth Ternet-Rech, DO, Jeremy Payne, MD, and Megan Rolfzen, MD.



Nancy Rogic, MD, Lauren Costello, MD, Lucas Deschenes, MD, and Nate Goergen, MD, PhD, with UTH resident.

Dr. Rolfzen taught residents how to place ultrasound-guided IVs, and Dr. Chacon allowed the residents practice on her.

Drs. Chacon and Rolfzen joined Aleem Siddique, MBBS, professor with the UNMC Department of Surgery, at the newly established National Heart Hospital in Zambia.

Dr. Siddique said his interest in global surgery and involvement in a national committee on global surgery is what led him to join the anesthesiology department's trip to Zambia, and he hopes it will be the start of a collaboration with the UTH team to help expand their surgical capabilities and establish a training program.

"I was interested to see the great work being done by my anesthesiology colleagues and to see if I could learn and assist from the surgical side," Dr. Siddique said. "I would love to be more involved in attempts to expand surgical capabilities worldwide."

Dr. Rolfzen said they were able to repair a ventricular septal defect on one fortunate 2-year-old. "Geoffrey Changwe, MD, one of the cardiac surgeons at the National Heart Hospital, repaired a defect in the wall that separates the lower two chambers of the heart," Dr. Rolfzen said. "Dr. Chacon and I ran the anesthetic with Patrick, the anesthesiologist on staff." They also

taught the cardiac anesthesia providers different regional techniques for post op pain control during cardiac surgery.

The challenge in Zambia, Dr. Siddique said, is lack of depth in personnel and resources.

"They have the expertise, but without more resources it is difficult for them to maximize the abilities of those present and serve all the needs of their population," Dr. Siddique said. "They do not train their cardiac surgical team locally, and establishing their own training program would be critical to increase the depth of their team."

Nancy Rogic, MD, said the pediatric surgery department is the only department with a fellowship program at UTH. She was most impressed by how the local team was able to accomplish so much with limited resources.

"Ultimately, the greatest satisfaction was in helping others – residents, attendings, anesthesia assistants and medical students – although I think I learned more from them than they did from me," Dr. Rogic said. "When we finished the medical student workshop, two UTH medical students told me that they may go into anesthesia and that up until then they had never even considered it."

Dr. Chacon said she would encourage any department resident or faculty member interested in expanding their way of looking at the practice of medicine to consider going on future trips.

"It gives you such a unique perspective on culture, health care and patient interaction that is so different than what we see here in the United States," Dr. Chacon said. "As Mark Twain said, 'Wholesome and charitable views of men and things cannot be acquired by vegetating in one little corner of the Earth all one's lifetime.'"



Ellen Brightweiser, CRNA, Andrew Patterson, MD, PhD, Ann Donnelly-Haasch, CRNA, Chad Williams, CRNA, Michelle Iverson, DO, and Tiffany Olson, CRNA

Community outreach

In June, physicians and nurse anesthetists from the UNMC Department of Anesthesiology volunteered their time at Food Bank for the Heartland, sorting and packing food to help fight hunger in Nebraska.

This marked the department's third volunteer shift at the food bank, a partnership that continues to grow thanks to the leadership of Ellen Brightweiser, CRNA, who organizes the event every few months.

"The Food Bank for the Heartland is a cause close to home," Brightweiser said. "Many of the patients we care for face the same financial and food insecurity challenges. Volunteering here is one small way we can give back to the community we serve."

The event also is intentionally accessible for busy anesthesia providers. "It's easy to set up and easy to attend," Brightweiser said. "There's no cap on volunteers, orientation

"Many of the patients we care for face the same financial and food insecurity challenges. Volunteering here is one small way we can give back to the community we serve."

– Ellen Brightweiser, CRNA

is just a five-minute video when you arrive, and you can bring your friends, family, or children ages 10 and up."

The food bank focuses on eliminating hunger across Nebraska and western Iowa, providing meals to children, families, seniors and veterans. Brightweiser said she plans to continue this tradition of service in the future.



Circle of Distinction

Eight UNMC Department of Anesthesiology faculty members were recognized in October 2024 as part of the UNMC Circle of Distinction.

The Circle of Distinction event, held Oct. 1, recognized the recipients of endowed chairs, professorships and fellowships – the highest academic awards the university can bestow on a faculty member – as well as the benefactors who supported them.

Jessica Goeller, DO, was the department's new honoree this year. Dr. Goeller is the Dr. Jane Kugler, MD, and Douglas Vonderfecht, MD, Family Professor of Pediatric Anesthesiology, which is a gift of Dr. Douglas K. Vonderfecht, Dr. Jane A. Kugler, and friends of Dr. Jane Kugler, the division of pediatric anesthesiology and the department through Children's Nebraska Foundation.

Dr. Goeller was one of 50 new UNMC faculty members and their corresponding benefactors who were honored during the event, which also recognized more than 150 faculty and benefactors who previously had joined the Circle of Distinction – including the following anesthesiology faculty members:

Madhuri Are, MD – Robert Lieberman Professor of Anesthesiology, generously given by Robert P. Lieberman, MD

Karsten Bartels, MD, PhD – Robert Lieberman Endowed Chair of Anesthesiology, generously given by Robert P. Lieberman, MD

Steven J. Lisco, MD – Myrna Newland, MD, Professor of Anesthesiology, generously given by Myrna C. Newland, MD, James R. Newland, MD, and friends of Dr. Myrna Newland and the department

Gurudutt Pendyala, PhD – Robert Lieberman Professor of Anesthesiology, generously given by Robert P. Lieberman, MD

Sasha Shillcutt, MD – Dr. Gail Walling Yanney Professor of Anesthesiology, generously given by Michael B. Yanney in honor of his wife, Gail Walling Yanney, MD

Mohanad Shukry, MD, PhD – Carol Lydiatt, MD, and Dan Lydiatt, MD Professor of Pediatric Anesthesiology, generously given by Carol Lydiatt, MD, Dan Lydiatt, MD, and friends of Dr. Carol Lydiatt, the division of pediatric anesthesiology, and the department through Children's Nebraska Foundation

Hanjun Wang, MD – Margaret R. Larson Professor of Anesthesiology, generously given by the estate of Richard H. Larson

Melissa Smith, CRNA, demonstrates IV access.



Sheila Ellis, MD, leading a family member through difficult airway management.



Allyson Hascall, MD, teaches participants how to perform a spinal epidural.

First Family Day

You can't have a "Take Your Kids to Work Day" in an OR.

But Rebecca Aron, MD, associate vice chair of wellbeing in the UNMC Department of Anesthesiology, wanted to offer her department a similar, fun experience in a safe, controlled environment that would help family members improve their understanding of anesthesiology.

"Many family members don't understand what anesthesiologists and CRNAs do, and I thought it would be neat if we could create a program to show our loved ones what it is that we do when we go to work," Dr. Aron said.

The department's first-ever Family Day was held on Sep. 14, 2024 at the Davis Global Center. Using the state-of-the-art clinical simulation rooms of the iXCEL program, the event was planned and executed by a team of the department's physicians, nurse anesthetists and house officers and was geared toward both children and adults.

"I knew I couldn't do it alone," Dr. Aron said. "I had a tremendous response from volunteers and colleagues, who shared wonderful ideas that helped me to refine the details."

The fun began with all attendees gathered for a welcome and introduction, followed by a rotation through several stations that ran simultaneously, providing different learning experiences tailored for children and adults. UNMC medical students were on hand to facilitate the rotations.

Family members visited multiple stations throughout the morning that introduced them to the wide range of services in anesthesiology, including providing invasive monitors, post-op pain relief, managing difficult airways and performing perioperative transesophageal ultrasound.

There also was a break room where children could design their own scrub caps, color or enjoy a snack in a quiet environment.

The volunteers at the various stations made an amazing experience even better, Dr. Aron said. For example, CRNA Melissa Smith served juice in "blood bags" at the IV station. Amanda Arnzen, MD, brought in a stereo to play "Baby Shark" – which has the perfect beat count for CPR and was a huge hit with the youngest participants. Several volunteers brought visual aids and teaching tools to make the experience more accessible to a lay audience.

"It was awesome to engage the youth and show them that STEM is exciting, bystander CPR is key, and everyone can contribute to saving a life," Dr. Arnzen said. "Ten-out-of-10 Saturday morning volunteer experience – and my family and I would love to participate again!"

They aren't the only ones.

"We've had a lot of people in the department ask when we're going to run the program again, because they want to show their families what they do at work," Dr. Aron said. "I'm excited to hold it again and open it up to more people next time."

Dr. Aron said one goal was to give the participants hands-on experience in order to gain an understanding of what anesthesiologists and CRNAs do at work.

"Our families could see what we do to help patients and why we sometimes have to miss important events or can't make it home," Dr. Aron said. "Another potential benefit is encouraging our kids to explore and appreciate STEM and maybe get them interested in health care or medicine."

An internal goal was the teamwork and bonding aspect.

"We worked together to come up with the ideas," she said. "And we got to meet each other's families and see what and how each other were teaching as we rotated through."

Event planners and volunteers included:

- Patrick Arnold, UNMC medical student
- Amanda Arnzen, MD (CPR)
- Mark Cheney, MD (venous access)
- Ann Donnelly-Haasch, CRNA (break room)
- Sheila Ellis, MD (difficult airway)
- Jeff Garvey, UNMC medical student
- Katie Goergen, MD (bronchoscopy)
- Nate Goergen, MD (bronchoscopy)
- Michael Hamilton, CRNA (airway)
- Allyson Hascall, MD (spinal/epidural)
- Rafael Arsky Lombardi, MD (regional)
- Dash Pierce, MD (manikin)
- Matt Pile, UNMC medical student
- Kris Rohde, CRNA (ultrasound)
- Sandra Rose, Anesthesia Services Respiratory Therapy Supervisor
- Sasha Shillcutt, MD
- Mohanad Shukry, MD, PhD
- Melissa Smith, CRNA (IV access)
- Lucy Yearian



Showcasing Excellence in Education and Research

The American Society of Anesthesiology's (ASA) annual meeting draws anesthesiologists from all over the globe, and the UNMC Department of Anesthesiology turned out in force for a weekend of presentations, panels, research and networking.

Faculty, fellows and residents from the department attended the October 18-21 annual meeting held this year in Philadelphia.

The conference provides an opportunity for UNMC's up-and-coming researchers and new investigators to represent the institution and share their academic accomplishments.

Senior anesthesiology resident Lauren Costello, MD, was named this year's Foundation for Anesthesia Education and Research Scholar at the Day for New Researchers event.

Mentored by associate professor Jeffrey Songster, MD, Dr. Costello investigated how often patent foramen ovals (PFOs) are found during left ventricular assist device placement – a mechanical pump that helps the heart pump blood to the body – and what effect the presence of a PFO may have on outcomes.

"We found a statistically significant, longer bypass time – a little over 30 minutes – and what looks like an increased likelihood of stroke in participants with a PFO," Dr. Songster said.

The department was strongly represented in ASA leadership activities, including Noah Svec, MD, and Dr. Costello, serving as representatives in the Resident House of Delegates.

The department hosted a table staffed by residents, fellows, faculty and education leadership members at the Residency Program Open House. Residency program director Andrea Dutoit, MD, said the annual event provides the opportunity for interested attendees to learn more about anesthesia residency programs.

"We showcased our diverse clinical exposure and broad range of fellowships and educational opportunities at UNMC," Dr. Dutoit said. "Many students from across the U.S. engage with residents and faculty to get a sense of what the training will potentially be like and how they might fit with the community and culture of the program."

Dr. Dutoit thanked representative faculty and residents including:

- Amanda Arnzen, MD
- Brittany Clifton, MD
- Lauren Costello, MD
- Amy Duhachek-Stapelman, MD
- Rafael Arsky Lombardi, MD
- Jeremy Payne, MD
- Shawn Nelson, MD
- Alexander Scheiber, MD
- Mohanad Shukry, MD, PhD
- Jeffrey Songster, MD
- Noah Svec, MD

Megan Chacon, MD and Nicholas Markin, MD, served as ASA faculty for the diagnostic point-of-care ultrasound certification program, providing hands-on training for participants working toward certification. Drs. Chacon and Markin then reviewed and provided approval and feedback on images.

The department also cohosted a Friends and Alumni Reception with the University of Iowa Health Care and the Medical College of Wisconsin. The event was an opportunity for attendees to connect with colleagues and network with new friends from the Midwest region in an informal setting.

Shaping national standards of care

Faculty from the UNMC Department of Anesthesiology are playing a key role in shaping the future of the specialty through their work as examiners and exam writers for the American Board of Anesthesiology (ABA) and other national organizations.

Sasha Shillcutt, MD, said the department stands out nationally for the number of faculty involved in board-level examination activities. “Not many departments across the country have as many ABA examiners and subspecialty exam writers, placing us among an elite group that helps shape the standards of the specialty,” she said.

These roles demand an extraordinary time commitment, Dr. Shillcutt said.



Rebecca Aron, MD, (second from right) serves as chair of the Adult Cardiac Anesthesiology Maintenance of Certification (MOC) Committee.

“It takes hours of volunteer time to do this so we can grow our clinical capabilities and maintain excellence across the field.”

– Sasha Shillcutt, MD

“Faculty dedicate countless hours outside of their clinical duties to write, review and administer exams, attend board meetings and contribute to the development and maintenance of certification processes,” she said. “Their efforts ensure that board-certified anesthesiologists meet the highest standards of patient care and professional competence.”

Each year, the number of ABA exams grows, and so does the time required to examine and certify qualified candidates. UNMC faculty members also contribute to the ongoing development of Maintenance of Certification (MOCA) questions, further supporting the specialty’s lifelong learning goals.

“We literally set the bar for our specialty,” Dr. Shillcutt said. “And it takes hours of volunteer time to do this so we can grow our clinical capabilities and maintain excellence across the field.”

Department Chair Andrew Patterson, MD, PhD, acknowledged faculty efforts to serve the profession through leadership, scholarship and dedication, saying, “Having numerous individuals engaged in the board examination process helps our education team calibrate the education program based upon national expectations.”

Faculty serving on exam boards:

Rebecca Aron, MD
Amy Duhachek-Stapelman, MD
Andrea Dutoit, MD
Sheila Ellis, MD
Jessica Goeller, DO
TJ Lockhart, MD
Thomas Schulte, MD
Sasha Shillcutt, MD

Anesthesiology Facts & Figures 2024-25

CLINICAL



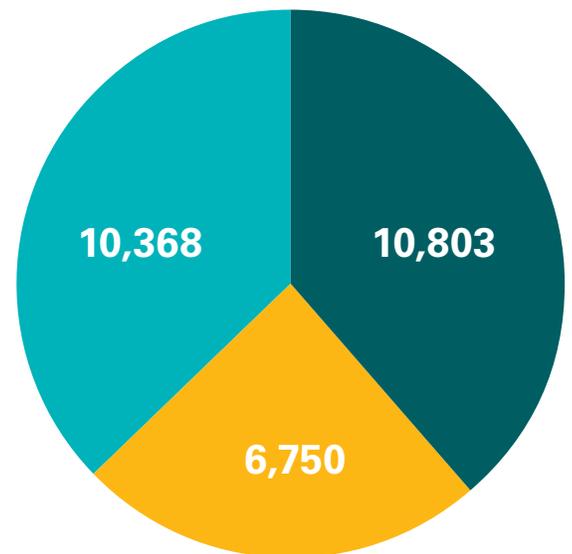
Anesthetic cases by site



Nebraska Medical Center	38,168
Bellevue Medical Center	6,860
Village Pointe	7,177
Children's Nebraska	18,541

Patient Encounters

- Pain Medicine
- Preoperative Evaluation and Care Clinic
- Critical Care



Wellness Activities



Monthly birthday lunches ♦ Supported CRNA week with food and gifts ♦ Department holiday party ♦ Fall curling event ♦ Top Golf summer event ♦ Pizza party for Perioperative Nurses Week ♦ Supported Women in Medicine Month ♦ Supported Respiratory Therapist Week

EDUCATION

1,004 residents/fellows applications

246 residents/fellows interviewed

29 residents/fellows matched



 *More than*
600 hours
of didactics provided

6 visiting professors

RESEARCH

31 department members who participated in national meetings

40 grant applications **13** grants funded

\$4,252,967 funding total

which is a 5.5% increase from 2024

9 Individuals with grants
(faculty, students, etc.)



More than
30 publications





Publications, 2024-25

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New staff

The UNMC Department of Anesthesiology proudly welcomed the following team members in the 2024-25 academic year:

Andrew Braith, MD
Westley Burkiek, MD
Jason Cromer, CRNA
Cory Drietz, CRNA
Marcus Finch, DO
James Gilbert, MD
Nathan Goergen, MD, PhD
Ariel Kirschman, CRNA
Alice Ngu
Andrea Oltman
Lindsey Romero, CRNA
Andrew Patterson, MD, PhD
Rachel Steen, CRNA

Academic promotions

As of July 1, 2025, the following faculty members were promoted to professor of anesthesiology:

Rebecca Aron, MD
TJ Lockhart, MD
Gurudutt Pendyala, PhD

As of July 1, 2025, the following faculty members were promoted to associate professor of anesthesiology:

Ryan Hamlin, MD
Kunal Sualy, MD
Kristin Wakin, MD
Charles Walcutt, MD



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