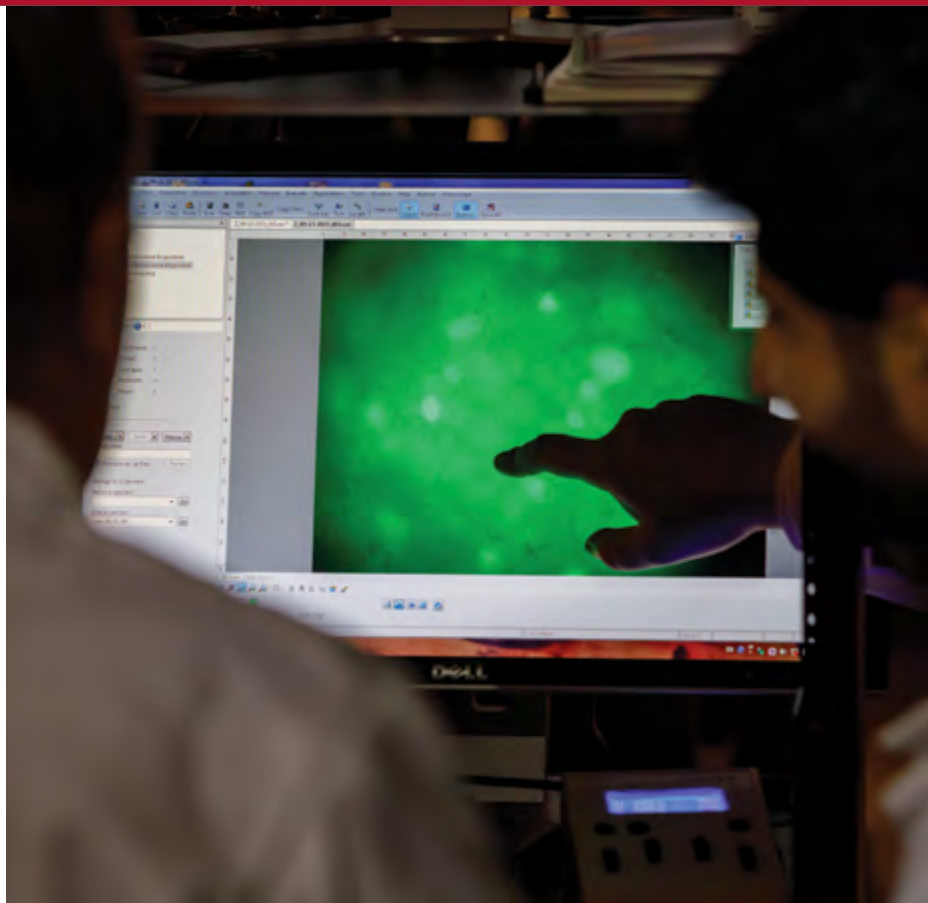




# Department of Anesthesiology

ANNUAL REPORT | 2023-24 ACADEMIC YEAR







## Message from the Chair

It is with great pride that I present this year's annual report, which celebrates the remarkable achievements of our exceptional faculty, house officers and nurse anesthetists. This report highlights the collective efforts of our team in advancing the department's mission: *"To deliver high-quality and compassionate medical care, provide premier educational programs, and perform innovative research."*

This academic year has been a transformative period of growth, marked by several key leadership changes. Please join me in congratulating Jessica Goeller, DO, on her appointment as vice chair and division chief of pediatric anesthesiology. Dr. Goeller's exemplary leadership and dedication to delivering outstanding clinical care to children make her the perfect leader to expand and elevate our pediatric anesthesiology services. I also extend my congratulations to Allyson Hascall, MD, who has been named the new multispecialty division chief. Dr. Hascall brings unparalleled expertise, leadership and a steadfast commitment to patient care and education, and I am eager to see her impact on the division and the department. Additionally, I would like to recognize Kyle Johnson, MD, who now oversees perioperative services operations at Bellevue Medical Center, a cornerstone of our clinical care.

This report not only showcases the clinical successes of our six divisions but also underscores significant contributions to education and research. Highlights include our department's membership in the Multicenter Perioperative Outcomes Group and our role as the host institution for the Midwest Anesthesia Residents Conference, affirming our leadership on the national stage. On that note, please join me in congratulating Andrea Dutoit, MD, for her well-deserved nomination to the Association of Anesthesiology Core Program Directors. Dr. Dutoit has transformed our residency program over the past six years, and her leadership has been invaluable to the department.

The report concludes with a summary of our research accomplishments, including new grants, clinical trial milestones, faculty promotions and prestigious recognitions, including a publication in the specialty's top journal by CRANE scholar Megan Rolfzen, MD. These achievements reflect the incredible dedication and talent of our faculty, residents and fellows.

The anesthesiology profession is uniquely positioned to lead in an era of transformative health care. Looking to the future, we must harness artificial intelligence and machine learning to enhance patient monitoring, predictive analytics, and personalized anesthesia care.

Additionally, we need to expand our training programs to include emerging technologies, leadership and communication skills. Supporting lifelong learning will be essential to keeping pace with the rapid advancements in medicine and ensuring the continued excellence of our profession.

Our department's success is a testament to our collective efforts, and I am inspired by the unwavering commitment of our entire team. Please enjoy this year's annual report and join me in celebrating the outstanding accomplishments that define our department.

On a personal note, serving as the department's interim chair has been both a privilege and an honor. I deeply appreciate all of you who welcomed me into this role and supported me in carrying its responsibilities. Watching each of you excel has been a source of immense joy and hope for the future. I am truly grateful for all that you do.

**Mohanad Shukry, MD, PhD**

Carol Lydiatt, MD, and Daniel Lydiatt, MD, Endowed Professor of Anesthesiology  
Interim Chair, University of Nebraska Medical Center Department of Anesthesiology

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**Omaha's great apes  
in caring hands**

*Exceptional patient care  
in unexpected places.*





Leading from the Front Line

For Mohanad Shukry, MD, PhD, interim chair of the UNMC Department of Anesthesiology, the journey into medicine was sparked by a key moment in medical school. Shadowing an anesthesiologist, Dr. Shukry found himself captivated by both the scientific complexity and the critical role anesthesiologists play in patient care.

“I fell in love with the field,” he said. “I was drawn to the pharmacology and physiology, the hemodynamic monitoring and, above all, the responsibility for patient safety before, during and after surgery. My mentor’s clinical and leadership skills became a lasting inspiration.”

This formative experience instilled in Dr. Shukry the vision of an anesthesiologist as a “lifeguard” in the operating room. “A lifeguard carefully monitors the swimmers, preparing to act if needed,” he said. “Anesthesiology is similar in that we oversee patient safety throughout surgery, ensuring a stable environment while the surgeons perform their operation.”

For Dr. Shukry, the ideal anesthesiologist combines medical knowledge with empathy and strong interpersonal skills. “Clinical expertise is essential,” he said, “but empathy and effective collaboration with nurses, surgeons and team members are equally important.”

Since stepping into his role as interim chair in November 2023, Dr. Shukry has taken on the challenge of leading a department of more than 250 members. His priorities have included workforce stabilization, recruitment and fostering a supportive culture where every member of the department feels valued.

Reflecting on his initial focus, he said, “Serving as executive vice chair for three years allowed me to hit the ground running and prioritize key areas.”

One of the department’s significant achievements under Dr. Shukry’s leadership has been the expansion of operating room facilities and the growth of the residency program. “We added five new operating rooms this year – something we hadn’t done in more than a decade. This growth reflects our teamwork with surgical colleagues, hospital administration and nursing staff,” he said.

Dr. Shukry also takes pride in the department’s flourishing research initiatives. “Our research funding averages \$3.5 million annually, placing us 28th nationally among anesthesiology departments. This is a tremendous achievement for a medium-sized department and highlights the quality of our research efforts.”

Another milestone Dr. Shukry helped achieve was the department’s admission into the Multicenter Perioperative Outcomes Group (MPOG), an initiative he has championed since his appointment as executive vice chair in 2020. “Membership in MPOG will give us access to national data and metrics to enhance patient safety and support clinical research, while providing invaluable educational resources and collaboration opportunities with other academic centers.”

Looking forward, Dr. Shukry envisions anesthesiologists playing an expanded role as perioperative physicians,

adapting to health care’s evolving demands. “In the next five to 10 years, we’ll face workforce challenges, but these will be opportunities to rethink service structures and reaffirm our roles as perioperative leaders,” he said. “Technology and new innovations have to be part of our solutions.”

Balancing his administrative duties with clinical practice is central to Dr. Shukry’s approach. “Clinical work informs my leadership role, and vice versa. I lead from the front line, blending both responsibilities seamlessly,” he said.

As Dr. Shukry reflects on the past year and the department’s future, his commitment to patient care and continuous improvement stands out. “Leading from the front line isn’t just a style – it’s a dedication to serving patients and training the next generation of health care providers.”

About the interim chair

Dr. Shukry holds the Carol Lydiatt, MD & Daniel Lydiatt, MD Endowed Professorship.

He earned his medical degree from Damascus University Faculty of Medicine and completed his general surgery internship at the University of Virginia, followed by a residency at Tulane University School of Medicine and a fellowship in pediatric anesthesiology at Children’s Hospital of Pittsburgh. While on the faculty at the University of Oklahoma, he earned a PhD in science education.

Dr. Shukry joined UNMC in 2013, and served as the division chief of pediatric anesthesiology at Children’s Nebraska prior to taking on the role of executive vice chair of the department in July 2020.

His primary clinical focus is pediatric anesthesiology. He practices pediatric and adult anesthesiology at Nebraska Medicine and pediatric cardiac anesthesiology at Children’s Nebraska.

Jessica Goeller, DO, has been named pediatric anesthesiology division chief and vice chair of pediatric anesthesia at the UNMC Department of Anesthesiology.

“Dr. Goeller’s extensive leadership experience and dedication to providing the very best clinical services for children made her the ideal candidate to continue to expand and lead the pediatric anesthesiology services,” said Mohanad Shukry, MD, PhD, interim chair of the department.

A native of Australia, Dr. Goeller served in the U.S. Army in finance and accounting shortly after emigrating to the United States and before attending medical school. She completed her residency in anesthesiology at the Doctors Hospital in Columbus, Ohio. After a fellowship in pediatric anesthesiology at Nationwide Children’s Hospital in Columbus, she joined the faculty at the UNMC Department of Anesthesiology in 2014.

“I am excited for the opportunity to lead such a strong, robust, compassionate and valuable team of people,” Dr. Goeller said. “I certainly feel humbled by the responsibility of the position and I am grateful to Dr. Shukry for his support and mentorship.”

Dr. Goeller said she wants to foster positive change as a leader and has been building the necessary skills and tools to step confidently into administrative and academic leadership roles.

This drive – to become a skilled and compassionate leader and effect positive change – is what drove her to pursue a career as a physician, she said.

“I always want to know I’m doing things for the right reason,” she said. “I’ve tested the waters across many roles to ensure that I have the right

perspective – that I’m not doing it to serve myself but to be of service to or a voice for those I am working with.”

Dr. Goeller has several goals as division chief and said she will initially address organizational transparency, communication and the educational needs of the division.

“Encouraging everyone to be present and engaged and prioritizing wellness is one step that will ensure people feel they are a part of a supportive, fulfilling environment,” she said. “A big part of that is timely communication and providing opportunities for roles within the division that they can claim ownership of, including meetings, journal clubs and engaging educational opportunities.”

Wellness initiatives will ensure there are multiple opportunities for the division to build rapport and feel like part of a compassionate and cohesive team of professionals, she said. These initiatives may include gatherings outside work, journal clubs, recognition and engagement surveys to determine professional needs.

“People often feel underrecognized for the hard work they provide in dedication to provide the best care for children,” Dr. Goeller said. “I’m looking at different initiatives to launch this coming year focusing on updating and upgrading our communication, our engagement and our wellness.”

Dr. Goeller also plans to expand the division’s national presence by providing further opportunities for the division’s professionals within their areas of interest or expertise, including educational, research or cardiac anesthesiology.

“The pediatric anesthesiology division provides excellent clinical care and education for our fellows. One of my goals is to continue to support these efforts while fostering a supportive, fulfilling environment.”



Dr. Goeller’s clinical interests include pediatric regional anesthesia and pain management. She is actively involved in osteogenesis imperfecta research, a genetic disease that causes bones to fracture easily requiring multiple surgical interventions.

Dr. Goeller said she enjoys spending her free time with her husband and children, traveling and reading fantasy books, especially Sara J. Maas. She is proud to call Nebraska home and is honored to continue to serve the community.

“I really love Omaha and Nebraska – I consider myself an adopted Nebraskan since coming here in 2014,” Dr. Goeller said. “I’ve fostered some really great relationships and feel well-equipped to represent and lead the division.”

Dr. Goeller has served locally as chair of the Children’s Specialty Physicians Board of Directors and as a senator for the UNMC Faculty Senate, in addition to her role as director of perioperative services at Children’s Nebraska.

She has served nationally as the chair of the Professional Education Committee for the American Osteopathic College of Anesthesiology and currently is vice president of the board of the AOCA. In May 2023, she received a Master of Business Administration from the University of Nebraska-Lincoln, which she pursued to become a better leader and professional.



**Allyson Hascall, MD, associate professor in the UNMC Department of Anesthesiology, has been named chief of the division of multispecialty anesthesiology.**

"Dr. Hascall brings a wealth of experience, leadership and a commitment to excellence in patient care and education to this important role," said Mohanad Shukry, MD, PhD, interim chair of the department. "I look forward to her leadership and contributions to the division and department."

Dr. Hascall graduated from medical school and completed her anesthesiology residency training at UNMC before joining the faculty in 2009. Throughout her career at UNMC, she has demonstrated leadership qualities, serving in a leadership role for 12 of those years in various capacities, including as clinical director at UNMC and as the medical director of anesthesiology at Bellevue Medical Center.

In her role as medical director of ambulatory services, Dr. Hascall oversees each of the ambulatory sites, Bellevue Medical Center, Fritch Medical Center and Village Pointe

Medical Center, fostering collaboration among interdisciplinary teams and ensuring the highest standards of patient safety and care.

Dr. Hascall said she is excited for the opportunity to lead the division. "I've always been in the operations side of leadership – I'm really excited about the opportunity to lead within the department and try flexing my leadership 'brain' muscles in a different capacity," she said.

Drawing on her extensive team-building experience, Dr. Hascall plans to continue the work of founding division chief, Robert Lobato, MD. "Dr. Lobato has done a tremendous job of building the multispecialty division, and we've had a lot of good changes in the past couple of years," she said. "My goal is to build on the work that he's done."

Dr. Hascall said her long-term commitment to the department and the relationships she has built along the way will be a benefit as division chief.

Another goal is to increase retention in the division.

"I've stayed with this department and at UNMC as long as I have because of the relationships and the camaraderie," Dr. Hascall said. "As we've grown and

***"Dr. Hascall will play a pivotal role in guiding our department and faculty to new heights. I am confident she will bring fresh perspectives, strategic vision and a collaborative approach to this leadership position."***

– Mohanad Shukry, MD, PhD

spread out across many different sites, it's been a little more difficult to keep those relationships. One of my first goals is to help redevelop some of that camaraderie and closeness that I've always enjoyed."

Dr. Hascall said Dr. Lobato has been a tremendous example in the role of division chief and that Ellen Roberts, MD, has been a source of inspiration for leading by example as vice chair of operations.

"Dr. Hascall will play a pivotal role in guiding our department and faculty to new heights," Dr. Shukry said. "I am confident she will bring fresh perspectives, strategic vision and a collaborative approach to this leadership position."

Dr. Hascall's clinical interests include acute pain medicine and outpatient surgery anesthesiology.

Dr. Hascall enjoys spending her free time attending activities with her four children and husband. "I have four kids, so we're in lots of different sports, art classes, from elementary to high school," she said. "I'm also just rediscovering yoga. I did it years ago and now I'm at a point in my life where my kids are older and I can get out of the house for an hour here and there – I've really enjoyed getting back into that practice."

As an expert multitasker, she often can be found with a crochet bag with her on call at the hospital and always has two or three projects going.

**Kyle Johnson, MD, has been named procedural services chief at Bellevue Medical Center.**

Dr. Johnson will oversee operations for perioperative services, one of the main service lines, at Bellevue Medical Center. The supervisory role will encompass surgeons, proceduralists, anesthesiologists and advanced practice providers credentialed at Bellevue Medical Center. In the new role, Dr. Johnson will report directly to the Bellevue Medical Center executive committee.

"Dr. Johnson is an outstanding anesthesiologist and leader," said Mohanad Shukry, MD, PhD, interim chair of the UNMC Department of Anesthesiology. "He is thoughtful, visionary and highly collaborative. I greatly appreciate his willingness to step up and take on this important role."

Bellevue Medical Center has changed significantly over the past two years, and part of his new role is to help set a course for future growth and reimagine how Bellevue Medical Center fits into Nebraska Medicine's planning, Dr. Johnson said. "It is especially important to have an anesthesiologist in this role serving as a consistent presence in daily operations at this time."

"As anesthesiologists, we are in a unique position to truly understand the challenges of perioperative care across multiple procedural areas and many surgical specialties," Dr. Johnson said. "Our anesthesiologists and CRNAs set the culture at Bellevue Medical Center, and we see ourselves collectively as the key players both in daily operations and in guiding which direction we should be headed."

Dr. Johnson has been at Bellevue Medical Center for eight years, which has allowed him to develop a good working relationship with its surgeons. In addition to serving as a liaison between perioperative service providers and hospital leadership, Dr. Johnson also plans to re-evaluate the block schedule, the efficiency of perioperative services and address any concerns with the culture.

Kelly Vaughn, vice president of operations, said she has worked with Dr. Johnson for many years and his leadership, problem-solving mentality and ability to work collaboratively with everyone he encounters will continue to be an asset at Bellevue Medical Center and across the health system.

"Dr. Johnson is well respected by his peers and surgeon colleagues, and I, as well as many others look forward to working more closely with him in this leadership role," Vaughn said.

Andrew Ingemansen, MD, has served in this position for the past six years and said he is confident Dr. Johnson's "always calming" demeanor will help him navigate this new role.

"His prior leadership experience in our department makes him a natural fit to balance both the physician and institutional needs to continue to make Bellevue such a successful and busy part of Nebraska Medicine," Dr. Ingemansen said.

Ellen Roberts, MD, vice chair of clinical operations at the UNMC Department of Anesthesiology, congratulated Dr. Johnson on his new appointment and said his experience as chair of the department's clinical practice committee will be invaluable when collaborating with the hospital on business, operational and strategic initiatives.



***"As anesthesiologists, we are in a unique position to truly understand the challenges of perioperative care across multiple procedural areas and many surgical specialties."***

– Kyle Johnson, MD

"I am thrilled Dr. Johnson has been elected as the next procedural services chief at Bellevue Medical Center," Dr. Roberts said. "With his history of clinical excellence and ability to work well with colleagues, I am confident he will make an excellent service chief."

Dr. Roberts also thanked Dr. Ingemansen for his years of hard work in this position.

"His dedication has helped expand services at Bellevue Medical Center," Dr. Roberts said. "These services continue to grow and I'm excited to see what Dr. Johnson accomplishes in this position."





Rebecca Aron, MD

## Cardiothoracic Anesthesiology Division update

The UNMC 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.

This year marked significant achievements in certification within the division. Multiple faculty members successfully passed the inaugural adult cardiac anesthesiology certification exam. This new certification, introduced last year, underscores

the division's ongoing dedication to professional development and clinical excellence.

The division continues to see growth in the number of perioperative echocardiography studies performed. The division currently is compiling data to provide a comprehensive overview of the increase in these exams, reflecting the expanding role of echocardiography in cardiothoracic anesthesia.

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 in

Toronto, Canada, in April 2024. Faculty members represented the department as society leaders, serving as content experts, session moderators and lecturers, in addition to presenting abstracts and complex cardiac cases.

Cardiothoracic division chief Tara Brakke, MD, served on the SCA Board of Directors and was the director of the fellow resident program of the Scientific Program Committee.

"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."



Adult cardiothoracic anesthesiology faculty, fellows and residents at the 2023 Society of Cardiovascular Anesthesiologists Annual Meeting in Portland, Oregon.

Five cardiothoracic anesthesiology fellows had complex case presentations accepted, and UNMC's Michael Dancer, MD, was chosen to present his case in the Fellow and Residents Best in Show. Only six submissions from the meeting's more than 400 poster presentations were selected for this honor.

Dr. Dancer was joined by mentor Megan Chacon, MD, to present "Intraoperative Transesophageal Echocardiographic Identification of Coronary Sinus Atrial Septal Defect During Re-Operative Sternotomy and Aortic Valve Replacement" at the "Best in Show" event.

"This case was an extremely interesting and rare case, with multiple associated clinical decisions based off our findings," Dr. Dancer said. "For this reason, it allowed for multiple pertinent teaching points and had excellent echo images to help demonstrate these points."

Thomas Schulte, MD, was appointed secretary of the Association of Anesthesia Clinical Directors, a society that offers physicians with an interest in operating room management an opportunity to share ideas with colleagues. Dr. Schulte published highlights from the 2024 AACD Perioperative Leadership Summit in ASA Monitor newsletter.

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 Jeffrey Songster, MD, serve as the program director and associate program director respectively, ensuring fellows receive top-tier training and mentorship.

"There always has 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. Dancer and Dr. Eichhorn were part of the global health trip to Zambia in September. Kevin McKillion, DO, accompanied Walker Thomas as he performed echocardiograms for the gorilla population at Omaha's Henry Doorly Zoo and Aquarium in April.

Annual departmental honors were presented at the graduation banquet in June, 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, Nicholas Markin, MD, and Kristi Lorenzen, MD, were awarded Cardiothoracic Anesthesiology Teacher of the Year Awards.

Looking ahead, 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

Rebecca Aron, MD,  
director, adult cardiothoracic  
anesthesiology fellowship

Jeffrey Songster, MD,  
associate program director,  
cardiothoracic anesthesiology  
fellowship

Austin Adams, MD  
Karsten Bartels, MD, PhD  
Stephen Brannan, MD  
Megan Chacon, MD  
Lucas Deschenes, 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  
Dennis Thiel, MD  
Troy Wildes, MD

### Senior cardio sonography technologist

Walker Thomas

Steven Weiss





*Michelle Iverson, DO, leads residents through a simulation exercise.*

## Critical Care Division update

**For the UNMC Critical Care Division, the past year was marked by a sense of stability and continued excellence. While there were no major changes, the steady progress and consistent achievements within the division are worth celebrating.**

A key highlight of the year was the division's increased engagement in the national academic community. Faculty members presented at several prominent conferences, including the American Society of Anesthesiologists, the Society of Cardiovascular Anesthesiologists and the Society of Critical Care Medicine.

These presentations underscore the division's ongoing commitment to advancing knowledge in the field and sharing the faculty member's clinical expertise.

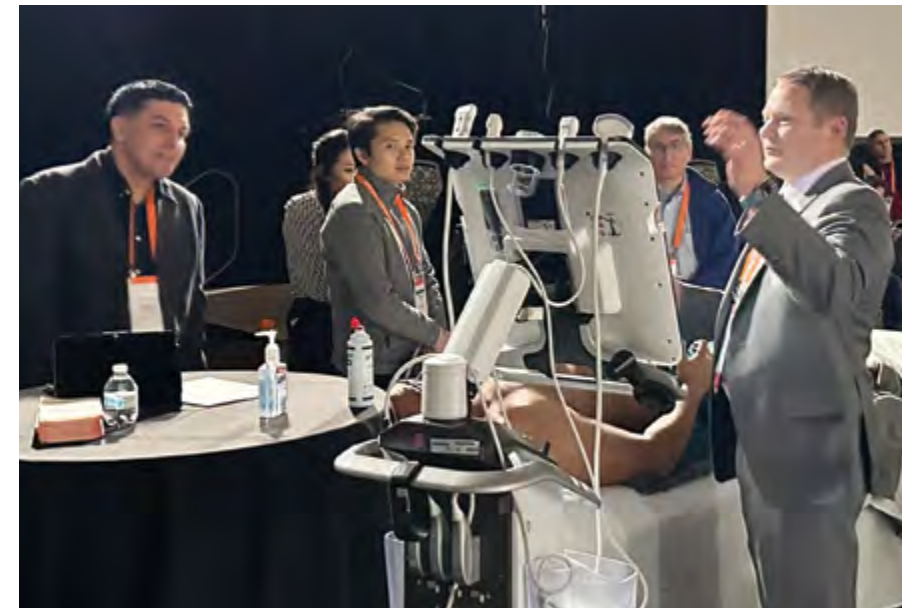
Faculty members also contributed significantly to departmental research endeavors, with multiple publications in highly regarded, peer-reviewed journals. These publications reflect the high caliber of research and clinical work being conducted within the division, further solidifying its reputation as leaders in critical care anesthesiology.

On the clinical side, the division experienced a notable increase in patient encounters, with a 7% growth over the previous year. This growth reflects the expanding needs of

surgery and other referring services, and the critical care anesthesiology team has risen to the challenge, providing exceptional care.

The division remains strong, with a dedicated team of 20 physicians, including 15 anesthesiologists, three emergency medicine physicians and two surgeons, supported by six nurse practitioners. Notably, this year marked the transition of nurse practitioners under the management of the division, a change that was implemented smoothly.

Another year of the critical care fellowship program was successfully completed, with four fellows finishing training.



*Shaun Thompson, MD, teaching the critical care ultrasound adult skills course at the 2024 Society of Critical Care Medicine's Annual Congress in Phoenix, Arizona.*



*Brett Guthmiller, DO, Sean Rajnic, MD, Amanda Arznen, MD, and Taylor Meyer, MD, share a moment of (non-alcoholic) holiday cheer.*

"We are particularly proud of the contributions our fellows have made, including their presentations at various conferences and their involvement in impactful research projects," said Daniel Johnson, MD, chief of the critical care anesthesiology division.

"This was a year without dramatic changes – a year of lovely stability," Dr. Johnson said. "We continued to build on our successes and maintain the high standards for which our division

is known. The steady progress we've made is a testament to the strength and cohesion of our team, and we look forward to another year of excellence in patient care, research and education."

### Critical Care faculty

Daniel Johnson, MD,  
division chief  
Amanda Arznen, MD  
Karsten Bartels, MD, PhD  
Joseph Baus, MD  
Stephen Brannan, MD  
Lucas Deschenes, MD  
Erin Etoll-Jones, MD  
Zahid Iqbal, MD  
Michelle-Anne Iverson, MD  
Steven Lisco, MD  
Joseph Pawlowski, MD  
Sean Rajnic, MD  
James Sullivan, MD  
Dennis Thiel, MD  
Shaun Thompson, MD  
Levi Zehr, MD

### Advanced Practice Providers

Miguel Artzner, APRN  
Vickie Lambert, APRN  
Lyndie Farr, APRN  
Gina Hall, APRN  
Kerry Mancusco, APRN  
Jed Sanders, APRN



# CRNA Division update

The UNMC Division of Nurse Anesthesia is a group of exceptionally skilled and resilient certified registered nurse anesthetists who demonstrate unwavering dedication to patient care.

With more than 60 CRNAs in the division, this clinically excellent group is part of a cohesive team care model working together with their physicians' colleagues to ensure coverage across all Nebraska Medicine campuses.

The CRNAs in the UNMC Department of Anesthesiology coordinate with Clarkson College in Omaha and Bryan College of Health Sciences in Lincoln to provide training in clinical settings, mentorship and guidance to students in doctoral degree programs.

As SRNA education committee members, CRNAs Melissa Smith, Jaime Kobs and Jessica Buell also coordinate with the colleges to fill clinical rotation spots each semester, ensuring the SRNAs are learning skills in a variety of clinical settings. With a team of accomplished educators, the SRNAs are well-prepared to provide care to a wide variety of patients. Last year, 32 SRNAs were trained, with five joining the department after graduation.

"Our students work so hard, and we want to hold them to a high academic standard while promoting positivity and wellness in their daily lives," Kobs said. Building these strong connections and support systems within the community will result in a positive learning experience and potentially increase retention, she added.

The SRNAs named CRNA Katie Denich as this year's CRNA Preceptor of the year at Nebraska Medicine. This award is given to the CRNA that embodies five core values of precepting and mentorship: excitement and

willingness to teach, supportive, approachable, effective communication, empathy and compassion.

Kobs is this year's Extraordinary Nurse from the department. Kobs was nominated by her peers and selected by department leaders for the honor.

Nominators and supervisors applauded her success with SRNAs, noting that her contributions likely influenced some students to pursue employment with Nebraska Medicine. Additionally, nominators said, Kobs works hard to find new ways to stimulate learning – such as using the simulation lab to further the skills of the students.

The 11 members of the Unit Base Council affect positive change within the division by addressing concerns and suggestions through pulse survey results.

The UBC implements changes that improve overall department culture and aid in recruitment and retention using information obtained from Pulse Surveys that are conducted every six months. "Key areas where the UBC has made a positive impact are recognition of staff, improving relationships with senior leaders and designing a more robust mentoring and onboarding experience for new CRNA hires," chief of the division of nurse anesthesia Tiffany Olson, DNP, said.

**"Our students work so hard, and we want to hold them to a high academic standard while promoting positivity and wellness in their daily lives"**

– Jaime Kobs, CRNA

The UBC committee members are CRNAs Leslie Bonnet, Ellen Brightweiser, Caressa Kiichler, Kobs, Erin Meier, Amy Mitchell, Kelsey Nieto, Kris Rohde, Melissa Smith, Nick Stalnaker and Olson.

Another successful CRNA-driven initiative is the hiring committee to streamline the hiring process. Olson, associate chief of the UNMC Division of Nurse Anesthesia, said the

committee has done an outstanding job during the past year of keeping up with rapid recruiting efforts.

"This well-rounded group of CRNAs can provides unique perspectives of each potential candidate and feedback to leadership on whether the candidate would be a good fit for our department in four key elements: experience, interpersonal skills, resilience and adaptability and motivation and commitment to the profession," Olson said.

Rohde serves as the federal political director for the Nebraska Association of Nurse Anesthetists, acting as a liaison between Nebraska's CRNA membership and federal legislators. Her responsibilities include meeting with senators and congressmen, attending events and advocating for issues affecting CRNA practice in Nebraska.

Rohde also served on the Government Relations Committee expert lecture panel at the American Association of Nurse Anesthetists Midyear Assembly and was a speaker at the AANA Leadership Summit in November 2023.

Meagan Freml, CRNA, received the teamwork award during Advanced Practice Provider Week in September. In addition to her duties as a CRNA, Freml has served as a member of the SRNA education and clinical

care committees. She has served as secretary and treasurer for the Nebraska Association of Nurse Anesthetists and currently chairs the association's student committee and the early career CRNA committee.

Olson said having a well-rounded leadership team is essential to the department thriving and recognized CRNAs Melissa Smith, Ann Donnelly-Haasch and Jolynn



CRNAs from main campus, Fritch Surgery Center, Bellevue Medical Center and Village Pointe Health Center.

Carlson, the associate directors of nurse anesthesia at Fritch Surgery Center, Village Pointe Health Center and Bellevue Medical Center. "Smith, Donnelly-Haasch and Carlson are outstanding leaders who excel at collaboration within their teams and with the nurses and surgeons," she said.

"The assistant director CRNA positions at all of these sites have varied duties specific to their location, but what unites them is their exceptional work as leaders," Olson said. "They know their sites well and truly can handle almost every issue that comes their way. They also are leaders in improving patient care and ensuring patient safety. We truly appreciate all the work that they do and are blessed to have them serving in these roles. "

## CRNA leadership

Many of the department's CRNAs serve in leadership positions in the Nebraska Association of Nurse Anesthetists, the professional association for CRNAs in Nebraska. The association promotes education, practice standards and guidelines and offers two state-wide conferences annually along with legislative and regulatory advocacy for the profession.

**President Elect:** Laura Fraynd, DNAP, CRNA

**Vice President:** Meagan Freml, MSN, CRNA

- Program Committee members: Leslie Bonnet, CRNA; Ellen Brightweiser, CRNA
- Public Relations Committee Chair, Laura Fraynd, DNAP, CRNA
- Student Committee Chair, Meagan Freml, MSN, CRNA

- Federal Political Director, Kris Rohde, MS, CRNA
- PAC Committee Chair, Leslie Bonnet, CRNA
- PAC Committee member: Candace Glasgow, CRNA
- Legislative Committee Members: Kris Rohde, MS, CRNA
- Political Involvement Committee Co-Chair, Annette Ellis, CRNA; member, Tiffany Olson, DNP, CRNA
- Member Communications Committee Members: Kris Rohde, MS, CRNA
- State Peer Assistance Chair, Tim Glidden, MS, CRNA





Scott Hoffman, MD, converses with Lisa Murray, MD.

## Multispecialty Division update

**The UNMC Division of Multispecialty Anesthesiology is committed to excellence in patient care, providing anesthesia and perioperative care for adult patients undergoing all types of surgical procedures.**

The faculty are dedicated to innovation in education and advancing the science and safety of anesthesia under the leadership of Allyson Hascall, MD, who was appointed division chief in February 2024.

“We provide anesthetic care to a diverse patient population and for complex surgical procedures,” Dr. Hascall said. “Our faculty are equally committed to our academic responsibilities as leaders and mentors.”

Dr. Hascall and Kyle Johnson, MD, both celebrated 15-year service anniversaries, and Bradley Fremming, MD, was awarded promotion to associate professor in 2023.

Austin Adams, MD, was named director of Fritch Surgery Center – a state-of-the-art, multispecialty outpatient surgery center located at the Lauritzen Outpatient Center.

The division demonstrated strong leadership in national and international medical societies, with faculty serving as committee members, session moderators, journal reviewers, board members, delegates and panelists at meetings of the American Society of Anesthesiologists, the Society of Obstetric Anesthesia and Perinatology, the Nebraska Department of Health and Human

Services, the American Association of Clinical Directors, Society for the Advancement of Transplant Anesthesia and the American Society of Regional Anesthesia and Pain Medicine.

Rachel Quandahl, MD, Nicholas Markin, MD, and Cale Kassel, MD, presented at the first-ever UNMC Transplant Symposium, designed to provide opportunities for internal collaboration at UNMC and Nebraska Medicine and external engagement for the medical center’s solid organ transplant programs. Dr. Quandahl was awarded best poster, while Dr. Kassel gave a presentation titled “Transplant Anesthesiology – Building a New Sub-Specialty.”

“It was exciting to be part of the inaugural symposium and highlight the

great transplant programs at Nebraska Medicine. The role of anesthesiologists in liver transplantation specifically continues to grow,” Dr. Kassel said. “Being able to showcase what we as transplant anesthesiologists are doing from exemplary patient care to education and research allows our department to highlight so many of our strengths.”

UNMC was the host institution for the 2024 Midwest Anesthesia Residents Conference, and division faculty member Trevor Wilke, MD, was instrumental in organizing the conference, along with other department leaders. Faculty from the division also mentored several resident presentations and moderated presentations.

Amy Duhachek-Stapelman, MD, and Nicholas Heiser, MD, were involved in the organization of the Midwest Academic Anesthesiology Exchange, an early career faculty meeting.

The multispecialty division continues to maintain a balance between clinical service and educational programs. Faculty members actively participate in training residents and fellows, from formal lectures to mentorship and participation in national conferences.

Physicians from the multispecialty division are consistently awarded Teacher of the Year, with the honors going to Rafael Arsky Lombardi, MD, for CA1 Teacher of the Year, and recognizing previous three-time recipient Kristin Wakin, MD, with an honorable mention. Bradley Fremming, MD, received an honorable

mention for CA3 Teacher of the Year. Kristi Lorenzen, MD, was awarded the Cardiothoracic Anesthesiology Teacher of the Year honor, along with Nicholas Markin, MD. These awards are especially meaningful because residents nominate and vote for the most impactful educators.

Maria Michaelis, MD, completed her term of service on the Nebraska Board of Medicine and Surgery. The board is made up of six physician members and two public members selected for a five-year term. Dr. Michaelis continues her service as one of two commissioners on the Interstate Medical Licensure Compact.

The multispecialty division continued to grow, matching the increased pace of surgery and other referring services expansion, including the addition of another GI room at Village Pointe. The division will expand services at Bellevue Medical Center with the addition of a DaVinci room this coming year, continuing its dedication to providing exceptional care.

With the increased services, the division continues to recruit new faculty and welcomed Lisa Murray, MD, in March, with more faculty expected to join in the upcoming academic year. “Despite the challenges in anesthesiology recruitment nationwide, we’ve managed to maintain a steady rate of growth and expect to add more faculty in the coming year,” Dr. Hascall said.

### Multispecialty faculty

Allyson Hascall, MD,  
*division chief*

Rafael Arsky-Lombardi, MD  
David Baxter, MD  
Sheila Ellis, MD  
Bradley Fremming, MD, PharmD  
Nicholas Heiser, MD  
Scott Hofmann, MD  
Richard Holcomb, MD  
Andrew Ingemansen, MD  
Kyle Johnson, MD  
Dina Kogan, MD  
Maria Michaelis, MD  
Lisa Murray, MD  
Platt Niebur, MD  
John Ohnoutka, MD  
Huiling Pang, MD  
Rachel Quandahl, MD  
Kyle Ringenberg, MD  
Nancy Rogic, MD  
Jean Simonson, MD  
Kristin Wakin, MD  
Trevor Wilke, MD  
Corey Zetterman, MD

### Section heads

Cale Kassel, MD, *abdominal organ transplantation anesthesiology*

Kristi Lorenzen, MD, *thoracic and vascular anesthesiology*

Joseph Pawlowski, MD,  
*neuroanesthesiology*

Charles Walcutt, MD, *obstetric anesthesiology*





Kimberley Haynes-Henson, MD, guides pain medicine fellow Dan Nicholls, MD, during a procedure.

## Pain Medicine Division update

Over the past two years, the UNMC Pain Medicine Division has experienced significant growth, adding new providers, expanding research initiatives and incorporating innovative procedures to improve patient care. “These efforts have positioned the division as a leader in pain management, offering state-of-the-art techniques and services to meet increased demand,” said Madhuri Are, MD, division chief.

The chronic pain service has seen a notable increase in patient volumes, which prompted the addition of three new providers to the team. Peter Pellegrino, MD, PhD, a former resident and fellow with the department, joined as a full-time faculty member, bringing both clinical and research expertise. Dr. Pellegrino is committed to clinical practice but also to research, collaborating closely with Hanjun Wang, MD, and other UNMC investigators on various projects.

Additionally, Robert Muelleman, MD, another former resident and fellow, joined the faculty as a full-time pain specialist, further increasing the division’s capacity to care for chronic pain patients.

The division also welcomed nurse practitioner Lisa Glandt, who transitioned from critical care and internal medicine to the Chronic Pain Service in January. Dr. Are said these additions have been instrumental in managing patient load following the retirement of Angie Rakes, MD, in February.

The division is preparing to introduce new, cutting-edge procedures to address chronic pain, further enhancing its capabilities. One of the most anticipated is the Intracept Procedure, which targets axial back pain by ablating nerve fibers in the vertebral body. This innovative technique offers hope to patients suffering from chronic back pain that has been resistant to other forms of treatment.

The division also is exploring SI joint fusion procedures, which offer a minimally invasive approach to

treating sacroiliac joint dysfunction, a common cause of lower back pain. “Both of these procedures are expected to significantly improve patient outcomes and expand the range of treatments available at Nebraska Medicine,” Dr. Are said.

Another notable study includes a recent grant from Nevro, a company that manufactures spinal cord stimulation devices. The study aims to explore the relationship between blood flow and spinal cord stimulation in pain management.

One of the primary goals for the Chronic Pain Service in the coming year is to expand its geographic footprint. The service currently operates at three locations – Village Pointe, Doctor’s North, and Bellevue Medical Center – but there are plans to establish new satellite locations to meet growing demand. This expansion aims to bring advanced pain management to more patients across Nebraska.

The Acute Pain Service (APS), led by Nicholas Heiser, MD, has experienced a year of stability, with a dedicated team of nine providers. The APS team continues to provide high-quality perioperative and postoperative pain care – excelling in the use of regional anesthesia techniques, including catheter placements and nerve blocks, to manage pain for surgical patients.

The Bellevue location has seen increased activity due to a rise in orthopedic cases. The APS team is now performing procedures at Village Pointe five days a week, in addition to maintaining a robust presence at Bellevue and other locations. Advanced practice providers, and physician assistants Holly Doerneman and Lea Sommer, have been instrumental in streamlining inpatient pain services, enabling more efficient and targeted care.

Division members made an impact on a national level, presenting at several annual meetings:



Pain medicine division faculty, fellows and residents represented the department at the 2023 ASRA annual meeting.

### American Society of Regional Anesthesia and Pain Medicine

- “Stellate Ganglion Block for Upper Extremity Pain in a Patient with Hemodialysis Access-Induced Distal Ischemia.” Robert Guidangen, MD; Jasmeen Kaur, MBBS; Rafael Arsky Lombardi, MD; Nicholas Heiser, MD
- “Thoracic Epidural Anesthesia after Transversus Abdominis Plane (TAP) Block with Liposomal Bupivacaine on a Patient with Chronic Opioid Use: a Case Report.” Rafael Arsky Lombardi, MD; Kyle Ringenberg, MD; Nicholas Heiser, MD
- “Pericapsular Nerve Group (PENG) Block vs. Fascia Iliaca (FI) Compartment Block for Hip Surgery: A Systematic Review and Meta-Analysis of Randomized Controlled Trials” Pricilla Andrade, MD; Rafael Arsky Lombardi, MD; Isabella Marques, MD; Anna Carla Di Napoli; Andrade Braga, MD; Nicholas Heiser, MD

### Society of Cardiovascular Anesthesiologists

- “Association between truncal blocks and postoperative pain scores in cardiac surgery – A retrospective study.” Meg Rolfzen, MD; Teddy Black, MD; Valerie Shostrom; Nicholas Heiser, MD; Nicholas Markin, MD

### American Academy of Pain Medicine

- “Proximal vs. Distal Adductor Canal Catheter for Total Knee Replacement: A Systematic Review and Meta-Analysis of Randomized Controlled Trials” Rafael Arsky Lombardi, MD; Isabella Marques, MD; Jasmeen Kaur, MBBS; Ashish Sakharpe, MD; Nicholas Heiser, MD
- “Pericapsular Nerve Group (PENG) Block vs. Fascia Iliaca (FI) Compartment Block for Hip Surgery: A Systematic Review and Meta-Analysis of Randomized Controlled Trials.” Pricilla Andrade, MD; Rafael Arsky Lombardi, MD; Isabella Marques, MD; Anna Carla Di Napoli; Andrade Braga, MD; Nicholas Heiser, MD

As both the chronic pain and acute pain services continue to grow, the focus remains on delivering innovative, high-quality care while expanding research and geographic reach. The introduction of new procedures and ongoing recruitment efforts will ensure that the division remains a leader in pain management, meeting the evolving needs of its patient population.

### 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  
Taylor Meyer, MD  
Platt Niebur, MD  
Nathan Teague, MD

### Chronic pain

Redgy Fuller, DO  
Kim Haynes-Henson, MD  
Marshall Ladd, DO  
Michael Lankhorst, MD  
Angie Rakes, MD

### 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  
Brittany Brown, MD  
Greta Duncan Wiebe, MD  
Andrea Dutoit, MD  
Marcellene Franzen, MD  
Ryan Hamlin, MD  
David Hoy, MD  
Mackenzie Laurila, DO  
Michelle LeRiger, MD  
Thomas Lockhart, MD  
Thomas Manning, MD  
Lena Mayes, MD  
Maria Michaelis, MD  
Maireen Miravite, MD  
Kaitlyn Pellegrino, MD  
Erin Renze, DO  
Nancy Ann Rogic, MD  
Stephanie Shin, DO  
Mohanad Shukry, MD, PhD  
Rachel Spitznagel, MD  
Katherine Stiles, MD  
Kunal Sualy, MD  
David Tingley, MD  
Timothy Welch, MD  
Guy Williams, DO  
Jasper Williams, MD

**Pediatric Division update**

The past year has been a significant one for the UNMC Pediatric Anesthesiology Division, marked by major professional milestones, clinical advancements and a continued commitment to excellence in patient care and academic leadership.

Andrea Dutoit, MD, and Vice Chair of Pediatric Anesthesiology Jessica Goeller, DO, both achieved the rank of full professor, becoming the first female pediatric anesthesiologists to reach this milestone at UNMC.

Dr. Goeller said these accomplishments not only underscores the division's commitment to fostering academic growth but also reflects the evolving landscape of pediatric anesthesiology under the leadership of interim chair, Mohanad Shukry, MD, PhD, and former chair, Steven J. Lisco, MD.

Dr. Goeller holds the distinction of being the first female DO pediatric anesthesiologist to achieve the rank of full professor nationally. This groundbreaking achievement highlights the significant strides made in the field, particularly for osteopathically trained physicians.

"The division has made substantial progress in expanding clinical services, particularly in areas of pediatric and neonatal care. We have successfully matured our neonatal and infant spinal program, a unique offering that distinguishes Children's Nebraska from other institutions nationwide. We continue to lead in performing specialized blocks for certain pediatric patients – a service not commonly available at other hospitals," Dr. Goeller said.

Another notable advancement this year was the continued growth and success of the Point of Care Ultrasound Workshop, spearheaded by Julia Galvez, MD, former vice chair of pediatric anesthesiology, and now led by TJ Lockhart, MD. This initiative has become an essential part of the training program, reflecting the division's commitment to staying at the forefront of educational innovation.

The Pediatric Chronic Pain Clinic, established under the leadership of Dr. Shukry, continued to grow, providing much-needed care to young patients. "This success is a testament to our dedication to addressing all aspects of pediatric anesthesia, from acute surgical care to long-term pain management," Dr. Goeller said.

The division has remained active on the national stage, with multiple faculty members presenting at conferences and publishing in journals. These academic contributions reinforce the division's reputation as a leader in pediatric anesthesiology research and education.

In November, fellowship program director Dr. Lockhart was named UNMC's Fellowship Director of the Month. Dr. Lockhart also serves as the director of medical simulation for the department.

"I am proud of our division and department's focus on simulation in education and their support as we grow educational opportunities," Dr. Lockhart said. "Locally and nationally, more of our faculty members are training current and future anesthesiologists using simulation-based methods."



Pediatric anesthesiology faculty enjoy a festive moment at the 2023 department holiday party. (back row, left to right) Timothy Welch, MD, Jessica Goeller, DO, Erin Renze, MD, Kaitlyn Pellegrino, MD, TJ Lockhart, MD (front, left to right) Brittany Brown, MD, Maureen Miravite, MD.

In September 2023, Dr. Goeller was named vice president of the American Osteopathic College of Anesthesia, a role that will transition to president-elect next year and then to president.

The 2023-2024 year has been one of stability, growth and significant professional achievements. The division leadership and faculty remain committed to advancing the field

of pediatric anesthesiology through innovation, education and exceptional patient care, Dr. Goeller said.

"We are proud of our accomplishments and excited about the opportunities that lie ahead," Dr. Goeller said. "I extend my heartfelt thanks to all the faculty, fellows and staff who have contributed to

another successful year. Together, we will continue to build on this foundation and strive for even greater achievements in the years to come."



# Patient safety and quality update

## Patient safety remains at the core of the UNMC Department of Anesthesiology's mission.

Over the past year, the department has made significant strides in improving the quality of care for patients undergoing surgery. This focus on safety is driven by a combination of innovative research, collaboration across specialties and participation in national initiatives aimed at advancing the practice of anesthesiology.

One of the department's key achievements has been its membership in the Multicenter Perioperative Outcomes Group (*See story on page 23*). MPOG is a collaborative consortium of anesthesiology departments and researchers across North America, dedicated to improving perioperative outcomes through data sharing, analytics, and the development of quality improvement initiatives such as the ASPIRE feedback program.

This collaboration enables the department to participate in efforts that systematically improve the application of standardized evidence-based care practices, thereby improving postoperative outcomes, in which the department already is demonstrating measurable progress.

"By contributing to and leveraging data from MPOG, our department has been able to assess and improve patient outcomes on a large scale, ensuring that we remain at the forefront of evidence-based practices in anesthesia care," said Troy Wildes, MD, the department's vice chair of perioperative medicine, quality and safety.

Additionally, the patient safety and quality team has collaborated with Nebraska Medicine clinicians outside the department to improve perioperative glucose management



Kyle Ringenberg, MD

Troy Wildes, MD

Sarah Kirke

practices. The team, led by Dr. Wildes, is comprised of the following faculty:

- Kyle Ringenberg, MD, director of Nebraska Enhanced Recovery After Surgery (NERAS)
- Sarah Kirke, patient safety and quality coordinator
- Joseph Baus, MD
- Jean Simonson, MD
- Bradley Fremming, MD, PharmD
- Kristin Wakin, MD
- Nicolas Denich, CRNA
- Emily Glaser, CRNA

Dr. Wildes said maintaining optimal blood glucose levels during surgery is critical in reducing the risk of complications and surgical site infections, especially in patients with type 1 diabetes or those undergoing complex surgical procedures.

"By implementing standardized perioperative glucose monitoring and treatment practices, the department has seen improvements in glucose control metrics and the hospital has simultaneously noted a decrease in infections after surgery," he said.

Data from MPOG helps monitor whether these processes are followed

and whether the desired outcomes are achieved. It also helps identify gaps in care by reviewing individual cases and providing clinicians with individualized feedback to enhance performance.

Another important effort the team has undertaken is improving insulin pump management during surgery.

"Insulin pump systems are becoming increasingly prevalent and complex, and the lack of published guidance on modern insulin pump management introduces new perioperative risks, which our colleagues at Nebraska Medicine have worked hard to address," Dr. Wildes said. "Our work in designing safe processes for these patients has been a collaborative effort across various departments, including endocrinology, perioperative nursing and pharmacy."

Additionally, to help address this problem at an international level, Drs. Wildes and Ringenberg co-authored a publication in *Anesthesia and Analgesia* outlining the perioperative care of patients using these devices. The group will present this information in a national webinar with the American Diabetes Association in October 2024.

**Story continues on page 21.**

# Anesthesiology joins nationwide MPOG consortium

*Collaboration opens new avenues for departments in research and quality improvement*

The UNMC Department of Anesthesiology now is an active member of MPOG (Multicenter Perioperative Outcomes Group), an academic consortium of more than 70 institutions that share de-identified clinical data to improve patient care through research and quality improvement.

MPOG uses electronic de-identified health records and administrative data to analyze the interplay between patient comorbidities, surgical procedures, perioperative care, interventions and postoperative outcomes.

By combining data with a culture of collaboration, MPOG creates an environment of performance improvement and research using priorities driven by its members. More than 13.6 million anesthetic cases integrated across 51 hospitals represent the most comprehensive and detailed global perioperative anesthesiology registry.

Former UNMC Chancellor Jeffrey P. Gold, MD, congratulated the department on its accomplishment.

"At UNMC, our ultimate goal is to transform lives," he said. "The MPOG membership allows access to information and collaborations that will

improve research and outcomes for the people we serve, both in Nebraska and beyond."

The department's participation will directly impact UNMC and Nebraska Medicine by elevating the level of clinical care provided, said Mohanad Shukry, MD, PhD, interim chair of the department.

"Being part of this national collaboration opens up future opportunities, and the experience and expertise gained will benefit the entire campus, not only our department," Dr. Shukry said.

Dr. Shukry applauded the efforts of Kyle Ringenberg, MD, associate professor at UNMC Department of Anesthesiology, and Troy Wildes, MD, vice chair of perioperative medicine, quality and safety, for spearheading the rigorous application process and setting up access to the database. He also thanked Michael Ash, MD, executive vice president, chief operating officer at Nebraska Medicine, for his support.

"This is a fine example of what a group of colleagues can accomplish," Dr. Shukry said. "Drs. Ringenberg and Wildes provided the vision, leadership and agility to enable the department to complete the rigorous application process."

Membership will benefit clinicians and researchers through access to care metric results and providing standardized data to support patient safety initiatives, Dr. Wildes said.

"Providers can track and evaluate their performance and use perioperative data to implement best practices and follow their progress," he said. "Participation also opens up new avenues for clinical research, quality improvement and inter-departmental collaboration on a national level."

Dr. Ringenberg said a unique advantage of becoming a member institution is that the department also will be able to provide individual provider reports on these same clinical indicators – showing providers where they currently excel and where their outcomes indicate an opportunity for further practice improvement.

"We now have access to the database that contains information from more than 50 member institutions and millions of perioperative data points," Dr. Ringenberg said. "This will allow us to ask clinical questions from a research perspective that can be answered much more efficiently by leveraging this data from the entire MPOG consortium."

## Patient safety and quality update continued:

Micah Beachy, DO, vice president and chief quality officer at Nebraska Medicine, said enhanced glycemic management is one example of how anesthesiologists positively contributed to a nearly 90% reduction in surgical site infections in FY24.

"Many things in health care take a team effort to accomplish. The prevention

of surgical site infections is a perfect example," Dr. Beachy said. "Over the past 12-18 months, several initiatives have been put into place to reduce these events from occurring, and we're seeing the impact."

Through these efforts, the department remains committed to providing safe, high-quality care to all surgical patients.

"As we look to the future, we will continue to innovate and collaborate, ensuring that patient safety and outcomes are always prioritized in everything we do," Dr. Wildes said.





# New training partnership with Zambia’s University Teaching Hospital



Above and at right: Department residents at Zambia’s University Teaching Hospital

In 2023, the UNMC Department of Anesthesiology sent two teams of faculty, residents and fellows to the University Teaching Hospital in Lusaka, Zambia, as part of the Global Academic Anesthesia Consortium. The group provided clinical training to the residents of UTH, while learning more about the challenges and opportunities in Zambia’s health care system.

The GAAC is a collaboration of academic anesthesiology departments providing in-person and virtual anesthesia education programs, research and perioperative clinical training in areas where a sustainable partnership is possible.

This was the department’s first global outreach trip to Zambia, with one team leaving Sept. 1 and returning Sept. 17, while the other was in Zambia for the second half of the month.

Director of Global Health for the UNMC Department of Anesthesiology Megan Chacon, MD, established the relationship with the GAAC because of the shared values of clinical care, education and research. The overall mission is to improve the educational and clinical experience of the residents and junior faculty at UTH.

As part of the GAAC, the department will help fill a void, providing perioperative clinical and educational training through lectures and hands-on training in the OR to the approximately 20 UTH residents. The educational aspect and sustained presence are what differentiate this program from previous mission trips, which were strictly clinical, Dr. Chacon said.

“The consortium allows for a constant presence and continuation of training in Zambia over several years,” Dr. Chacon said. “The participating institutions share planning of didactic training and curriculum development to help them build a strong infrastructure of both education and clinical care. Our goal is to leave UTH faculty and residents with the skills to handle complex perioperative management and operative cases long after we’re gone.”

“There is an established anesthesiology residency program in place at UTH, with fully capable and motivated residents,” said Kyle Johnson, MD, assistant professor in the department. “But they lack the quantity of well-trained anesthesiologists to provide continuous training.”

Dr. Johnson described the start of the clinical day as similar to Nebraska Medicine – coordinating with residents, formulating anesthetic plans and pairing up to start cases. He said the program is a good experience for the team, because they practice medicine in a resource-limited environment as well as increase critical thinking skills.

The training focused on regional anesthesia and point-of-care ultrasound, both beneficial because of the lack of CT and MRI availability and suboptimal recovery conditions. Dr. Chacon and her team held both a regional and point of care ultrasound workshop for the residents.

“There were sometimes fewer options available,” Dr. Johnson said. “We can develop fairly sophisticated care plans here. At UTH, resources didn’t always work, or we’d discover on very short notice that medications were unavailable. We’d have to make last-minute decisions, creating the safest plan with what we had available.”

Logan Harrold, MD, said he learned to be more flexible during the trip. “Although we live in a resource-rich environment here at UNMC, supply chain issues continue to affect us daily, making the ability to adapt in real-time of critical importance,” he said.

**“Participating in a global mission of this magnitude is a life-changing event not only for the people of Zambia, but also for our trainees and faculty.”**

– Mohanad Shukry, MD, PhD

Dr. Harrold said another goal was building rapport with the providers in Zambia. “I think our team was able to overcome this obstacle and have a solid impact from clinical and educational perspectives,” he said.

Drs. Chacon and Johnson praised both UTH and UNMC residents for



their motivation, collaboration and teamwork. “The UTH residents are very capable, fast learners and so eager to learn more in order to continue to care for their community,” Dr. Johnson said. “Our residents benefited by learning how they approach things at UTH as opposed to how we do them.”

Another key element in the GAAC mission is research. There are plans to further strengthen the collaborative relationship by providing mentorship and support virtually for UTH residents preparing a quality improvement research project prior to graduation.

Drs. Chacon and Johnson said teaching residents and young faculty and seeing them improve patient skills they can immediately use is especially rewarding.

“Participating in a global mission of this magnitude is a life-changing event not only for the people of Zambia, but also for our trainees and faculty,” said Mohanad Shukry, MD, PhD, interim chair of the department.

When not at work, team members were able to explore the area and experience the unique beauty of the region.

“I really appreciated getting to know the other members of the trip better and becoming a team over our two weeks together,” Dr. Harrold said. “Our experiences inside and outside of the hospital in Zambia are ones I will never forget.”

## UNMC/Nebraska Medicine team members were:

### Team One

- Megan Chacon, MD, director, Global Health
- Lucas Deschenes, MD, assistant professor
- Michaela Randall, MD, CA3 resident
- Logan Harrold, MD, CA3 resident
- Michael Dancer, MD, cardiothoracic anesthesiology fellow

### Team Two

- Kyle Johnson, MD, assistant professor
- Jeff Songster, MD, associate professor
- Lucas Reitz, MD, CA3 resident
- Kevin Rance, MD, CA3 resident
- Brad Eichhorn, MD, cardiothoracic anesthesiology fellow





Graduating residents



**Theodore (Teddy) Black, MD**  
Critical Care & Adult  
Cardiothoracic Anesthesia  
Fellowships, Vanderbilt University  
Medical Center, Nashville, Tenn.



**Zachary Franco, MD**  
Faculty, Creighton University  
Medical Center-Bergan  
Mercy Hospital,  
Omaha, Neb.



**Joel Hachiya, MD**  
Private Practice, Associated  
Anesthesiologists, PC,  
Bryan Medical Center,  
Lincoln, Neb.



**Logan Harrold, MD**  
Private Practice, Union Hill  
Anesthesia,  
Kansas City, Mo.



**Dan Nicholls, MD**  
Pain Medicine Fellowship,  
UNMC, Omaha, Neb.



**Kevin Rance, MD**  
Private Practice, Anesthesia  
Physicians Ltd, Sanford USD  
Medical Center, Sioux Falls, S.D.



**Michaela Randall, MD**  
Anesthesiologist, Nellis  
Airforce Base,  
Las Vegas, Nev.



**Lucas Reitz, MD**  
Private Practice, Associated  
Anesthesiologists, PA, Saint  
Paul, Minn.



**Megan (Meg) Rolfzen, MD**  
Adult Cardiothoracic  
Anesthesiology Fellowship,  
UNMC, Omaha, Neb.



**Adam Zobel, DO**  
Private Practice, Associated  
Anesthesiologists, PC,  
Bryan Medical Center,  
Lincoln, Neb.

Graduating fellows

Adult Cardiothoracic Anesthesiology



**Michael Dancer, MD**  
Private Practice, Associated  
Anesthesiologists, PC,  
Bryan Medical Center,  
Lincoln, Neb.



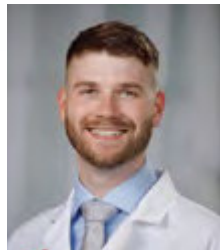
**Bradley Eichhorn, MD**  
Private Practice, West River  
Anesthesiology Consultants,  
Rapid City, S.D.



**Kevin McKillion, DO**  
Faculty, University Hospital,  
Cardiac and Critical Care,  
University of Missouri-  
Columbia, Columbia, Miss.



**Eric Sweeney, MD**  
Private Practice, Dupage  
Valley Anesthesiologists,  
Naperville, Ill.



**Sean Tomes, MD**  
Private Practice, Anesthesia  
West, Methodist Hospital,  
Omaha, Neb.

Critical Care



**Scott Breeden, DO**  
Cardiothoracic  
Anesthesiology Fellowship,  
UNMC, Omaha, Neb.



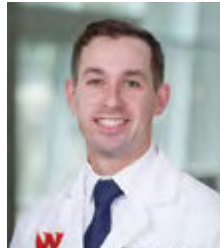
**Terry (Chris) Brown, DO**  
Private Practice, North  
Eastern Health System,  
Tahlequah, Okla.



**Mark Cheney, MD**  
Faculty, Department of  
Anesthesiology, UNMC,  
Omaha, Neb.



**Justinn Lahaye, MD**  
Benefis Health System, ICU  
and ED, Great Falls, Mont.



**Benjamin Reinhart, DO**  
Intensivist, Monument  
Health, Rapid City, S.D.

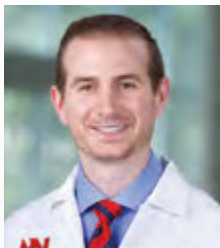
Pain Medicine



**Graeme Boyter, DO**  
Faculty, CoxHealth Ferrell-  
Duncan Clinic, Physical  
Medicine and Rehabilitation,  
Springfield, Miss.



**Bobby Muelleman, MD**  
Faculty, Department of  
Anesthesiology, Pain  
Medicine, UNMC,  
Omaha, Neb.



**Peter Ricci Pellegrino, MD, PhD**  
Faculty, Department of  
Anesthesiology,  
Pain Medicine, UNMC,  
Omaha, Neb.

Regional Anes. and  
Acute Pain Medicine



**Jasmeen Kaur, MBBS**  
Faculty, Wellstar MCG  
Health, Augusta, Ga.



Incoming residents

Class of 2028



**Timothy Colwell, MD**  
University of North Dakota



**Melanie Kaiser, MD**  
University of Nebraska  
Medical Center



**Saad Khan, MD**  
Creighton University



**Nathaniel Pester, MD**  
University of Nebraska  
Medical Center



**Luke Polenz, MD**  
University of Nebraska  
Medical Center



**Alexander Scheiber**  
University of Nebraska  
Medical Center



**Shelby Bauer, MD**  
University of Nebraska  
Medical Center



**Mariah Tessin, MD**  
University of Nebraska  
Medical Center



**Maranda  
Thompson, MD**  
University of Nebraska  
Medical Center



**Zach  
Walkenhorst, MD**  
University of Nebraska  
Medical Center

Advanced starting July 2025 (Class of 2028)



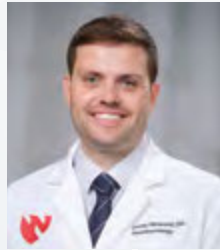
**Galeh Margossian**  
Kansas City University



**David Watson**  
University of Kansas



**Paul Doran, MD**  
University of Nebraska  
Medical Center



**Jacob Glowacki, DO**  
Kansas City University

Incoming fellows

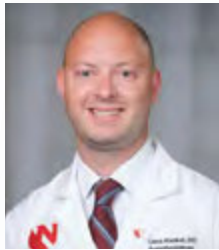
Adult Cardiothoracic Anesthesiology



**Tyler Abarca, MD**  
University of Iowa



**Scott Breeden, DO**  
Marian University



**Christopher  
Konkel, DO**  
Kansas City University



**Jaimi Philip, MD**  
Ross University School  
of Medicine



**Megan Rolfzen, MD**  
University of Nebraska  
Medical Center

Critical Care



**Wesley Burdick, MD**  
University of Kansas



**Nicholas Linares, DO**  
Alabama College of  
Osteopathic Medicine



**Mason Patel, DO**  
Kansas City University



**Timothy  
McNamara, DO**  
Edward Via College of  
Osteopathic Medicine

Pain Medicine



**James Bolduc, DO**  
Nova Southeastern  
University



**Leith Hobbs, DO**  
New York Institute of  
Technology



**Dan Nicholls, MD**  
University of Nebraska  
Medical Center





## Awards

### Teacher of the Year Awards

**CBY Teacher of the Year** – Prasanth Ravipati, MD

**CA1 Teacher of the Year** – Rafael Arsky Lombardi, MD

**Honorable Mention:** Kristin Wakin, MD, Corey Zetterman, MD, and Nicholas Markin, MD

**CA2 Teacher of the Year** – Stephanie Shin, MD

**Honorable Mention:** Stephen Brannan, MD, and Sean Karre, MD

**CA3 Teacher of the Year** – Jasper Williams, MD

**Honorable Mention:** Bradley Fremming, MD, and Thomas Manning, MD

**Cardiothoracic Anesthesiology Teacher of the Year** – Nicholas Markin, MD, and Kristi Lorenzen, MD

**Critical Care Anesthesiology Teacher of the Year** – Stephen Brannan, MD

*Top left: Kevin Rance, MD, Jasper Williams, MD, and Lucas Reitz, MD*

*Top right: Prasanth Ravipati, MD, Kalkena Sivanesan, MD, PhD, and Ifunanya Ejikeme, DO*

*Bottom left: Noah Svec, MD, Rafael Arsky Lombardi, MD, and Sara Linza-Moscato, DO*

*Bottom right: Taylor Ziegler, MD, Stephanie Shin, MD, and Elizabeth Ternent-Rech, DO*

### Brad Paulson Award for an Outstanding Medical Student in Anesthesiology

Shelby Bauer

### 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  
Teddy Black, MD  
Nathan Goergen, MD  
Logan Harrold, MD  
Blair Mack, MD  
Jeremy Payne, MD

Megan Rolfzen, MD  
Zachary Schell, MD  
Alec Seei, DO  
Elizabeth Ternent-Rech, DO  
Abigail Tesnohldek, MD  
Adam Zobel, DO

## Andrea Dutoit, MD, named to leadership role with Association of Anesthesiology Core Program Directors

Andrea Dutoit, MD, associate professor with the UNMC Department of Anesthesiology, has been named president-elect of the Association of Anesthesiology Core Program Directors (AACPD).

The two-year term, which begins in 2024, is only the beginning. Dr. Dutoit will follow this appointment with terms as president and past president, giving her a six-year stint on the association's executive leadership committee.

The group is composed of the directors of anesthesia residency core programs. Among Dr. Dutoit's leadership responsibilities is helping coordinate the AACPD national meeting, serving as a contact point for members and educators across the country and providing a voice in matters that impact anesthesiology residency program directors within the broader Association for Anesthesiology.

Mohanad Shukry, MD, PhD, interim chair of the UNMC Department of Anesthesiology, congratulated her on the new role.

"Dr. Dutoit is one of the best anesthesiology residency program directors in the country, and her election to lead such a prestigious national organization is no surprise," he said. "Dr. Dutoit has demonstrated her passion, dedication and expertise in graduate medical education as well as in anesthesia education. Her career is on an upward trajectory, and I anticipate that she will continue to have a positive impact on residents, fellows and programs going forward. It is a privilege to have a faculty member of Dr. Dutoit's caliber in our department and at UNMC."



Andrea Dutoit, MD

In her role, Dr. Dutoit said, she will try to address issues of consequence to the members.

"I want us to do a better job of keeping people on this path, because it's a tough path for people to operate in a silo," she said. "That was my motivation in joining."

In addition, changes to the Electronic Residency Application Service have created challenges, she said.

"We participated in the supplemental application last year, and now program-signaling in the residency application process," she said. "We're still learning how the changes affect certain programs and what to do with the information, how to disseminate guidance to people and come together as a specialty so that everybody gets value out of this new system."

"The council gets to lead the way in terms of getting the feedback from our membership and making sure we move the specialty of anesthesiology in the direction that most represents the needs and wants of the membership and the people going into anesthesiology," she said.

She stressed collaborating with the program directors she will be representing, noting, "we should all be working together. There's no piece of information that I should have that somebody else doesn't have."

Additionally, she said, diversity of opinion makes the group stronger and better able to serve its residents.

"It's important for people in their own areas – with certain needs and knowledge of their culture and community – to step up and contribute to the national conversation. If not, a community and culture might get left behind altogether. And the only way that you become a part of the conversation is by being willing to contribute to it."

That is why, she said, she finds her role important.

"If there's not somebody to represent Nebraska or the Midwest on the national level, decisions get made without that kind of input. To me, that's why it's important to get somebody from Nebraska or from different institutions into these milieus so we can be a part of conversations going forward."





# Omaha's great apes in caring hands



The UNMC Department of Anesthesiology is dedicated to delivering exceptional patient care – sometimes to exceptional patients in unexpected places.

A partnership between **UNMC** and **Omaha's Henry Doorly Zoo and Aquarium** brings preventive, specialized health care – such as echocardiograms – to gorillas like Kijito and Muke.



Scan to read the full story and see video.





From left to right: Abigail (Abby) Tesnohlidek, MD, Brett Guthmiller, DO, Taylor Ziegler, MD, Alec Seei, DO, Noah Svec, MD, Jennie Keum, MD, Jenna Wright, DO, Brittany Clifton, MD

## UNMC Department of Anesthesiology hosts Midwest Anesthesia Residents Conference

The annual Midwest Anesthesia Residents Conference, held at the CHI Health Center in Omaha from April 5-7, was a great success. Residents, fellows, faculty and students from 37 different institutions throughout the Midwest and Canada gathered to present their unique and medically challenging cases and describe novel research and quality improvement projects.

The conference, cohosted by departments of anesthesiology from UNMC, the University of Missouri, Kansas City, the University of Kansas, Kansas City and the University of Kansas, Wichita, kicked off on April 5 with the chief residents' meeting and welcome reception in the exhibit hall. Other business meetings included the MARC residency program director's meeting, hosted by UNMC's Anesthesia Residency Education team of Andrea Dutoit, MD, Cale Kassel MD, and Joseph Pawlowski, MD, and the Association of Midwest Academic Anesthesia Chairs meeting, hosted by Mohanad Shukry, MD, PhD, interim chair of the UNMC Department of Anesthesiology.

Dr. Shukry said hosting MARC in Omaha is a testament to the national status of UNMC and its department of anesthesiology at UNMC. "Planning and organizing the meeting took months, and our team did a fantastic job ensuring it was a success," Dr.

Shukry said. "Many attendees personally shared their appreciation to UNMC as a host and how delighted they were with the city of Omaha and everything it had to offer as a host city. I am grateful to our team for organizing, hosting and participating in the event."

Following more than 375 oral and poster presentations, attendees relaxed at an April 6 reception at the Durham Museum, where they were able to network and enjoy the current exhibit, museum collections and architecture of the historic building.

Dr. Dutoit said it was an honor for the department to be able to host MARC. "We had a record number of UNMC and Children's Nebraska faculty who judged at the conference, as well as mentored our residents and medical students for presentation this year," she said. "Special thanks go out to Dr. Joe Pawlowski, who represented the UNMC Department of Anesthesiology on the MARC planning

committee, as well as Dr. Trevor Wilke, who coordinated and mentored our largest group of UNMC residents and students at MARC ever."

The weekend wrapped up with an awards presentation and breakfast on April 7. A record number of UNMC medical students and UNMC Department of Anesthesiology residents were presented with two first-place awards, five second-place awards and four third-place awards.

Taylor Ziegler, MD, UNMC PGY3 in anesthesiology, won first place for her oral presentation titled "An unexpected twist: ketamine-induced anaphylaxis unveiled in setting of hemorrhage during major abdominal surgery."

"My case report presented the rare occurrence of anaphylactic shock due to ketamine," Dr. Ziegler said. "It also highlighted the difficulty of recognizing anaphylaxis while under general anesthesia when the presentation is a little unusual or the surgery is complex."

Dr. Ziegler expressed her gratitude for the support of her mentor, Rachel Quandahl, MD, and said MARC is an exciting opportunity for residents to network with each other and learn how anesthesia is practiced at other institutions.

Sara Linza-Moscato, DO, UNMC PGY2 in anesthesiology, won a first-place award for her oral presentation titled "Urgent non-cardiac surgery in a poorly optimized patient," highlighting a case in which a patient with significant cardiac comorbidities required the repair of an enterocutaneous fistula.

Dr. Linza-Moscato described a team's decision-making process regarding temporizing measures for the patient's cardiac conditions – should it be done before fistula repair, or should the fistula repair come first so that the cardiac conditions are definitively addressed?

"Of course, as anesthesiologists, we'd prefer to repair the heart pathology first, so that future anesthetics might be safer. Unfortunately, this was not an option for this patient due to infectious concerns surrounding the fistula," Dr. Linza-Moscato said. "We ultimately chose the latter option, and I discussed some of the measures we took to ensure the patient's safety perioperatively."

Dr. Linza-Moscato said her experience presenting at MARC was invaluable, and she loved listening to and learning from residents from across the Midwest. "Public speaking can be intimidating as a PGY2 just learning the reins of perioperative management, but having the support of my coresidents and faculty mentors meant everything," she said.

Dr. Linza-Moscato expressed her gratitude to faculty mentor, Trevor Wilke, MD, and to senior resident Teddy Black, MD.

"Dr. Wilke is always such a fun presence in the OR and a great teacher," she said. "I'd also like to thank my senior resident on this case, Dr. Black. He has done an awesome job as chief and has been a great mentor throughout my CA1 year. I am so lucky to be a resident here at UNMC!"

### Other presentations by UNMC residents and medical students included:

**Joshua Abels, MD (PGY2)** – "One lung ventilation in patient with recent tracheostomy." Mentor: Kristi Lorenzen, MD

**Patrick Arnold (UNMC medical student)** – "Stellate ganglion block as part of treatment for medically refractory electrical storm." Mentor: Cale Kassel, MD

**Tyler Austin, MD (PGY1)** – "ESBL-E. Coli endocarditis of the mitral valve with complete heart block." Mentor: Zahid Iqbal, MD

**Matthew Bécar, MD (PGY1)** – "Complex multivisceral organ transplantation in a pediatric patient." Mentor: Trevor Wilke, MD

**Brittany Clifton, MD (PGY1)** – "Considerations for airway management in epiglottitis." Mentor: Jayme Dowdall, MD

**Zachary Egr, MD (PGY2)** – "Amniotic fluid embolism: A case report on successful resuscitation." Mentor: Brittany Brown, MD

**Ifunanya Ejikeme, DO (PGY1)** – "Pulmonary artery dissection following patent ductus arteriosus repair in childhood." Mentor: James Sullivan, MD

**Zachary Franco, MD (PGY4)** – "Anesthetic management of an eclamptic patient." Mentor: Kristin Wakin, MD

**Nathan Goergen, MD, PhD (PGY3)** – "Carcinoid valvular disease affecting the left heart." Mentor: Katie Goergen, MD

**Lauren Greufe, MD (PGY3)** – "Congenital renal cystic dysplasia requiring transplantation." Mentor: Brittany Brown, MD

**Robert Guidangen, MD (PGY2)** – "Difficult intubation in a rare tracheal anatomic variant." Mentor: Kristin Wakin, MD

**Brett Guthmiller, DO (PGY3)** – "ECMO utilization in patient presenting with a post-myocardial infarct VSD awaiting heart transplant." Mentor: Amanda Arnzen, MD

**Lukas Hall (UNMC medical student)** – "Prescribing patterns in pediatric urology patients after opioid stewardship: a retrospective review." Mentor: Jessica Goeller, DO

**Joel Jacobs (UNMC medical student)** – "External oblique intercostal plane block catheters following spleno-renal shunt." Mentor: Cale Kassel, MD

**Kaili Jorgens (UNMC medical student)** – "Anesthetic considerations for extrapleural pneumonectomy." Mentor: Cale Kassel, MD

**Christopher Keenan, MD (PGY1)** – "Epinephrine-induced hypotension in pediatric patient with double-chambered right heart." Mentor: Amy Beethe, MD

**Jennie Keum, MD (PGY2)** – "Awake fiberoptic oral intubation with video laryngoscopy assistance in a patient with ankylosing spondylitis." Mentor: Scott Hofmann, MD

**Jeremy Payne, MD (PGY3)** – "Cricoid chondronecrosis: a case study." Mentor: Jayme Dowdall, MD

**Matt Pile (UNMC medical student)** – "Anesthetic management for endovascular repair following grade IV thoracic aortic transection." Mentor: Trevor Wilke, MD

**Luke Polenz (UNMC medical student)** – "Impact of state regulations and opioid stewardship on prescribing after pelvic fracture repair." Mentor: Jessica Goeller, DO

**Alexandra Pool (UNMC medical student)** – "Delayed presentation of traumatic supraglottic hematoma." Mentor: Gina Lamb, MD

**Keland Potthoff (UNMC medical student)** – "Anesthesia management of hypertrophic cardiomyopathy during dental procedure in a pediatric patient." Mentor: Ryan Hamlin, MD

**Alec Seei, DO (PGY2)** – "Probably CAPS in a 33-year-old male with new onset arterial thrombosis, a case report." Mentor: Shaun Thompson, MD

**Noah Svec, MD (PGY2)** – "Acute liver failure." Mentor: Brittany Brown, MD





## The UNMC Department of Anesthesiology welcomes Kimberley Nichols, MD

Kimberley Nichols, MD, headlined this year's Gail Walling Yanney, MD, Lectureship, during the UNMC Department of Anesthesiology's Grand Rounds in April 2024.

Dr. Nichols is an associate professor of anesthesiology at University of North Carolina–Chapel Hill and the UNC School of Medicine's senior associate dean for medical student education, whose leadership expertise includes medical education, organizational culture and equity and inclusion.

Dr. Nichols spoke on "Building Work Communities Where People Can Thrive." Attendees learned how to define the characteristics of and how to foster inclusive work cultures and the importance of mentorship and sponsorship in organizational success.

Professor and Vice Chair of Strategy Sasha Shillcutt, MD, holds the Gail Walling Yanney MD, Professorship in the department of anesthesiology hosted Dr. Nichols.

"Dr. Nichols is a national expert in not just anesthesiology, but also in creating well cultures. We were honored to have her on campus to teach us," Dr. Shillcutt said.

Mohanad Shukry, MD, PhD, interim chair of the UNMC Department of Anesthesiology, said the department is honored to have visionaries like Dr. Yanney among its alumni.

"With her endowment, Dr. Yanney established a legacy of supporting women and wellness for everyone," he said. "Dr. Yanney's generosity allows us, among many other things, to invite experts such as Dr. Nicholas, to the department's grand rounds, and for that we are grateful."

The Gail Walling Yanney, MD, Lectureship was established in 2023 to honor the legacy of Dr. Walling Yanney, a UNMC College of Medicine graduate and former Bishop Clarkson Memorial Hospital anesthesiologist who retired from clinical practice in 1986 and as a clinical instructor in anesthesiology at UNMC in 1992. She has served as executive director of the Clarkson Foundation and as a board member of the Nebraska Medical Center. She received her undergraduate education at the University of Nebraska-Lincoln. The focus of the lectureship series is faculty development, particularly developing women as leaders.

*Left to right, Mohanad Shukry, MD, PhD, Kimberley Nichols, MD, Sasha Shillcutt, MD*





# Bridging the gap between engineering and medicine

Driven by a passion for improving patient care, Nathan Goergen, MD, PhD, a resident in the UNMC Department of Anesthesiology, bridges the gap between engineering and medicine.

Dr. Goergen completed his undergraduate degree in electrical engineering at Rose-Hulman Institute of Technology in Indiana. Straight out of college in 2004, he developed communication systems for military satellites, working for Rockwell Collins in Cedar Rapids, Iowa.

In his spare time, Dr. Goergen found himself drawn to the world of computer science, prompting him to pursue a master's degree online through DePaul University. This interest eventually evolved, leading him to make a pivotal decision to pursue a PhD in electrical engineering, fueled by a Department of Defense scholarship.

Simultaneously, his wife Katie Goergen, MD, now an assistant professor in the

department of anesthesiology, was working through her residency and fellowship in Baltimore.

Dr. Goergen found himself becoming interested in a career in medicine. He fulfilled the prerequisites for medical school, undertaking seven undergraduate courses in biology, chemistry and genetics over a year and a half, a task he described as daunting.

While working on software development projects, Dr. Goergen completed medical school and began his residency in anesthesiology, where he realized he could leverage his engineering skills to bridge gaps in health care.

One of his projects emerged from a critical need within the hyperbaric oxygen unit at UNMC. Facing a shortage of specialized IV tubing, Erin Etoll-Jones, MD, approached Dr. Goergen with the possibility of using arterial tubing as a potential solution. Dr. Goergen worked on the design

of a 3D-printed adapter, solving the problem affordably and efficiently.

I thought, "There's got to be a way we can fix this," Dr. Goergen said. "We have generic tubing to do arterial lines, it's a bit stiffer. I developed an adapter that can be 3D printed and fits around the arterial line tubing and the hyperbaric oxygen tubes. It costs about 11 cents to make, and we can print as many of them as we want."

Another significant project, the "Low-Cost Open-Source Syringe for Anesthesia Delivery in Developing and Resource-Poor Countries," addressed a need identified during global health trips to Zambia and Rwanda. Dr. Goergen devised an open-source syringe, utilizing readily available components to facilitate accurate medication delivery in resource-limited settings.

Dr. Goergen said engineers love taking human error out of the equation. "I guess it's the engineer in me – I think

a little differently than the people that have been strictly on a medicine track their entire career."

"Anytime you can eliminate a human from the process, not only is it usually a little bit more reliable and safer, but that frees us up as humans to think about bigger, more important problems," he said. "Let the machine and the software and the computer do the mundane things. I'm going to start thinking about the next big problem and solve it."

Dr. Goergen describes the types of pumps used at Nebraska Medicine to deliver medications in the operating room or the ICU. One is an IV tubing pump that squeezes the tubing to deliver the medication at the necessary rate, and the other is a syringe.

"It's exactly how it sounds – a mechanical device that pushes the syringe plunger at a programmed rate to deliver the medication," Dr. Goergen said. "One of the challenges my colleagues faced in Zambia was the different types of ventilators; none of them interoperated and half were malfunctioning. And no pumps, no pumps at all."

Dr. Goergen said it was during his OB rotation that he started trying to find a solution to reliably deliver medication to women in Zambia and Rwanda without the same technology. He took his vision to his former mentor, Mario

Simoni, PhD, chair of the electrical and computer engineering department at Rose Hulman and presented his idea as a possible capstone project for engineering students.

"I've been mentoring projects through the ECE department, and I approached Dr. Simoni with the idea of making a very low-cost syringe pump," Dr. Goergen said. "Let's make it open source, meaning anybody in the world can download it, build it 3D printed, improve on it, tweak it, and I want to do it for under \$100."

With the support of Dr. Simoni and Karsten Bartels, MD, PhD, vice chair of research in the UNMC Department of Anesthesiology, Dr. Goergen is working with senior engineers, designing a syringe pump that will someday have a major impact on health care in developing countries.

"I've been extremely impressed with the design that the students have come up with," he said. "We have the best equipment and technology, and I can't think of a good reason not to level the playing field so patients in places like Zambia have access to the same level of care we do."

This work earned Dr. Goergen the Lieberman Research Award and a Best of Meeting Award at the American Society of Anesthesiologists annual meeting in October 2024.



Nathan Goergen, MD, presents at the Society for Technology in Anesthesia annual meeting.

## Other efforts

Dr. Goergen is working on improving communication in the operating room and recovery areas using Internet of Things (IoT) devices to address issues with clarity, human error and efficiency.

In collaboration with Nicholas Markin, MD, Dr. Goergen came up with the IoT touch screens – small, affordable Internet of Things devices equipped with touchscreens and connectivity to the Amazon AWS cloud. These devices act as smart buttons, capable of sending targeted messages to medical personnel, eliminating the need to decipher vague announcements and provide precise information about the emergency location.

The project's initial application is in recovery areas, where the smart buttons streamline the process of requesting sign-offs for patients.

The success of this project set the stage for another project – recently featured in Anesthesiology News – called "Jenkins," a voice assistant designed to aid anesthesiologists in various tasks.

Dr. Goergen said he has integrated the same technology into his daily life, showcasing how the same technology principles used in medical projects find applications in his home. For example, he said he has an IoT-enabled cat food dish, that will text him and his wife when the container is getting low.



DOLOGY



## Karsten Bartels, MD, PhD, recipient of the James E. Cottrell Presidential Scholar Award

The American Society of Anesthesiologists presented Karsten Bartels, MD, PhD, with the 2023 James E. Cottrell Presidential Scholar Award in October of 2023, in recognition of his outstanding career as a leading academic physician anesthesiologist and his research to improve patient safety and outcomes in perioperative and critical care medicine and pain management.

The award is presented annually to a physician-scientist who has dedicated their early career to research while fulfilling other areas of responsibility related to their roles as faculty and clinicians.

"I feel truly humbled and incredibly grateful to be honored with this award," Dr. Bartels said. "I will pay this forward to the next generation."

Dr. Bartels is the Robert Lieberman Endowed Chair in Anesthesiology, vice chair of research and professor of anesthesiology with tenure at the UNMC Department of Anesthesiology. Additionally, he is the inaugural director of the Robert Lieberman Research Initiative within the department.

Former department chair Steven J. Lisco, MD, said advancement in

science and safety of anesthesiology and pain medicine is rarely a smooth or well-defined path and applauded Dr. Bartels' unwavering dedication and commitment.

Dr. Bartels demonstrated his passion for research early in his career, studying the adverse effects of over-prescription of opioids following surgery, which eventually led to a K23 Mentored Scientist Career Development Award from the National Institutes of Health and National Institute on Drug Abuse.

By the end of his anesthesiology residency at the department of anesthesia and critical care at the Massachusetts General Hospital, Dr. Bartels had authored two research articles published in *Anesthesia &*

**"I feel truly humbled and incredibly grateful to be honored with this award. I will pay this forward to the next generation."**

– Karsten Bartels, MD, PhD

Analgesia while also mastering the clinical skills necessary to be an anesthesiologist.

Dr. Bartels said the culture at Massachusetts General Hospital was formative because incorporating research was an integral part of the department effort. "Being a part of a culture that continuously advances clinical care and education by conducting research was incredibly inspiring," he said.

More recent accomplishments include a five-year R01 award from the Agency for Healthcare Research and Quality for over \$2 million to explore the efficiency and quality of postsurgical pain management. In 2022, he was listed in Stanford University's annual assessment of the top 2% of all researchers in the world based on his work's impact.

In addition to his research accomplishments, Dr. Bartels serves on multiple national-level committees, including as vice chair of the American Society for Anesthesia's Abstract Review Subcommittee on Critical Care and the Abstract Review Subcommittee on Outcomes and Database Research. Most notably, he serves as the only anesthesiologist who is a permanent member of the Healthcare Effectiveness and Outcomes Research study section for the Agency for Healthcare Research and Quality within the U.S. Department of Health and Human Services.

Dr. Lisco said Dr. Bartels has an esteemed reputation as a clinician-scientist, but it is equally as significant that he amplifies his impact by empowering others to be successful.

"Dr. Bartels has directly mentored more than 30 medical students, residents, and early-stage faculty to their first-ever peer-reviewed publication, and several have achieved research awards for their work under his tutelage," Dr. Lisco said. "Despite still being relatively junior in his own career, he has shown significant commitment and tremendous success in advancing the careers of others."

Dr. Bartels said he has been fortunate to have many impactful mentors throughout his career, from school and university to post-graduate training, and he is deeply grateful to each of them.

Dr. Bartels also has served as an editor for the American Board of Anesthesiology's written exam, editor of the textbook Hensley's Practical Approach to Cardiothoracic Anesthesia, and a site mentor for the Foundation for Anesthesia Education and Research Medical Student Anesthesia Research Fellowship.

"Congratulations to Dr. Bartels as the recipient of this prestigious award," Dr. Lisco said. "I eagerly anticipate watching his career's growth and impact on our specialty."



See the list of past recipients of the James E. Cottrell Presidential Scholar Award.



Read the special announcement authored by Steven J. Lisco, MD, and Rebecca A. Aslaksonin, MD, PhD, in the October 2023 issue of *Anesthesiology*.



# Celebration of Research

On Sept.12, 2023, the UNMC Department of Anesthesiology held the Celebration of Research, an annual event showcasing the department’s researchers and also recognizing those who support and facilitate research efforts.

The celebration featured poster sessions, a look at the year’s research highlights, an awards presentation and the annual Lieberman Lecture, delivered by Meredith Adams, MD, associate professor of anesthesiology, biomedical informatics, physiology & pharmacology and public health sciences at Wake Forest Baptist Health.

“Our third Celebration of Research stood out in that we had the highest number of abstracts submitted, in addition to having the best departmental attendance by clinicians and non-clinicians - ever - at the event,” said Karsten Bartels, MD, PhD, the department’s vice chair of research.

“Such in-person exchanges of new ideas are the heartbeat of an academic department - and I am thrilled to see so many individuals getting excited to participate in our research and educational missions,” Dr. Bartels said.

## 2023 Celebration of Research Awards:

### BASIC SCIENCE

- **Kajal Kamra, PhD, Nikolay Karpuk, PhD**, Irving H. Zucker, PhD, Harold Schultz, PhD, **Hanjun Wang, MD**

The Role of the Superior Cervical Ganglion in the Chronic Sensitization of Carotid Bodies Post-Acute Lung Injury

- **ZhZhiqiu (Claire) Xia, Steven Lisco, MD**, Irving H. Zucker, PhD, **Hanjun Wang, MD**

Time-Course Changes in Cardiac Gene Profiles Post-Acute Lung Injury

### CLINICAL RESEARCH

- **Nathan Goergen, MD, Troy Wildes, MD**, Derek Sakata, MD, **Zahid Iqbal, MD**, Travis Hotchkiss, Alan Clegg, MD, Noah Syroid

Jenkins: An Anesthesia Intra-op Voice Assistant To Improve Patient Outcomes And Situational Awareness In The OR

- **Megan Rolfzen, MD, Theodore Black, MD**, Valerie Shostrom, **Nicholas Heiser, MD, Nicholas Markin, MD**

Association between truncal blocks and postoperative pain scores in cardiothoracic surgical patients – A retrospective study

### CASE REPORTS

- Safwan Elkhatab, MD, PhD, **Peter Ricci Pellegrino, MD, PhD, Daniel W. Johnson, MD**

Catastrophic Antiphospholipid Syndrome: Severe Presentation and Management of a Rare Disease

- **Jane Goodson, MD, Jeffrey Songster, MD**

Aborted truncal abdominal wall nerve block due to subcutaneous emphysema after laparoscopic surgery with suspected malignant trocar

### EDUCATION

- **Julia Hoffman** (Co-Author) Presenting for Sungeun Park, **Andrea Dutoit, MD**, Faye Haggar, EdD Valerie Shostrom, **Karsten Bartels, MD, PhD**

Association of Scholarly Productivity in ERAS Application and Residency In-Training Exam scores

### OTHER

- Brent Cordon, **Joseph Pawlowski, MD**

A review of neuroethics and neuroethical issues in anesthesiology and critical care



Claire Xia, Kajal Kamra, PhD, Safwan Elkhatab, MD, PhD, Nathan Goergen, MD, Megan Rolfzen, MD, Brent Cordon



Sarah (Pribil) Pardun chats with colleagues during a poster presentation.



# Anesthesia resident awarded prestigious research grant

Megan Rolfzen, MD, a resident in the UNMC Department of Anesthesiology, achieved a significant milestone in her career by clinching two prestigious awards: the Society of Cardiovascular Anesthesiologists In-Training Grant and the Lisa Wise-Faberowski Resident Prize for Research Excellence.

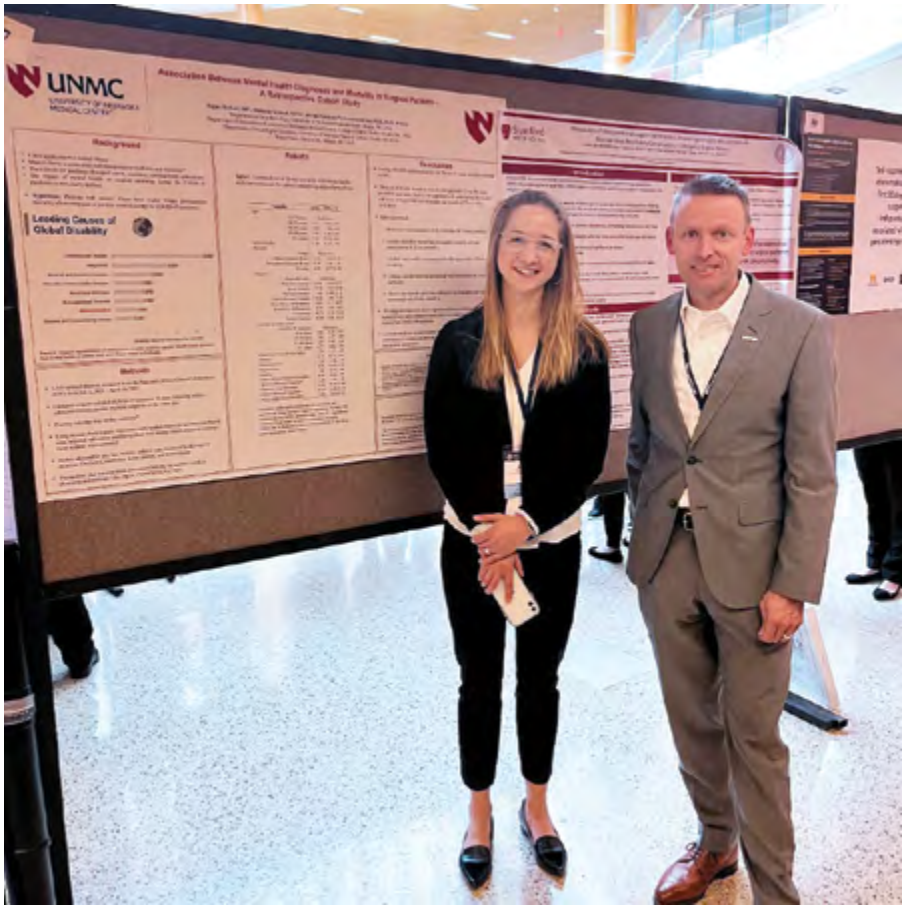
The SCA In-Training Grant, totaling \$15,000, is awarded to residents with a strong interest in cardiac anesthesia and cardiac anesthesia fellows in eligible training programs.

Dr. Rolfzen's study focuses on investigating outcomes in cardiothoracic surgical patients, with a particular emphasis on understanding the influence of mental health and other disparities on surgical outcomes. Her research goal is to inform interventions tailored to address the holistic needs of patients undergoing cardiac procedures.

"The project investigates outcomes in cardiothoracic surgical patients, taking into consideration how mental health and other disparities affect surgical outcomes in that subgroup population," Dr. Rolfzen said.

Dr. Rolfzen was unable to attend the SCA meeting in Toronto in April of 2024 where the award was announced, but she presented her research at the SCA annual meeting in Montreal later that year.

In addition to the SCA grant, Dr. Rolfzen received the Lisa Wise-Faberowski Resident Prize for Research Excellence. The award, honoring a distinguished pediatric cardiac anesthesiologist, was presented at the Association of



University Anesthesiologists annual meeting in March 2024, where Dr. Rolfzen presented her research project, "Association between mental health diagnoses and mortality in surgical patients – A retrospective cohort study."

Dr. Rolfzen said she is excited to receive her first grant and is appreciative of the mentorship and academic support at UNMC. She began fellowship training with the department of anesthesiology in July 2024.

Megan Rolfzen, MD, and Karsten Bartels, MD, PhD

# Resident Megan Rolfzen, MD, published in top journal

Megan Rolfzen, MD, a resident in the UNMC Department of Anesthesiology and CRANE Scholar, published an article in Anesthesiology, the specialty's top journal, in 2023.

"For a resident to publish research in Anesthesiology is extremely rare, and the article was chosen as the cover feature and has an accompanying editorial," said Andrea Dutoit, MD, resident program director for the UNMC Department of Anesthesiology, congratulating Dr. Rolfzen on her achievement.

"This is an incredible accomplishment for a resident," Dr. Dutoit said. "To be able to excel clinically as a resident yet also find time to do meaningful research and publish in our specialty's leading journal is beyond impressive and a reflection of her incredible work ethic."

The article, titled "Best Practice Alerts Informed by Inpatient Opioid Intake to Reduce Opioid Prescribing after Surgery (PRIOR): A Cluster Randomized Multiple Crossover Trial," tested the hypothesis that a decision-making tool in electronic health records guides clinicians to prescribe fewer opioids following inpatient surgery. The publication represents the culmination of five years of effort of multiple individuals at multiple institutions.

Dr. Rolfzen said that as a trainee with relatively little exposure to clinical and translational research, she became interested in this subject through

her mentor, Karsten Bartels, MD, PhD, the UNMC Department of Anesthesiology's Robert Lieberman Endowed Chair and Vice Chair of Research.

She also said she was interested in researching opioid prescribing because it is particularly relevant to the cultural moment, as the United States continues to outpace other countries regarding opioid prescribing at patient discharge. "As perioperative providers, we are ideally placed to play a role in shifting this paradigm," she said.

Dr. Rolfzen said that as physician anesthesiologists seek to add value to patient care, there is an opportunity to formulate perioperative care plans and identify high-risk individuals who would benefit from transitional pain management care.

"Our work is an example of executing a pragmatic trial design that permitted prospective randomization of more than 20,000 patients with a waiver of consent," Dr. Bartels said. "This methodology is relatively new and a great example of the future of clinical trials for certain research questions that otherwise cannot be answered."

Dr. Bartels said that success in research or any complex endeavor takes a strong work ethic, enthusiasm and grit, all traits that Dr. Rolfzen exemplifies.

Dr. Rolfzen said she is appreciative of the Careers in Research and



Megan Rolfzen, MD

Anesthesiology in Nebraska (CRANE) Scholar pathway that has provided dedicated time and structured mentorship to conduct research. Her future plans include completion of the cardiothoracic fellowship program and pursuing a career as a clinician-scientist.

"It is a great honor and privilege to be a part of the multi-institutional team that made this happen," Dr. Rolfzen said. "My role is listed as first author, but that is supported by a conglomerate of experts who imparted knowledge, guidance and patience."



# STAR Fellowship Program

The UNMC Department of Anesthesiology held a closing ceremony in August 2023 for participants of the third annual Summer Training in Anesthesia Research (STAR) Fellowship. The program is designed for high school (HSTAR), undergraduate (USTAR) and medical (MSTAR) students with an interest in an academic career in research.

Over the course of 10 weeks, participants conducted graduate-level research with a mentor, broadened scientific knowledge and awareness in basic, preclinical and clinical research, gained hands-on experience in laboratories and participated in weekly seminars to hone their presentation skills.

The STAR fellowship program began in 2021 and has provided fellowships for 24 students. Program director Sowmya Yelamanchili, PhD, said the program has been successful.

“As each year progresses, we get students who are really interested in science and who come with a different perspective,” Dr. Yelamanchili said. “They’re getting close to basic bench research in schools, and these students are showing up with good knowledge and inquisitive minds.”

Former STAR fellow Daniel Meyer shared his experience with the program, saying it taught him not only critical thinking skills but also to work effectively as part of a team.

“I was a STAR student during the inaugural year of the program, and I can’t overstate the importance of that experience in my development as a student researcher and as a scientist,” Meyer said. “Of course, it taught me an incredible number of skills using the lab, but it taught me so much more than that.”

Dr. Yelamanchili said there are approximately 30 applicants each year, and competition is rigorous.

Her goals are to continue to grow the program by adding more faculty and increasing available positions, in addition to increasing diversity. She said she hopes to recruit more Native Americans and will be reaching out to the existing Native-focused enrichment programs offered at UNMC.

“One of the difficult challenges I faced when building this program was that the department of anesthesiology has a small population of primary investigators and a small basic science group,” Dr. Yelamanchili said. “I’m grateful to the faculty who have taken on these students. Without them, this wouldn’t be possible. I could not be prouder of what we have accomplished.”

Dr. Yelamanchili also thanked former department chair Steven J. Lisco, MD, for his unwavering support of the program, saying that he understands the need to expose medical students to basic research.

“Physicians are the link between patients and science, and we need more doctors who also can think like scientists,” Dr. Yelamanchili said. “Meaning doctors who will do some research and come back to a patient with treatment options, not just offer treatment by the book or simply write a prescription.”

High school student Ria Vootla said she learned valuable skills performing her first dissection, training on RNA isolations and using western blots.

“Thank you, Dr. (Gurudutt) Pendyala, for all of your guidance and for allowing me to work in your lab this summer,” Vootla said. “Thank you for this wonderful opportunity, Dr. Yelamanchili. And finally, thank you so much Vicki (Schaal) for being a wonderful mentor.”

At the closing ceremony, fellows presented a poster about their research and fielded questions from attendees.

## Presentations:

“The might of mitovesicles: powerhouse of HIV pathogenesis”

H-STAR Mark Bausch  
Dr. Yelamanchili’s lab  
Primary Mentor: Austin Gowen

“Dirt and drugs: a deadly duo and dreadful death”

H-STAR Joseph Crenshaw  
Dr. Yelamanchili’s lab  
Primary Mentor: Austin Gowen

“The interplay between lipopolysaccharides (LPS) and methamphetamine: role in meth addiction”

H-STAR Jocelyn Oh  
Dr. Yelamanchili’s lab  
Primary Mentor: Austin Gowen

“Effects of gabapentin on cardiovascular function of rats”

H-STAR Ved Pendyala  
Dr. Gao’s lab  
Primary Mentor: Sarah Pribil

“When defeat hits home: how tiny messengers impact the adolescent brain”

H-STAR Ria Vootla  
Dr. Pendyala’s lab  
Primary Mentor: Victoria Schaal

“Light stimulation-triggered calcium influx in 50B11 neuron cells”

U-STAR Luke Meisinger  
Dr. Wang’s lab  
Primary Mentor: Nikolay Karpuk, PhD

“Effect of electrical pulse stimulation on C2C12 antioxidant systems”

M-STAR Jacob Joel  
Dr. Gao’s lab  
Primary Mentor: Sarah Pribil



## Subhash Chand, PhD, receives NIH A-START funding

Subhash Chand, PhD, instructor and researcher in the UNMC Department of Anesthesiology, is investigating the impact of cannabidiols (CBD) on HIV infection and methamphetamine abuse-associated neuroinflammation.

Dr. Chand’s research, funded by an AIDS-Science Track Award for Research Transition (A-START R03), focuses on identifying specific genes involved in neuroinflammation during HIV and methamphetamine abuse and studying the efficacy of CBD in mitigating neuroinflammation through animal and cell culture models.

A-START is a National Institutes of Health grant that supports research projects pertaining to drug use and HIV/AIDS that can be carried out in a short period of time with limited resources.

Dr. Chand said research has shown that HIV and methamphetamine induce neuroinflammation through the upregulation of the NLRP3 inflammasome pathway via NF-kappaB signaling. “This pathway, when activated, contributes to

neuroinflammation,” he said. “CBD may serve as a potential treatment option by downregulating this pathway.”

Treatment options for neuroinflammation in HIV patients with methamphetamine abuse are limited, Dr. Chand said, and despite advances in HIV management, including antiretroviral therapy, existing treatments fall short in directly targeting neuroinflammation.

Dr. Chand said treatment with CBD has the potential to decrease neurocognitive decline associated with HIV and substance abuse.

“Developing these therapies will directly benefit vulnerable populations,” he said.

Dr. Chand came to UNMC in 2018 as a postdoctoral fellow in the UNMC Department of Pharmacology and Experimental Neuroscience. He joined the UNMC Department of Anesthesiology as a postdoctoral fellow the same year, working with Sowmya Yelamanchili, PhD, before joining the department as an instructor in 2020.

## Strong support

Dr. Chand expressed his gratitude for the contributions and guidance from mentors and collaborators, including:

Howard Fox, MD, PhD, director of the UNMC Center for Integrative and Translational Neuroscience;

Larissa Loukianova, MD, PhD, associate professor of psychiatry at the Mayo Clinic, and;

Denise Faustman, MD, PhD, associate professor of medicine at Harvard University.

Support from departmental leadership and the UNMC Department of Anesthesiology’s Lieberman Fund has been instrumental in facilitating preliminary investigations and laying the groundwork for future funding, Dr. Chand said.



# From the laboratory of Gurudutt Pendyala, PhD

## UNMC researchers awarded R01 funding to study maternal opioid use disorder

A \$2.7 million grant from the National Institutes of Health will allow UNMC researchers to investigate ways to define and mitigate placental and fetal alterations caused by maternal oxycodone exposure.

Gurudutt Pendyala, PhD, Robert Lieberman Endowed Professor of Anesthesiology, is collaborating with Lynda Harris, PhD, associate professor in the UNMC Department of Obstetrics and Gynecology, on the multi-PI research project grant (R01) that began in August 2023 and runs through July 2026.

Dr. Pendyala's research largely focuses on addiction, maternal-fetal medicine, infectious diseases, environmental toxins and the role of biopsychosocial factors in health disparities. Dr. Harris' lab studies normal and abnormal placental development and function, develops new therapies for pregnancy complications and uses targeted nanomedicines to selectively deliver drugs to the placenta. Overall, the new collaboration will better support and treat pregnancies affected by maternal opioid use disorder.

The study aims to identify pathophysiological mechanisms underlying the effects of oxycodone on placental and fetal brain development, in addition to the resulting behavioral deficits observed in early infancy. Drs. Pendyala and Harris will team with John Davis, PhD, from obstetrics, and Eric Peebles, MD, PhD, from pediatrics, for the three-year study.

"We hope to also assess whether melatonin supplementation can reduce this pathology," Dr. Pendyala said.

Dr. Harris said: "As the placenta is the key regulator of fetal growth, finding interventions to help the placenta function optimally when exposed



Pranavi Athota, Gurudutt Pendyala, PhD, Melody Nguyen

to opioids is just as important as protecting the fetus from damage."

One and a half percent of pregnant women self-report misuse of prescription opioids, and almost 80 newborns a day are diagnosed with neonatal opioid withdrawal syndrome in the United States.

"*In utero* opioid exposure causes fetal growth restriction, alters fetal brain development and causes deficits in cognition, motor skills and behavior in affected children," Dr. Pendyala said.

Mohanad Shukry, MD, PhD, interim chair of the UNMC Department of Anesthesiology, pointed to the potential impact of Dr. Pendyala's work.

"Dr. Pendyala is examining important questions that are globally relevant," Dr. Shukry said. "His research aligns perfectly with the department's mission to deliver extraordinary clinical care and perform innovative research."

Dr. Davis, director of research and development at the Olson Center for Women's Health, praised Dr. Harris' contribution to the study.

"We are delighted that Dr. Harris, who joined us from the United Kingdom last year, has already managed to establish this multidisciplinary collaboration to improve the lives of women and their babies in our state and beyond."

## Dr. Pendyala studies link between pesticide use and ADHD

Gurudutt Pendyala, PhD, Robert Lieberman Professor in the UNMC Department of Anesthesiology, received funding to research early life exposure to pyrethroids, a class of pesticides most commonly used in commercial agriculture.

Dr. Pendyala said environmental exposure to the pesticide affects children in rural communities and could be an underestimated leading cause of attention-deficit hyperactivity disorder (ADHD).

"There are many health risks associated with early exposure, and the risks are greater for children in agricultural communities," Dr. Pendyala said. "The impact on Nebraska is very relevant,

harming infants exposed *in utero*, passive transfer to young kids and adolescents working in the fields."

Dr. Pendyala said the pyrethroid pesticide is a potent neurotoxin that creates ADHD-like behavior through disruption of dopamine, the toxicity in other areas of the brain has not been determined. His earlier work, including animal models of early life exposure to the pesticide deltamethrin, provides evidence that exposure disrupts brain-derived extracellular vesicles (BDEVs), molecules involved in communication between cells. Exposure to pyrethroids when young also disrupts hippocampus function, directly impacting memory and learning.

"Exposure can lead to behavioral issues often seen in children with ADHD, such as rage, anger and drug addiction," Dr. Pendyala said. "These problems can persist into adulthood."

The goal of the study is to test the hypothesis that BDEVs are altered by early exposure to DM, causing synaptic injury and impaired synaptic plasticity in the hippocampus.

Outcomes of this study will provide new insights into the molecular-based understanding of risk factors for neurodevelopmental disorders, in addition to providing guidance for therapeutic development against exposure.

## NIH grant to explore link between opioid use and bullying in adolescents

Gurudutt Pendyala, PhD, Robert Lieberman Professor, in the UNMC Department of Anesthesiology, received a two-year grant from the National Institutes of Health to study the mechanisms underlying prescription opioid use post social defeat (bullying) in HIV-positive adolescents.

From a developmental milestone, adolescence is a critical phase with changes occurring on different tiers – physical, cognitive, emotional, social and behavioral. Dr. Pendyala said the risk of contracting HIV increases at this time. There also is a high risk of passing the virus to others when left untreated or if they do not know they are infected.

Due to the social stigma in some communities, being HIV-positive leads to high rates of depression, anxiety, low self-esteem and less adherence to medications, impacting behavior and increased drug dependency and abuse in these individuals.

"Any negative experiences during this critical developmental period can significantly impact the outcomes, with serious ramifications that could persist into adulthood," Dr. Pendyala said. "This problem is further aggravated in HIV-positive adolescents due to the associated stigma, negative attitudes and prejudice in society."

Dr. Pendyala said previous studies had found a correlation between social stress and increased stress-related psychiatric and addictive disorders, but molecular mechanisms contributing to these outcomes remain unclear.

These molecular mechanisms will be explored in the study using adolescent rats expressing key genes of the HIV genome – an advantage because of the high amount of genome overlap with human adolescents, which mimics the pathophysiology in many diseases. Dr. Pendyala said the study would shed some light on the impact of social defeat, or bullying, during adolescence and the corresponding risk of becoming dependent on opioids.

"The two key aspects to this study are to compare how bullying impacts behavioral outcomes in the rats during adolescence and to identify novel plasma and brain-specific biomarkers which will be key for future testing in clinical trials in humans," he said.

"Preliminary studies have shown alterations in brain-derived extracellular vesicles (BDEV) sizes with HIV infection," Dr. Pendyala said. "Based on this premise, our hypothesis is that social defeat further exacerbates BDEV dynamics that aggravate synaptic injury and precipitates prescription opioid use."

Dr. Pendyala said the results would fuel future studies and eventually help develop strategies to treat and improve neurological outcomes in this vulnerable population



# Hanjun Wang, MD, receives funding to investigate chronic heart failure

Hanjun Wang, MD, Margaret R. Larson Professor of Anesthesiology in the UNMC Department of Anesthesiology, is investigating the neural mechanisms behind a common symptom of chronic heart failure – exercise-induced respiratory difficulty.

Dr. Wang’s research, funded by a \$2.5 million R01 grant, began in August 2023 and will run for the next four years.

Dr. Wang said chronic heart failure significantly diminishes a patient’s quality of life and is a leading cause of death in the United States. His study, “Neural inflammation and exercise pressor reflex in heart failure,” will explore how the peripheral nervous system, when activated during exercise, influences blood redistribution and triggers respiratory difficulties.

“Heart failure isn’t solely an issue originating from the heart,” Dr. Wang said. “The heart is an engine, much like a car. So, if your engine has a problem, you can probably still drive, but the other components within the system will begin to fail one by one.”

Dr. Wang emphasized the role of inflammation of the peripheral nervous system in exacerbating exercise-induced respiratory difficulties.

“One goal of the study is to uncover the neural processes involved during exercise, with the intention of using this knowledge as a therapeutic target,” Dr. Wang said. “The idea is to develop a drug that could enhance exercise capacity without directly targeting the damaged heart.”

In collaboration with Dong Wang, PhD, professor in UNMC’s College of Pharmacy Department of Pharmaceutical Sciences, Dr. Wang

aims to develop a drug delivery system, using nanoparticle prodrugs, to selectively target neural inflammation without causing systemic side effects.

“Developing these therapies will increase the exercise capacity and reduce cardiovascular dysfunction in patients with chronic heart failure,” Dr. Wang said. “Another benefit is the patient will avoid having to undergo surgery.”

Dr. Wang is grateful for the collaborative work with the UNMC Department of Pharmaceutical Sciences and said this type of interdisciplinary research ultimately leads to more funding.

Dr. Wang also acknowledged the strong support researchers receive from department leadership, specifically Steven Lisco, MD, former chair of the department; Mohanad Shukry, MD, PhD, interim chair; and Karsten Bartels, MD, PhD, vice chair of research.

“Department leaders foster an environment conducive to groundbreaking studies, enabling the exploration of novel ideas,” Dr. Wang said. “Their trust and investment provide the resources that enable us to gather preliminary data, essential for obtaining larger grants.”

Dr. Bartels said anesthesiology is, at its core, a highly collaborative specialty and the department is committed to

providing innovative researchers with a supportive environment to develop ground-breaking, high-risk, high-reward proposals.

“Most recently, our department climbed to No. 28 in funding amongst all anesthesiology departments listed in the National Institutes of Health report,” Dr. Bartels said. “We are being noticed for punching above our weight, and the credit for doing so goes to our brilliant scientists, our dedicated students and postdocs, and the terrific staff who are making the magic happen – day in and day out.”

Dr. Shukry said UNMC and the department of anesthesiology are fortunate to have a scientist of Dr. Wang’s caliber. “Dr. Wang’s cutting-edge research will benefit many patients and possibly delay or prevent heart failure,” he said. “His collaborative efforts are commendable and his positive contribution to scientific discovery is praiseworthy.”

Dr. Wang earned his medical and Master of Science degrees at Nanjing Medical University in China, then came to UNMC in 2007 as a postdoctoral fellow in the UNMC Department of Cellular & Innovative Physiology. He joined the UNMC Department of Cellular and Integrative Physiology as a faculty member in 2012, working closely with Irving H. Zucker, PhD, on cardiovascular research before joining the UNMC Department of Anesthesiology in April 2016.

**“The heart is an engine, much like a car. So, if your engine has a problem, you can probably still drive, but the other components within the system will begin to fail one by one.”**

– Hanjun Wang, MD



Michael Lush, Kajal Kamra, PhD, Hanjun Wang, MD



# From the laboratory of Lie Gao, MD, PhD

PhD student Sarah Pribil Pardun, a member of the laboratory of Lie Gao, MD, PhD, presented her thesis research at the 2024 Midwest Student Biomedical Research Forum and the 2024 American Physiology Summit.

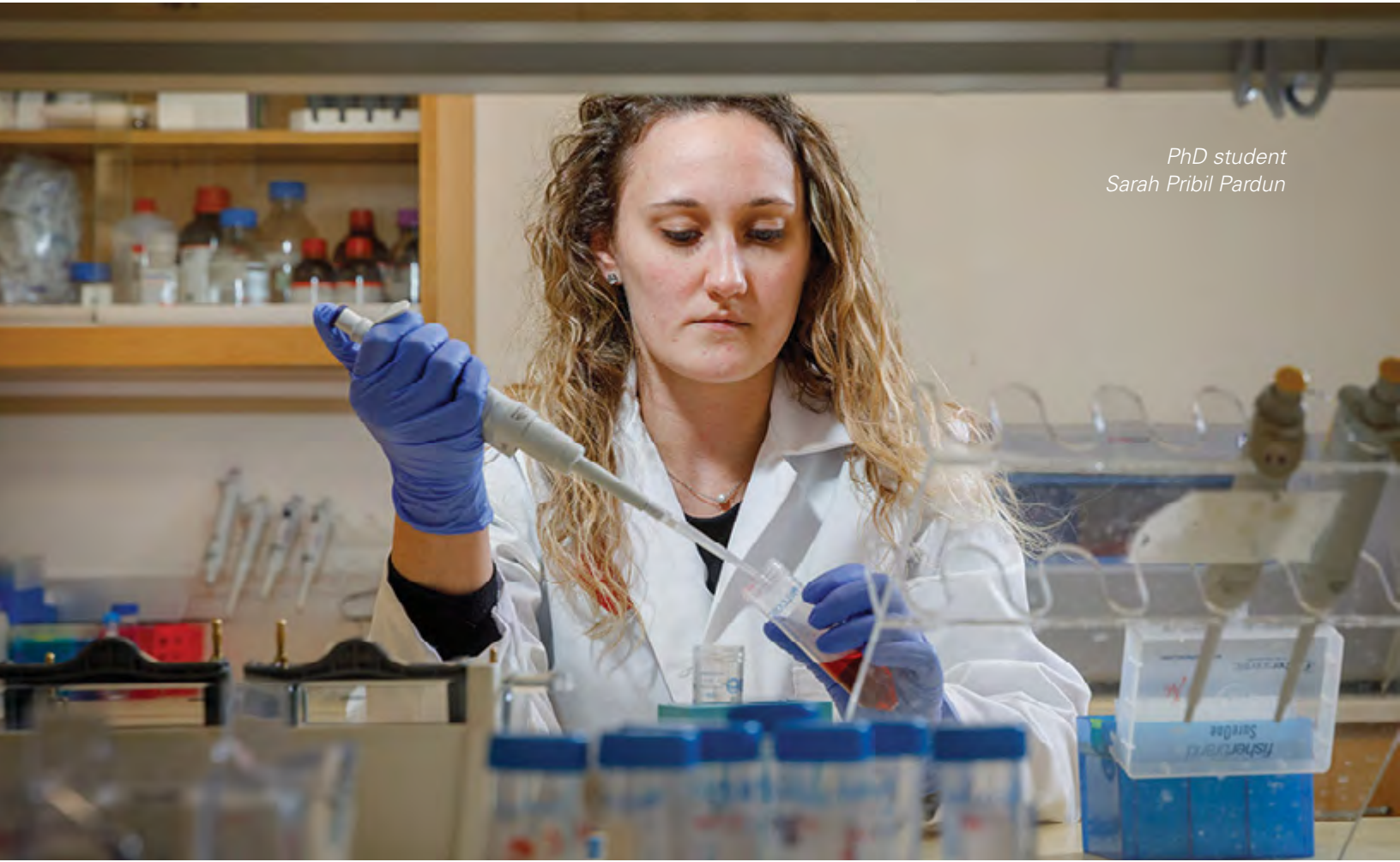
Pardun was selected as one of five finalists for the Communications Award at the New Directions in Biology and Disease of Skeletal Muscle Conference, held June 2023 in Fort Lauderdale, Florida.

Pardun’s goal is to understand how skeletal muscle adapts to exercise by increasing its antioxidant defense and improving mitochondrial function. To explore this, researchers used electrical pulse stimulation (EPS) to mimic muscle contraction in a lab setting.

“Electrical stimulation makes muscle cells more resistant to damage caused by oxidative stress,” Pardun said. “This could help explain how regular muscle contraction during exercise strengthens muscle resilience and protects against injury.”



See a video explaining  
Pardun’s research



PhD student  
Sarah Pribil Pardun

# Clinical Research Update

This year, the research team welcomed research nurse coordinator Rachel Harper to the department. Harper assists the clinical research manager, Julie Hoffman, with implementing and maintaining all research studies in the department, including coordinating collaborations between national and international partners.

The research team attended the American Society of Anesthesiologists annual meeting in San Francisco. The 2023 Foundation for Anesthesia Education and Research medical student anesthesia research fellow Sungeun Park presented her research at the annual meeting.

## “Scholarly productivity and standardized testing in anesthesiology training”

PI: Karsten Bartels, MD, PhD

Anesthesiology residency programs in the United States were surveyed to determine whether there is a correlation between the number of scholarly products in residency application and standardized testing.

Additionally, the research team facilitated several clinical research studies for the Nebraska Outcomes Research Laboratory in the 2023-2024 academic year:

## “PRIME-AIR STUDY- An Anesthesia-Centered Bundle to Reduce Postoperative Pulmonary Complications”

PI: Karsten Bartels, MD, PhD

This is a multicenter prospective randomized controlled trial including 17 U.S. academic medical centers. Investigate the number and severity of postoperative pulmonary complications in patients receiving an individualized perioperative anesthesia-centered bundle.

## “Program Director Survey Study On Signaling”

PI: Andrea Dutoit, MD

Survey study involving comparing anesthesiology residency program utilization of program signals and geographic preferences in interview selection.

## “Perioperative and Anesthetic Database of Orthotopic Heart Transplantation (PAROHT)”

PI: Megan Chacon, MD

Multicenter patient registry containing pre, intra, and postoperative data for patients undergoing orthotopic heart transplantation. Registry aims to provide meaningful data to investigators to allow clinical questions regarding the anesthetic management of heart transplant recipients to be answered.

## “Anesthetic Management of Intestinal Transplants in Adults”

PI: Cole Kassel, MD

Retrospective chart review to gain insight into the anesthesia management of small bowel transplants in adults and patient outcomes in the care of these adult small bowel transplants.

## “Extracorporeal Membrane Oxygenation (ECMO) Complications”

PI: Shaun Thompson, MD

Collaborative study with UNMC Department of Surgery. Retrospective chart review to evaluate the incidence and potential risk factors for development of abdominal complications in patients who are supported with extracorporeal membrane oxygenation (ECMO) support.



Rachel Harper



Julie Hoffman

## “Perioperative outcomes in surgical patients with and without mental health diagnoses in the COVID-19 pandemic using the N3C database”

PI: Megan Rolfzen, MD

This is a study to assess the association between mental health and in-hospital mortality during the COVID-19 pandemic. This is a retrospective cohort study of surgical inpatients from centers participating in the National COVID Cohort Collaborative (N3C), which is a secure platform that systematically collects data from all electronic medical records of patients that were tested for SARS-CoV-2 or had a diagnosis of COVID-19.





## Committee memberships and leadership positions

**AACPD** – Association of Anesthesiology Core Program Directors

**AAPAE** – Association of Anesthesiology Program Administrators and Educators

**ABA** – American Board of Anesthesiology

**ASA** – American Society of Anesthesiologists

**NSA** - Nebraska Society of Anesthesiologists

**SAAAPM** – Society of Academic Associations of Anesthesiology & Perioperative Medicine

**SAMBA** – Society for Ambulatory Anesthesia

**SCA** – Society of Cardiovascular Anesthesiologists

**SCCM** – Society of Critical Care Medicine

**SOAP** – Society of Obstetric Anesthesia and Perinatology

**Austin Adams, MD**

SCA Adult Congenital Heart Disease Special Interest Group, member

**Madhuri Are, MD**

National Comprehensive Cancer Network National Guidelines Committee

**Amanda Amzen, MD**

ASA Educational Track Subcommittee on Critical Care

**Rebecca Aron, MD**

Senior author, Pacemakers and Implantable Cardioverter Defibrillators: Indications, Function, Perioperative Evaluation and Management in Hensley's Practical Approach to Cardiothoracic Anesthesia 7th Edition

Co-author, Chapter 11. Transesophageal Echocardiography: Advanced Echocardiography Concepts The Development of a Perioperative Echocardiography Service and Three-Dimensional Transesophageal Echocardiography in Kaplan's Cardiac Anesthesia, 8th Edition

ABA Adult Cardiothoracic Anesthesia Exam Committee, member

ABA Adult Cardiothoracic Anesthesia MOCA Exam Committee, chair

**Karsten Bartels, MD, PhD**

Senior editor, Hensley's Practical Approach to Cardiothoracic Anesthesia: Seventh Edition

ABA Advanced Examination – Board exam editor

ASA Abstract review subcommittee on critical care

ASA Abstract review subcommittee on outcomes and database research

**Tara Brakke, MD**

SCA Board of Directors

SCA Annual Meeting Fellow Program, chair

SCA Annual Meeting PBLD review committee, chair

SCA Scientific Program committee, member

SCA Endowment Council, member

**Stephen Brannon, MD**

SCCM: adult ultrasound committee, member

**Megan Chacon, MD**

SCA, CME Committee

SCA Point-of-Care Ultrasound Workshop – Director

SCA, Scientific Program Committee

SCA POCUS workshop, director

SCA Transplant workshop, director

**Amy Duhachek-Stapelman, MD**

ABA OSCE board exam, editor

ABA Applied Structured Oral Exam, board examiner

**Andrea Dutoit, MD**

AACPD, president-elect

Organization of Program Directors Association, AACPD representative

SAAAPM Executive Council, member

SEA Education Committee SPA Education Committee

**Sheila Ellis, MD**

ABA OSCE Board Examiner

ABA – Board exam question author

ABA Applied Structured Oral Exam, editor

ABA Applied Oral and OSCE Exams – Board examiner

**Erin Etoll, MD**

Critical Care Anesthesiology – Board Exam Editor or Author

**Jessica Goeller, DO**

American Osteopathic College of Anesthesia, Board of governors

American Osteopathic College of Anesthesia, Professional Education Committee, chair American Osteopathic Board of Anesthesiology, subject matter expert and question writer

**Andrew Ingemansen, MD**

ASA, Educational Track Subcommittee on Regional Anesthesiology and Acute Pain Medicine

**Daniel Johnson, MD**

SCCM Ultrasound Committee, member

**Cale Kassel, MD**

ASA, Political Action Committee, board member

NSA, executive board

ASA, Committee on Rural Access to Anesthesia Care

ASAPAC board

Society of the Advancement of Transplant Anesthesia

**Michael Lankhorst, MD**

Medicare Contractor Advisory Committee, member

**TJ Lockhart, MD**

SPA Education committee member

SPA Pediatric Anesthesia Program Directors Association, member

**Nicholas Markin, MD**

ABA Multimedia committee

Co-author, Advanced Echocardiography, myocardial disease in Kaplan's Cardiac Anesthesiology 8th Edition

**Maria Michaelis, MD**

ASA Committee on Ethics

**Nancy Rogic, MD**

ASA Wellness committee

ASA Pediatrics committee

**Thomas Schulte, MD**

Basic Perioperative Echocardiography Examination, board exam editor

National Board of Echocardiography, board exam editor

Association of Anesthesia Clinical Directors, board of directors

National Board of Echocardiography – Basic PTE Exam, board of directors

National Board of Echocardiography, National Guidelines Committee, author

AACD Perioperative Leadership Summit

**Sasha Shillcutt, MD**

Chapter 15: Transesophageal Echocardiography (Part II): 3D/Advanced Echo Concepts. 2023 in Kaplan, Cardiac Anesthesia for Cardiac and Noncardiac Surgery, 8th edition, first author

National Board of Echocardiography Advanced PTeEXAM, examiner

ABA OSCE Board Examiner

Women in Cardiothoracic Anesthesiology Board Member

**Mohanad Shukry, MD, PhD**

Malignant Hyperthermia Association of the U.S., Quality Assurance Committee

Malignant Hyperthermia Association of the U.S., Consultants Selection Committee

**Jeffrey Songster, MD**

SCA History Council, member

**Shaun Thompson, MD**

SCCM Anesthesiology Section Communications Subcommittee, chair

SCCM Graduate Medical Education Committee, member

Extracorporeal Membrane Oxygenation for the Critically Ill Surgical Patient in Recent Strategies in High Risk Surgery, co-author

Critical Care Management of COVID-19 Patients in COVID-19 Viral Sepsis, co-author

**Kristin Wakin, MD**

ABA Maintenance in Certification Board Exam, author

SOAP International Outreach Committee

SOAP Annual Curriculum Planning Subcommittee

SOAP Diversity and Inclusivity Pathway Programs and Mentorship Subcommittee

SOAP Workshop on Airway Management and Neuraxial Anesthesia, director

**Charles Walcutt, MD**

Nebraska Department of Health and Human Services: Maternal Mortality Review Committee



# Anesthesiology Facts & Figures 2023-24

## Clinical



## Patient Encounters

- Acute Pain Service (inpatient)
- Pain Management (outpatient)
- Preoperative Evaluation and Care Clinic
- Critical Care

## Wellness Activities

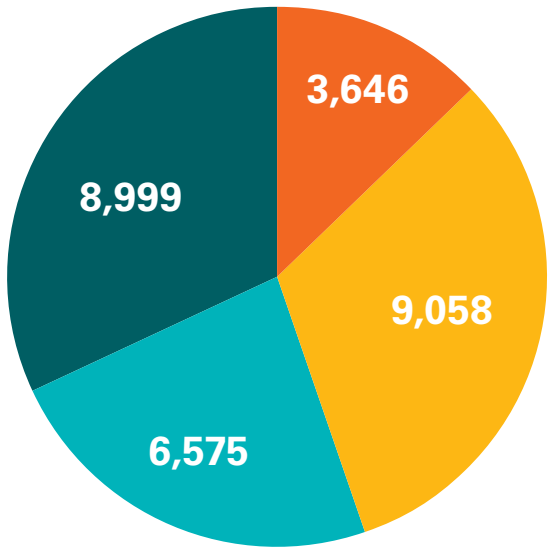


Monthly birthday lunches • Supported CRNA week with food and gifts • Department holiday party • Fall curling event • Top Golf summer event • Pizza party for Perioperative Nurses Week • Supported Women in Medicine Month • Supported Respiratory Therapist Week

## Anesthetic cases by site



Nebraska Medical Center	35,302
Bellevue Medical Center	6,854
Village Pointe	5,915
Children’s Nebraska	17,190



## Education

**1,219** residents/fellows applications

**244** residents/fellows interviewed

**33** residents/fellows matched

More than **500 hours** of didactics provided

**9** visiting professors



## Research

**31** department members who participated in national meetings

**44** grants applications **14** grants funded

**\$4,029,837** funding total

63% increase from FY2023 total of \$2,460,920

Individuals with grants:

**7** faculty **1** student



More than **30** publications







# Publications, 2023-2024

**Sarah Pribil Pardun, Anjali Bhat,** Cody P Anderson, Michael F Allen, Will Bruening, Joel Jacob, Ved Vasishtha Pendyala, Li Yu, Taylor Bruett, Matthew C Zimmerman, Song-Young Park, Irving H Zucker, PhD, **Lie Gao, PhD.** Electrical pulse stimulation protects C2C12 myotubes against hydrogen peroxide-induced cytotoxicity via Nrf2/antioxidant pathway. Antioxidants 2024, 13(6); 716. PMID: 38929155.

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## New staff

The UNMC Department of Anesthesiology proudly welcomed the following team members in the 2023-24 academic year:

**Micaela Bethel, MD**  
**Ellen Brightweiser, CRNA**  
**Jordan Brink, CRNA**  
**Devon Florance, CRNA**  
**Lisa Glandt, APRN-NP**  
**Melisa Highfield, CRNA**  
**Sarah Kirke, MSN**  
**Rafael Arsky Lombardi, MD**  
**Taylor Meyer, MD**  
**Lisa Murray, MD**  
**Olga Patkovsky, APRN-NP**  
**Beatrice Pradhan, CRNA**  
**Nathan Teague, MD**

## Academic promotions

Faculty members promoted to professor of anesthesiology:

**Megan Chacon, MD**  
**Andrea Dutoit, MD**  
**Jessica Goeller, DO**  
**Nicholas Markin, MD**  
**James Sullivan, MD**  
**Hanjun Wang, MD**

Faculty members promoted to associate professor of anesthesiology:

**Bradley Fremming, MD**  
**Lie Gao, MD, PhD**  
**Kaitlyn Pellegrino, MD**

Faculty member promoted to assistant professor of anesthesiology:

**Subhash Chand, PhD**





University of Nebraska Medical Center  
Department of Anesthesiology  
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