

# Anesthesia News

Spring & Summer 2025



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"It seems like there is always something! This is getting a little tiring....." This was a snippet of a recent feedback session from one of our colleagues as we chatted between cases the other day. The feedback was that having what feels like one initiative after another is getting to be a bit much. "Can't we just go back to doing anesthesia and have everyone stop paying so much attention to us?"- tongue in cheek, but with a little bit of truth..... I get it. I really do! There has been a noticeable increase in "system initiatives" directly impacting all aspects of the OR, all of which seem to have dashboards monitoring progress and outcomes. It does feel like everything we do is under a microscope.

All of that said, I want to take a step back and appreciate "the forest through the trees". As much as I am equally feeling this microscope, I do believe that these initiatives will improve patient care and I have seen enough from our new CEO, Dr Gilliland, and our new CMO, Dr Mitchell, to believe that this is not just the flavor of the month at Geisinger. These two mean business when it comes to truly leveling up our system's performance on patient safety and patient experience. In Dr Mitchell's short time with us, he has been hyper focused on ensuring that nothing takes priority to doing the right thing for our patients. At the Geisinger system quality symposium attended by leaders from across the system, the message was clear- that we are committed to improving patient care and removing any barriers that slow positive progress. We have seen a framework laid out and a goal to become a "high reliability organization", a claim made by only the highest performing health systems. I can go on, but the point is our executive leaders mean business and are committed. This is excellent news to us, as we all share this commitment to doing what is best for the patients we care for. Our focus, like system leadership, is on patient safety and experience.

How does this impact us? We have already seen a focus on preventing hypotension, managing hyperglycemia, administering antibiotics, etc. We are seeing work on geriatrics, delirium, and patient experience that we hope will raise the bar as well. We are also starting to create new connections with our perioperative nursing teams as we think about what the surgical process looks like from the point of view of the patient- more changes to come! It is a lot, but we have shown that we can do hard things as a department and that we are up for any challenge that improves care.

So, I appreciate that this feels like a change is in the air... because there is! Think of this as a call to action and a time to refocus on the patient in front of us and our commitment to partnering as this a team sport! We do truly great work on a very sick population and Geisinger Anesthesia has demonstrated the ability to tackle challenging tasks, and I am confident we will continue to do our part to be a highly reliable department because it is the right thing to do. Thank you for all that you have and will continue to do for our patients.

Dr. Matthew Desciak

# Departmental Highlights

## Marijuana Use and the Perioperative Arena: A Study Overview

**Introduction:** Shane Bross, Seth Ellison, and Emily Ellison are anesthesia medical students at the Geisinger School of Medicine. Dr. David Fryzel, one of the attendings at Geisinger Community Medical Center (GCMC), is heavily involved with the Geisinger School of Medicine students, particularly in research. Together, they have conducted a study to explore the perioperative implications of marijuana use.

**Abstract:** Marijuana is the most popular illicit drug globally, with its recreational use increasing, especially in the U.S. due to favorable legal changes. However, scientific research on its perioperative impact has lagged behind these legal changes. This study aims to bridge this gap by investigating the physiological changes induced by cannabinoid use and their implications for perioperative management.

**Background/Significance:** The increasing legalization of marijuana necessitates rigorous research to understand its perioperative implications. Cannabinoid use can affect various physiological systems, including cardiovascular, cerebrovascular, respiratory, temperature, and coagulation. Integrating a preoperative question set into EPIC can provide valuable information to assist in managing chronic, multi-system diseases in the perioperative setting.

### Purpose/Hypothesis/Specific Aims:

**Purpose:** To collect extensive physiological data on perioperative patients in a large health system, characterize marijuana use, and understand its impact on physiological and pain/analgesia derangements.

**Hypothesis:** Marijuana use may result in increased sympathetic outflow, evidenced by cardiovascular changes and altered analgesia thresholds.

### Specific Aims:

**Aim 1:** Quantify marijuana use among anesthesia patients using a standardized questionnaire.

**Aim 2:** Disseminate relevant information to anesthesia providers to improve care delivery.

**Study Design:** The study utilizes EPIC software for electronic medical records and an anesthesia-focused software for documenting preoperative assessments. A marijuana-specific questionnaire has been integrated into the preoperative assessment, covering aspects such as type, frequency, duration, and last dose of marijuana use.

### Outcomes:

**Primary Outcome:** Increased sympathetic output states, including diastolic hypertension, tachycardia, new arrhythmias, cardiogenic

shock, aberrant anesthetic responses, increased narcotic requirements, longer hospital stays, and increased multidisciplinary care.

**Secondary Outcome:** Improved documentation and accuracy of marijuana use among Geisinger patients.

**Data Collection:** The study requests the utilization of the questionnaire within the preoperative assessment to gather comprehensive data on marijuana use.

**Authors:** Shane Bross, Seth Ellison, Emily Ellison, David Fryzel, MD



## Low Flow Gas Usage for Anesthesia: Enhancing Efficiency and Sustainability

**Introduction:** Jeremy Arner CRNA has played a vital role in working with GE representatives to support low-flow anesthesia in the central region. His efforts have been instrumental in promoting the adoption of this innovative approach.



### Benefits of Low Flow Anesthesia

**Economic Savings:** Reduces anesthetic agent consumption, saving healthcare facilities thousands of dollars annually.

**Environmental Impact:** Minimizes the release of volatile anesthetics, reducing greenhouse gas emissions and environmental footprint.

**Patient Safety:** Improves respiratory function, maintains core body temperature, and reduces postoperative complications.

**Research Insights:** Recent studies highlight the importance of selecting the right CO<sub>2</sub> absorbents. Micropore's SpiraLithCa® addresses issues with traditional granular absorbents, offering reliable and consistent performance.

**Efficiency and Performance:** SpiraLithCa® outperforms traditional absorbents in efficiency and duration, reducing canister changes, waste, and overall costs.

**Expert Recommendations:** The American Society of Anesthesiologists (ASA) recommends managing fresh gas flow to promote environmental sustainability and using CO<sub>2</sub> absorbents that do not degrade volatile anesthetics.

**Conclusion:** Low flow anesthesia offers significant advantages in cost savings, environmental sustainability, and patient safety. Advanced CO<sub>2</sub> absorbent technologies like SpiraLithCa® enhance anesthesia practices, contributing to a greener and more sustainable future in healthcare.

Fresh Gas Flow Management | Greening the Operating Room and Perioperative Arena

Circle systems and low-flow anaesthesia - BJA Education



# Departmental Highlights

## Welcome Class of 2029!

As we prepare to welcome our new residents this summer, it's important to reflect on the rigorous and thoughtful process that brought them here. This year, we received nearly 1,200 applications, interviewed over 100 candidates, and ranked just over 70. Our recruitment committee, comprising Drs. Alite, Noble, Poler, Vaughan, Oguntimein, Moyer, and Desciak, along with our dedicated residents Brandon, Bre, Gina, Hugh, Pouya, Joseph, and Mythilli, played a crucial role in this process. Their insights and efforts were instrumental in making informed ranking decisions.

We are proud to announce that we matched within the top 20 of our rank list this year, a significant improvement from previous years when our last candidate ranked in the 40s. Candidates praised the well-organized interview days and the opportunity to learn about Geisinger, thanks to our administrative partners, Polly and Jana. Additionally, with the help of Dr. Poler, we utilized an AI system to analyze each component of a candidate's application and interview scores, generating a ranked list based on Artificial Intelligence.

In response to recent challenges regarding standardized testing, we have placed greater emphasis on candidates' performance in these exams during our screening and ranking process. Almost all our matched candidates this year are near or above the 50th percentile (USMLE-II score of 249), representing a significant improvement from previous years. One candidate has already passed USMLE Step 3. We are also working diligently to enhance our curriculum and tailor it to provide a more focused and engaging learning experience for our residents.

Here are our six CBY incoming residents:



Emily Ellison, MD—Geisinger  
Commonwealth School of  
Medicine



Seth Ellison, MD —  
Geisinger Common-  
wealth School of Medi-  
cine



Madison McConnell,  
DO—Philadelphia College  
of Osteopathic Medicine



Matthew McGraw, MD—  
Philadelphia College of Osteo-  
pathic Medicine



Asim Khan, MD—King  
Edwards Medical Univer-



Stone Holtzman, DO—  
Western University of  
Health Sciences College  
of Osteopathic Medicine  
of the Pacific



# Departmental Highlights

## Genomics Meets Anesthesia: Advancing Malignant Hyperthermia Risk Detection

### ANESTHESIOLOGY

**Evaluation of Malignant Hyperthermia Features in Patients with Pathogenic or Likely Pathogenic RYR1 Variants Disclosed through a Population Genomic Screening Program**

Wisten D. Yu, M.S., Megan N. Betts, M.S., Gretchen M. Urban, M.S.,  
Marco L. B. Schwartz, Sc.M., Tanisha O. Robinson, M.D.,  
Robert J. Moyer, M.D., Scott W. Taddei, D.O.,  
Anagaya Vasudevan, M.D., Alicia Johnson, Ph.D.,  
Amy C. Sturm, M.S., Melissa A. Kelly, M.S.,  
Marc S. Williams, M.D., S. Mark Poler, M.D.,  
Adam H. Buchanan, M.S., M.P.H.

ANESTHESIOLOGY 2024; 140:52-61

We're excited to highlight a recent publication that underscores the growing role of genomic medicine in anesthesiology:

**"Evaluation of Malignant Hyperthermia Features in Patients with Pathogenic or Likely Pathogenic RYR1 Variants Disclosed through a Population Genomic Screening Program."**

This study explored how individuals with RYR1 gene variants, identified through population-based genomic screening, may be predisposed to malignant hyperthermia (MH)—a rare but potentially fatal reaction to certain anesthetic agents. Notably, many of these individuals had no prior MH diagnosis or surgical history, emphasizing the value of proactive genetic screening in perioperative risk management.

The research highlights the potential of integrating genomic data into routine preoperative workflows to identify at-risk patients early and tailor anesthetic plans accordingly. This approach not only enhances patient safety but also represents a significant step toward precision anesthesia, where care is informed by each patient's unique genetic profile. The study also reinforces the importance of interdisciplinary collaboration between anesthesiologists, genetic counselors, and surgical teams to ensure comprehensive risk mitigation.

In addition to its clinical implications, this work contributes to a broader understanding of how population genomics can inform perioperative decision-making and improve outcomes. It also opens the door for future research into how genetic insights can be operationalized across other areas of anesthetic care.

It's worth highlighting that this paper was recognized as one of the Top 10 Genomics Papers of 2024 in the **Genomic Medicine Year in Review: 2024**—a testament to its impact and relevance in the field.



## Departmental Recognition

We are proud to recognize the contributions of our own faculty members who were instrumental in this important research:

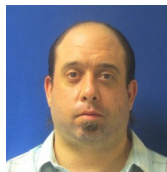
**Dr. Tanisha Robinson**

**Dr. Robert Moyer**

**Dr. Mark Poler**

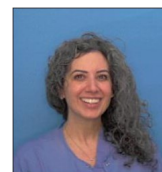
Their leadership, clinical insight, and dedication to advancing patient safety through genomic innovation have been vital to the success of this study. Their work not only contributes to the scientific community but also strengthens our department's reputation as a leader in cutting-edge, patient-centered care. We thank them for their continued commitment to excellence and innovation.

## New Staff:



Daniel Magazino,  
CRNA

Western Region



Nicole Seiner, CRNA

Western Region

## Recent Promotions:



Alaina Hollock

Senior Administrative  
Assistant



Tyler Anderson  
CRNA

Clinical Coordinator—  
GWV





# GEISINGER ANESTHESIA SPOTLIGHTS

## Dr. Qingzhong Hao

**Meet Dr. Qingzhong Hao, one of our esteemed anesthesiologists in the Central Region.**

Dr. Hao's journey in medicine began in China, where he was trained in modern western medicine. Little did he know that his path would lead him to practice acupuncture at Geisinger. Upon joining Geisinger as an anesthesiologist, Dr. Hao quickly recognized the growing interest and curiosity among patients regarding acupuncture. Many would ask, "Do you do acupuncture? Can you do acupuncture for me?" This demand inspired Dr. Hao to start his acupuncture practice here.

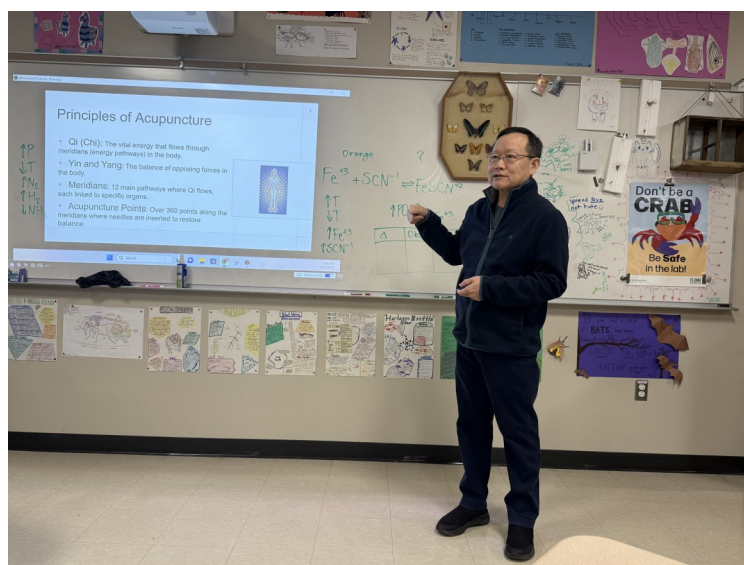
Over the years, Dr. Hao has treated numerous patients, significantly improving their lives and, in some cases, completely transforming them. This has been an incredibly rewarding experience for him.

One of Dr. Hao's most memorable patients was an elderly woman who had worked as a nurse. After neck surgery, she became paralyzed and, although she slowly regained movement, she suffered from severe pain in her arms, knees, and back. When she first came to Dr. Hao's clinic, she was in tears. Despite his uncertainty about how much he could help, Dr. Hao promised to do his best. To

their surprise, acupuncture dramatically reduced her pain. She began smiling, sharing stories about cooking, baking, dancing, and even attending her grandchild's graduation. She once told Dr. Hao, "I wish I could take you home with me!" Her story was even published in the local newspaper.

Another patient once shared, "The day I get acupuncture is the best day of my whole month." And one of Dr. Hao's regular patients always says, "You are one in a million."

Patients aren't just grateful to Dr. Hao—they're grateful because acupuncture works!



Dr. Qingzhong Hao shares his expertise in acupuncture and modern medicine with enthusiastic students at a local high school. Inspiring the next generation of healthcare professionals!



# Innovation & Financial Stewardship

## Innovation and Financial Stewardship in Surgical Efficiency

At the heart of our mission is a commitment to innovation and financial stewardship. We continuously strive to enhance our surgical processes to ensure optimal utilization of resources, improve patient satisfaction, and maintain financial health. Our recent analysis has highlighted several key areas for improvement and ongoing efforts to achieve these goals.

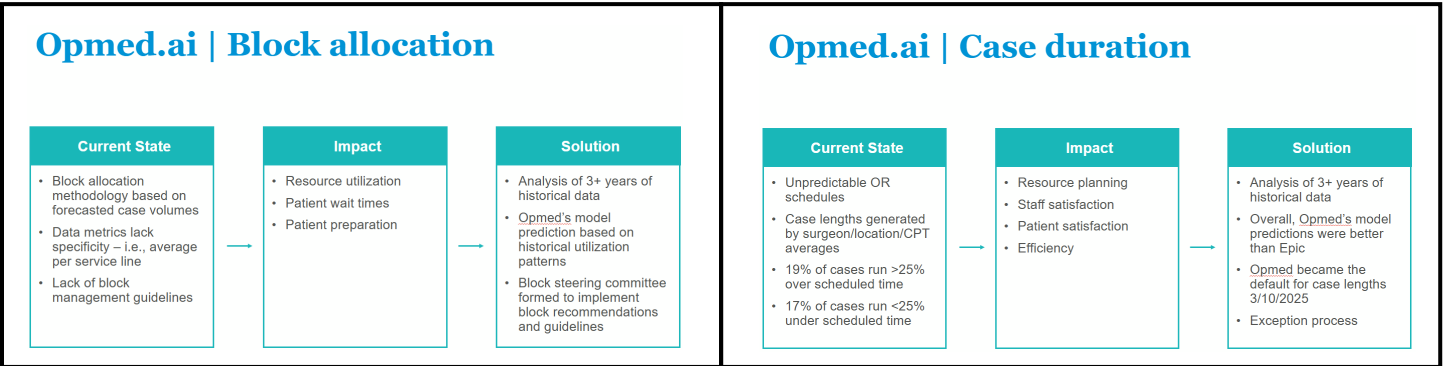
### Improving Surgical Efficiency and Patient Satisfaction

Our recent analysis has shown that rooms are finishing 1-2 hours before the end of the block on average. This underutilization has prompted executive leadership to call for improved utilization of our surgical facilities.

#### Key areas of focus include:

- Better alignment of acuity with surgical location: Ensuring that surgeries are performed in the most appropriate settings based on patient needs.
- Efforts to reduce cancellations: Implementing strategies to minimize last-minute cancellations, which are difficult to replace within 72 hours and lead to unfilled block time and patient dissatisfaction.
- Creating efficiencies that improve turnover time: Streamlining processes to reduce the time between surgeries.
- Improving first case on-time starts: Ensuring that the first surgery of the day begins as scheduled.

#### Updates to Opmed.ai:



#### Ongoing efforts include:

- Emphasizing “surgical optimization” workflows
- Enhancing patient communication regarding medications
- Piloting new protocols with GLPs, with anticoagulants being the next step

#### Developing an overbooking strategy

- These initiatives will be applied across various departments including general surgery, ophthalmology, pediatric surgery, and pediatric dentistry.

