



# 2025 Summer Research Experiences



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**Title:** *Critical Care Clinical Research Experience*

**Number of candidate(s) who will be selected:** 1.

**Overview:** This Research Experience will primarily include clinical research activities. The student will have clinical opportunities to round on the surgical intensive care unit (SICU) team with a clinical pharmacist or round with a pharmacy resident. Educational experiences will be available, including trauma grand rounds, general surgery resident didactics, and pharmacy resident didactics. These clinical opportunities will be limited up to a half-day per week.

**Minimum level of education required:**

- M3
- Other: Pharmacy/MS/PhD students welcome

**Specific skills/training/education required:**

- Good communication and time management skills.
- No pre-requisite research skills are necessary.
- The student will receive training for literature review, REDCap data collection, statistical analysis, manuscript writing, etc.

**Student responsibilities:**

- Requirements
  - Attend all required training and complete credentialing.
  - Maintain communication with faculty and medical education. It is the responsibility of the student to reach out to the faculty with questions or concerns.
  - Attend specialty-related education as assigned.
- Scholarly Tasks
  - Data collection using REDCap.
  - Data analysis and statistics.
  - Manuscript writing of study design/methods.

This experience **includes shadowing** opportunities and **operating room** experiences.

**Title:** *Current Topics in Surgical Critical Care and Trauma*

**Number of candidate(s) who will be selected:** 1.

**Overview:** The student will work closely with Trauma/Critical Care fellowship trained surgeons, surgical residents, and an Emergency Medicine/Critical Care Health Scientist to conduct various research studies. This experience also includes educational experiences with residents and other medical students and shadowing at our hospital. The research conducted by the student will focus on the clinical management and outcomes of critically ill surgical patients. Studies can include prospective and retrospective studies.

Our goal is that by the end of this experience, the student understands the research process including idea development, literature review, protocol development, institutional review board (IRB) submission, data abstraction, data cleaning, abstract preparation, and manuscript preparation.

**Minimum level of education required:**

- M1

**Specific skills/training/education required:**

- The ideal candidate for this position will have successfully completed their first year of medical school and be interested in learning how clinicians combine medical practice with scholarly activity in their career.
- Previous experience in basic science research, clinical research, scientific writing, and scientific presentation are a plus but not required for an applicant to be successful.

**Student responsibilities:**

- Requirements
  - Attend all required training and complete credentialing.
  - Maintain communication with faculty and medical education. It is the responsibility of the student to reach out to the faculty with questions or concerns.
  - Attend specialty-related education as assigned.
- Scholarly Tasks
  - The student will have the opportunity to work on multiple projects over the duration of the research fellowship.
  - These projects can include any of the following: literature review, protocol development, data collection, data cleaning, writing, and editing.
  - The student will also be expected to prepare a case report to be submitted to a Pub-Med indexed journal.

This experience **includes shadowing** opportunities.

**Title:** *Obstructive Sleep Apnea & Blood Pressure Control*

**Number of candidate(s) who will be selected:** 1.

**Overview:** We are investigating the impact of a diagnosis of sleep apnea, and prescription for a CPAP/BiPAP machine and how it affects the patient's blood pressure control.

The student will perform a chart review of Cleveland Clinic patients to extract several key data points: diagnosis of sleep apnea, prescription of positive airway pressure machine for sleep, medical and surgical history, blood pressure results, number of hypertensive medications. Data will be used to analyze the benefit of diagnosis and treatment of sleep apnea as it relates to blood pressure control.

**Minimum level of education required:**

- M1

**Specific skills/training/education required:**

- Familiarity with Epic electronic health record (EHR) system.

**Student responsibilities:**

- Requirements
  - Attend all required training and complete credentialing.
  - Maintain communication with faculty and medical education. It is the responsibility of the student to reach out to the faculty with questions or concerns.
  - Attend specialty-related education as assigned.
- Objectives
  - Fellow responsibilities will include chart review to obtain data.

This experience **includes shadowing** opportunities.

**Title:** New Innovations in the Surgical Critical Care of Patients with Traumatic Neurological Injury

**Number of candidate(s) who will be selected:** 1.

**Overview:** The student will work closely with the trauma neurosurgical team including board certified neurosurgeons and advanced care providers along with an Emergency Medicine/Critical Care Health Scientist to conduct various research studies. This experience also includes educational experiences with residents and other medical students and shadowing. The research conducted by the student will focus on advances in care, management, and outcomes for patients with severe neurotrauma. The student will work with various members of the Neurotrauma surgical team. This is a rapidly expanding component of medical care within Emergency Medicine and across the healthcare landscape. Our goal is that by the end of this experience, the student understands the research process including idea development, literature review, protocol development, institutional review board (IRB) submission, data abstraction, data cleaning, abstract preparation, and manuscript preparation.

**Minimum level of education required:**

- M1

**Specific skills/training/education required:**

- The ideal candidate for this position will have successfully completed their first year of medical school and be interested in learning how clinicians combine medical practice with scholarly activity in their career.
- Previous experience in basic science research, clinical research, scientific writing, and scientific presentation are a plus but not required for an applicant to be successful.

**Student responsibilities:**

- Requirements
  - Attend all required training and complete credentialing.
  - Maintain communication with faculty and medical education. It is the responsibility of the student to reach out to the faculty with questions or concerns.
  - Attend specialty-related education as assigned.
- Objectives
  - The student will have the opportunity to work on multiple projects over the duration of the research fellowship.
  - These projects can include any of the following: literature review, protocol development, data collection, data cleaning, writing, and editing.
  - The student will also be expected to prepare a case report to be submitted to a Pub-Med indexed journal.
- Scholarly Tasks
  - Literature review.
  - Protocol development.
  - Data abstraction and cleaning.
  - Writing of results.
  - Preparation of presentations/abstracts.

This experience **includes shadowing** opportunities.

**Title:** Does Age Impact the Experience of Postoperative Pain After Minimally Invasive Hysterectomy?

**Number of candidate(s) who will be selected:** 1.

**Overview:** The student will participate in consenting patients for participation in study via electronic methods and phone calls, collecting data from patient surveys, and organizing data into a database. The student will receive some experience in statistical calculations and interpretations; however, the student is not required to have prior statistical knowledge. The student will contribute to abstract preparation, manuscript preparation, and any submission processes.

**Minimum level of education required:**

- M1

**Specific skills/training/education required:**

- Organizational Skills: Demonstrated ability to manage multiple tasks, prioritize responsibilities, and maintain detailed records effectively.
- Proficiency in Microsoft Excel: Ability to create and manage spreadsheets, analyze data using formulas and functions, and generate reports as needed.
- Interpersonal communication skills with medical staff and patients.
- Interest in collaborating with residents and faculty.

**Student responsibilities:**

- Requirements
  - Attend all required training and complete credentialing.
  - Maintain communication with faculty and medical education. It is the responsibility of the student to reach out to the faculty with questions or concerns.
  - Attend specialty-related education as assigned.
- Objectives
  - Consent patients for participation in study via electronic methods and phone calls.
  - Collect data from patient surveys.
  - Organize data into a database.
  - Contribute to abstract preparation, manuscript preparation, and any submission processes.

This experience **does not include shadowing or operating room** opportunities.

**Title:** Point of Care Ultrasound in Emergency Settings: Expanding Education and Clinical Application

**Number of candidate(s) who will be selected:** 1.

**Overview:** The student will work closely with an Emergency Medicine Physician Specialist, an Emergency Ultrasound Fellow, and an Emergency Medicine/Critical Care Health Scientist to conduct various research studies. This experience also includes educational experiences with residents and other medical students and shadowing at our hospital based and satellite emergency department locations. The research conducted by the student will focus on the use of ultrasound as a diagnostic and treatment modality in the emergency department. The student will work with various members of the Emergency Medicine Ultrasound Team. This is a rapidly expanding component of medical care within Emergency Medicine and across the healthcare landscape.

Our goal is that by the end of this experience, the student understands the research process including idea development, literature review, protocol development, institutional review board (IRB) submission, data abstraction, data cleaning, abstract preparation, and manuscript preparation.

**Minimum level of education required:**

- M1

**Specific skills/training/education required:**

- The ideal candidate for this position will have successfully completed their first year of medical school and be interested in learning how clinicians combine medical practice with scholarly activity in their career.
- Previous experience in basic science research, clinical research, scientific writing, and scientific presentation are a plus but not required for an applicant to be successful.

**Student responsibilities:**

- Requirements
  - Attend all required training and complete credentialing.
  - Maintain communication with faculty and medical education. It is the responsibility of the student to reach out to the faculty with questions or concerns.
  - Attend specialty-related education as assigned.
- Objectives
  - The student will have the opportunity to work on multiple projects over the duration of the research fellowship.
  - These projects can include any of the following: literature review, protocol development, data collection, data cleaning, writing, and editing.
  - The student will also be expected to prepare a case report to be submitted to a Pub-Med indexed journal.

This experience **includes shadowing** opportunities.



**Title:** Current Topics in Emergency Elective General Surgery

**Number of candidate(s) who will be selected:** 1.

**Overview:** The student will work closely with Trauma/Critical Care fellowship trained surgeons, surgical residents, and an Emergency Medicine/Critical Care Health Scientist to conduct various research studies. This experience also includes educational experiences with residents and other medical students and shadowing at our hospital. The research conducted by the student will focus on the clinical management and outcomes of patients requiring emergent elective surgery. Studies can include prospective and retrospective studies.

Our goal is that by the end of this experience, the student understands the research process including idea development, literature review, protocol development, institutional review board (IRB) submission, data abstraction, data cleaning, abstract preparation, and manuscript preparation.

**Minimum level of education required:**

- M1

**Specific skills/training/education required:**

- The ideal candidate for this position will have successfully completed their first year of medical school and be interested in learning how clinicians combine medical practice with scholarly activity in their career.
- Previous experience in basic science research, clinical research, scientific writing, and scientific presentation are a plus but not required for an applicant to be successful.

**Student responsibilities:**

- Requirements
  - Attend all required training and complete credentialing.
  - Maintain communication with faculty and medical education. It is the responsibility of the student to reach out to the faculty with questions or concerns.
  - Attend specialty-related education as assigned.
- Objectives
  - The student will have the opportunity to work on multiple projects over the duration of the research fellowship.
  - These projects can include any of the following: literature review, protocol development, data collection, data cleaning, writing, and editing.
  - The student will also be expected to prepare a case report to be submitted to a Pub-Med indexed journal.

This experience **includes shadowing** opportunities.

**Title:** Emergency Department Operations Fellowship: Enhancing Efficiency, Patient Outcomes, and Healthcare Equity

**Number of candidate(s) who will be selected:** 2.

**Overview:** The student will work closely with an Emergency Medicine Physician Specialist and an Emergency Medicine/Critical Care Health Scientist to conduct various research studies. This experience also includes educational experiences with residents and other medical students and shadowing at our hospital based and satellite emergency department locations. The research conducted by the student will focus on emergency department operations. This type of research is critical to optimizing patient care in the face of increasing demand. Emergency departments (EDs) are often the first point of contact for individuals experiencing acute health crises, and they face a unique set of challenges, including high patient volume, time-sensitive decision-making, and the need for rapid triage and treatment. ED operations research helps improve patient care by improving our understanding of resource needs and allocation, workflow, and staffing patterns. This information allows healthcare systems to improve patient experiences including outcomes, wait times, and quality of care. It can also help healthcare systems identify and address critical disparities in care within its patient population.

Our goal is that by the end of this experience, the student understands the research process including idea development, literature review, protocol development, institutional review board (IRB) submission, data abstraction, data cleaning, abstract preparation, and manuscript preparation.

**Minimum level of education required:**

- M1

**Specific skills/training/education required:**

- The ideal candidate for this position will have successfully completed their first year of medical school and be interested in learning how clinicians combine medical practice with scholarly activity in their career.
- Previous experience in basic science research, clinical research, scientific writing, and scientific presentation are a plus but not required for an applicant to be successful.

**Student responsibilities:**

- Requirements
  - Attend all required training and complete credentialing.
  - Maintain communication with faculty and medical education. It is the responsibility of the student to reach out to the faculty with questions or concerns.
  - Attend specialty-related education as assigned.
- Objectives
  - The student will have the opportunity to work on multiple projects over the duration of the research fellowship.
  - These projects can include any of the following: literature review, protocol development, data collection, data cleaning, writing, and editing.
  - The student will also be expected to prepare a case report to be submitted to a Pub-Med indexed journal.

This experience **includes shadowing** opportunities.

**Title:** Assessment of the Role of COVID-19 Vaccine Acceptance on Acceptance of Recommended Vaccines in Pregnancy

**Minimum level of education required:**

- M1

**Specific skills/training/education required/desired:**

- Data collection/entry, cleaning, analysis; manuscript preparation

**Overview of Research Experience:**

The student will gain experience requesting data and communicating with Information Technology's data analytics team. The student will learn how to use REDCap, clean data and analyze data with the help of a biostatistician. Finally, the student will help prepare a scholarly manuscript.

**Student responsibilities:**

- Requirements
  - Attend all required training and complete credentialing.
  - Maintain communication with faculty and medical education. It is the responsibility of the student to reach out to the faculty with questions or concerns.
  - Attend specialty-related education as assigned.
- Objectives
  - The student will have the opportunity to work on multiple projects over the duration of the research fellowship.
  - These projects can include any of the following: literature review, protocol development, data collection and entry, data cleaning and analysis, writing, and editing on research specific final products.

This experience **does not include shadowing or operating room** opportunities.