

UNIVERSITY OF
South Carolina

School of Medicine Greenville

RESEARCH SYMPOSIUM ABSTRACT

November 20, 2026

SYMPOSIUM SCHEDULE

Lunch and Opening Remarks ..... **12:30 PM - 1 PM**
C. Dan Adams Lecture Hall

Phyllis MacGilvray, MD, FAAFP, DipABLM
Dean, University of South Carolina School of Medicine Greenville
Professor of Family Medicine

John M. Brooks, PhD
South Carolina SmartState Endowed Chair
Director, Center for Effectiveness Research in Orthopaedics
Professor of Health Services Policy and Management, Arnold School of Public Health

Oral Session I ..... **1 PM - 2 PM**
C. Dan Adams Lecture Hall

Poster Session I ..... **2 PM - 3 PM**
SOMG 1st Floor Corridor

Break ..... **3 PM - 3:15 PM**
Rotunda

Poster Session II ..... **3:15 PM - 4:15 PM**
SOMG 1st Floor Corridor

Oral Session II ..... **4:15 PM - 5 PM**
C. Dan Adams Lecture Hall

Awards and Closing Ceremony ..... **5 PM - 5:45 PM**
C. Dan Adams Lecture Hall

Shanu N. Kothari, MD, FACS, FASMBS
Clinical Chair of Surgery, University of South Carolina School of Medicine Greenville
Professor of Surgery

Sudha Garimella, MD, MBBS, FAAFP
Interim Associate Dean for Research
Associate Professor, University of South Carolina School of Medicine Greenville
Medical Director, Division of Pediatric Nephrology and Hypertension, Prisma Health





ORAL SESSION 1 | 1 PM - 2 PM

(by order of appearance)

Alanna Aga **Abstract 1**

Exploring Why Acanthamoeba Keratitis is More Common in Contact Lens Wearers

Katherine Fulmer **Abstract 8**

Beyond Survival: A Pilot Study of Remote Follow-up Feasibility and Evaluation of Psychosocial Factors in Long-Term Stroke Recovery

Carter Gentry **Abstract 41**

Assessing the Effects of a Quality Improvement Protocol on Pediatric Hypertension Referrals and Diagnostic Outcomes

Matthew Kim, MBS; Chloe Everard **Abstract 56**

Age-Dependent Differences in ASES and SANE Scores After Rotator Cuff Repair: The Role of Preoperative Scores and Tear Size

Cooper Schneider **Abstract 80**

Does Size Matter? A Matched Comparison of 400-µm and 600-µm Holmium Laser Fibers During HoLEP

ORAL SESSION 2 | 4:15 PM - 5 PM

(by order of appearance)

Brooke Olin **Abstract 5**

Differential Risk Factor Profiles by Sex in Acute Ischemic Stroke Patients Receiving Dual Antiplatelet Therapy

Allison Phelps **Abstract 40**

Improving Menopause Care Through Resident Education: A Standardized Menopause Educational Module for Resident Trainees

William Phipps, MBA **Abstract 104**

H pylori-negative Chronic Active Gastritis: Pathologic Diagnosis, Etiology, Diagnostic Methods, and Follow-up

Nicole Sopala **Abstract 59**

Improving Conceptual Understanding in Immunology with AI-Generated Practice Questions: Development and Evaluation Study

Elizabeth Tamura **Abstract 66**

Thulio Versus Moses 2.0: A Single-Institution Comparison of Perioperative Outcomes in Endoscopic Enucleation of the Prostate

Oral Session 1
Abstract 1

Alanna Aga



Authors
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University of South Carolina School of Medicine Greenville; Clemson University, Eukaryotic Pathogens Innovation Center

Mentor
Lesly Temesvari, PhD

Exploring Why Acanthamoeba Keratitis is More Common in Contact Lens Wearers

Background/Purpose
Introduction: Acanthamoeba castellanii (A. castellanii) is a free-living amoeba abundant in soil and water that causes Acanthamoeba keratitis (AK), a difficult-to-treat corneal infection leading to irreversible scarring and vision loss. Acanthamoeba keratitis occurs almost exclusively (85-95%) in contact-lens wearers, yet the mechanisms by which contact lens wear increases susceptibility-whether through mechanical trapping of the parasite, poor lens hygiene, and/or alterations in parasite physiology-remain poorly understood.

Purpose of Research: The hypothesis is that Acanthamoeba exposure to contact lens-derived plastics alters parasite physiology in a manner that enhances virulence against corneal cells, contributing directly to the elevated risk of AK among contact lens users. The objective of this project was to determine whether contact lens materials influence Acanthamoeba functions such as growth, encystation, or the ability to destroy corneal epithelial cells.

Methods
Acanthamoeba cells were exposed to commercial polystyrene microbeads (10µm; Fisher Scientific) as a surrogate microplastic material or contact lens particulate matter that was generated by grinding dried, previously worn contact lenses using a sterile mortar and pestle to produce contact lens dust. Exposed Acanthamoeba cultures were assessed for growth, encystation, and corneal epithelial cell cytotoxicity.

Results
Exposure of Acanthamoeba to polystyrene microbeads and contact lens-derived particulate material resulted in inhibition of parasite growth and inhibition of parasite encystation compared to untreated controls, though statistically significant inhibition was only seen for contact lenses and encystation. Acanthamoeba cultures exposed to polystyrene beads or contact lens dust were assessed for their ability to damage corneal epithelial cells, but the effects of these particles on amoeba-mediated host cell destruction were inconclusive.

Conclusions
Exposure to polystyrene microbeads or contact lens-derived particulate material inhibited growth and encystation but did not increase amoeba-mediated host cell cytotoxicity, suggesting that the tested plastics may not promote Acanthamoeba pathogenicity under the experimental conditions examined. Further studies are needed to evaluate whether different microplastic types, particle sizes, environmental conditions, or prolonged exposures may differentially influence amoeba biology and virulence.

Student research funding was provided by
Clemson EPIC MEnTOR Program

Poster Session I
Abstract 20

Chantel Aguirre



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Mentor
Caitlin Reynolds, MD

Language Concordant Diabetes Education in Pregnancy and its Effects on Health Outcomes

Background/Purpose
From 1980 to 2019, the US Census reported a threefold increase in the number of people in the US that speak a language other than English in the household. The current standard approach in providing care to Non-English speaking patients is using interpreter services. Non-English speaking patients may experience difficulties in navigating care for gestational diabetes, a common complication of pregnancy that has higher incidence in women of Hispanic, African American, and Asian/Pacific Islander descent. Another method of providing care to Non-English Speaking patients is through language-concordant care, or care that features communication with the patient in their primary language.

Objective. To evaluate the association between language-concordant prenatal care and patient satisfaction & clinical outcomes among Spanish-speaking pregnant patients with gestational diabetes.

Methods
Methods. We are conducting a retrospective cohort study of Spanish-speaking pregnant patients receiving prenatal and diabetes care at Prisma Health's OB/GYN center between January 1, 2020, and December 31, 2025. Eligible patients will be classified into language-concordant (Spanish-speaking provider) and non-concordant (non-Spanish-speaking provider with interpreter services) groups. We anticipate a sample size of approximately 200 patients. Outcomes in question include individual adverse maternal outcomes (e.g, delivery, attendance of postpartum diabetes mellitus screening), neonatal outcomes (e.g, NICU admission, birth weight, APGAR scores, hypoglycemia, respiratory distress), and patient satisfaction and perception of prenatal diabetes care.

Results
Anticipated conclusions: This study is in the chart review and data collection stage, with preliminary identification of eligible patients completed. We expect that language-concordant care will be associated with higher patient satisfaction and improved adherence-related outcomes, potentially informing strategies to optimize care for Non-English-speaking patients with gestational diabetes.

Conclusions
Work in progress

Student research funding was provided by
Scholars Fellowship Award, School of Medicine Greenville

Poster Session I
Abstract 96

Leah C. Andrews, MS



Authors
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Mentor
Anat Erdreich-Epstein, MD

Modeling H3K27M Diffuse Midline Glioma-Microglia Interactions in 2D and 3D Coculture Systems

Background/Purpose
Diffuse midline gliomas (DMG) are lethal pediatric high-grade gliomas. Approximately 80% of DMGs carry a histone H3 lysine-to-methionine (K27M) substitution. Tumor-associated macrophages including CNS-resident microglia and infiltrating monocyte-derived macrophages are abundant within DMGs. However, their spatial distribution and role in H3K27M DMG tumor microenvironment are only partly understood.

Methods
H3K27M-mutant murine glioma cell lines derived from autochthonous MADR intracranial tumors were mixed with an immortalized murine microglia cell line (SIM-A9) in 2D and 3D cocultures to investigate tumor-microglia interactions. MADR tumor cells were tracked by their constitutively expressed enhanced green fluorescent protein (eGFP) and microglia were labeled with CellTrackerRed fluorescent dye. Cultures were monitored using the Incucyte live-cell imaging system. Sectioned MADR brain xenografts were imaged by confocal fluorescence microscopy to assess microglia abundance and distribution.

Results
Confocal imaging of H3K27M glioma-containing murine brain sections demonstrated marked microglia abundance within the tumor. Longitudinal monitoring of 2D and 3D tumor-microglia cocultures demonstrated increased cell number and cultured spheroid size over time under both conditions. Development of an image-segmentation workflow to enable quantification of microglia number, spatial distribution and morphology within tumor-bearing brain sections is ongoing.

Conclusions
The newly developed coculture platform supports longitudinal evaluation of H3K27M DMG with immune cells. Confocal imaging paired with quantitative image segmentation allows to characterize microglia abundance, localization, and activation state within the DMG microenvironment. Future work will utilize this model to define how therapeutics effect the tumor cells, immune cells and their interactions.

Poster Session II
Abstract 60

Leah C. Andrews, MS



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Mentor
Howard Silberstein, MD

Timing of Ventriculosubgaleal Shunt Placement and Conversion to Permanent Ventriculoperitoneal Shunt in Neonates: A Systematic Review

Background/Purpose
Ventriculosubgaleal (VSG) shunts are an advantageous method to reduce intracranial pressure in neonates with hydrocephalus secondary to intraventricular hemorrhage (IVH). Neonates with VSG shunts experience lower rates of infection and mechanical obstruction compared to alternative temporizing strategies, along with a delay in permanent ventriculoperitoneal (VP) shunts placement.

Methods
This systematic review was conducted in accordance with PRISMA guidelines. 123 articles were screened for this review; 23 studies met initial eligibility criteria, and 9 studies were ultimately included in the final analysis. A total of 341 neonates were assessed across the included retrospective institutional studies, with a mean gestational age at birth of approximately 28.2 weeks.

Results
Pooled infection and CSF leak rates among VSG shunt patients was 10.6% and 6.2% respectively. The mean chronological age at VSG was 32.6 days, and the mean rate of conversion to permanent VP shunt was 82.2%. A weak, non-significant positive correlation was observed between chronological age at VSG shunt placement and rate of conversion to permanent VP shunt ($r=0.26$, $p=0.49$).

Conclusions
VSG shunt placement demonstrates an acceptable complication profile and remains a widely used temporizing strategy for IVH management in preterm neonates, though most patients ultimately require conversion to permanent VP shunting. No significant relationship was found between timing of VSG shunt placement and likelihood of permanent shunt conversion, suggesting that the need for definitive shunting may be driven more by underlying disease severity than by the timing of temporization itself. Further analysis of multicenter studies with standardized outcome definitions are needed, with consistent reporting of postnatal age at VSG shunt placement to allow direct comparison of intervention timing and clarify its relationship to long-term outcomes.

Student research funding was provided by
Scholars Fellowship Award, School of Medicine Greenville

Poster Session II
Abstract 18

Kylie Artosky



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Mentor
Thomas Nathaniel, PhD

Sex-Specific Risk Factor Profiles Among Patients with Acute Ischemic Stroke and Peripheral Vascular Disease

Background/Purpose
Peripheral vascular disease (PVD) reflects systemic atherosclerotic disease and may contribute to the vascular risk burden among patients with acute ischemic stroke (AIS). Sex differences in cardiovascular comorbidities, metabolic factors, and clinical characteristics may further contribute to heterogeneity within this high-risk population. However, the factors distinguishing male and female patients with concurrent AIS and PVD remain incompletely characterized. Identifying these differences may improve individualized risk assessment and inform strategies for stroke prevention and management. This study aimed to identify demographic and clinical factors independently associated with sex among patients with AIS and PVD.

Methods
We conducted a retrospective cohort analysis using data from a stroke registry collected between January 2010 and December 2016. The overall study population included 7,749 patients diagnosed with ischemic stroke. Demographic characteristics, vascular risk factors, medical comorbidities, medication use, laboratory parameters, and functional characteristics were evaluated. Univariate analyses were initially performed to identify differences between male and female patients. Multivariable logistic regression was subsequently used to identify factors independently associated with sex among AIS patients with PVD. Adjusted odds ratios (aORs) and 95% confidence intervals (CIs) were calculated to quantify the magnitude and direction of each association.

Results
In the adjusted logistic regression analysis, ischemic stroke patients with PVD that present with heart failure, migraine, antidepressant prior to admission, improvement in ambulation, age > 80, triglycerides >200 were more likely to be females ($p<0.05$). In contrast, ischemic stroke patients with PVD that present with hypertension, antithrombotic on day 2, HDL > 40, serum creatinine > 1.3 were more likely to be males ($p<0.05$).

Conclusions
AIS patients with PVD demonstrated distinct sex-specific clinical profiles after multivariable adjustment. Female sex was characterized by associations with heart failure, migraine, prior antidepressant use, older age, triglyceride elevation, and functional improvement, whereas male sex was associated with hypertension, early antithrombotic therapy, HDL cholesterol >40 mg/dL, and elevated serum creatinine. These findings identify clinically relevant vascular, metabolic, functional, and treatment-related differences between male and female AIS patients with PVD. Recognition of these sex-specific profiles may support more individualized risk-factor assessment and management.

Student research funding was provided by
Scholars Fellowship Award, School of Medicine Greenville

Caroline Bailey

Poster Session II
Abstract 54



Authors
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Mentor
David Westberry, MD

Comparison of Talonavicular Fusion with and Without Lateral Column Procedures for Planovalgus Deformity in Cerebral Palsy

Background/Purpose
Pes planovalgus is a common and progressive deformity in children with cerebral palsy, resulting from spasticity-related muscle imbalance and leading to multiplanar foot malalignment. Although joint-sparing reconstruction can restore alignment, durability remains a concern in patients with more severe deformities and lower functional levels. Talonavicular fusion has demonstrated promising outcomes; however, the role of adjunctive lateral column procedures remains unclear. This study compares isolated talonavicular fusion with talonavicular fusion combined with lateral column lengthening or calcaneocuboid fusion in children with cerebral palsy.

Methods
A retrospective cohort study was conducted of children aged 10-18 years who underwent talonavicular fusion, with or without an adjunctive lateral column procedure, between 2010 and 2025. Radiographic outcomes, including the anteroposterior and lateral talo-first metatarsal angles, calcaneal pitch, talocalcaneal angle, and tibial-calcaneal angle, were assessed preoperatively and at latest postoperative follow-up. Minimum clinical and radiographic follow-up was 24 and 6 months, respectively. Between-group comparisons were performed using unequal-variance t-tests with step-down Bonferroni adjustment, while repeated-measures models evaluated changes over time and differences between treatment groups.

Results
Sixty-one patients (99 feet) met inclusion criteria, with a mean age at surgery of 13.1 ± 2.0 years. Mean clinical and radiographic follow-up were 3.0 and 2.2 years, respectively. Nineteen feet underwent isolated talonavicular fusion, 47 underwent talonavicular plus calcaneocuboid fusion, and 33 underwent talonavicular fusion with lateral column lengthening. All three cohorts demonstrated radiographic correction to within normal values, with no significant postoperative differences between groups. Complications were infrequent. Wound dehiscence with infection occurred in 3 patients, while persistent talonavicular lucency was observed in 6 feet, none of which required revision. Symptomatic nonunion requiring revision occurred in 2 talonavicular joints and 1 calcaneocuboid joint.

Conclusions
Talonavicular fusion, performed alone or in combination with lateral column procedures, provided reliable radiographic correction with low complication rates in children with cerebral palsy. No significant differences in postoperative radiographic outcomes were observed between treatment groups. Procedure selection should be individualized based on deformity severity, functional level, and intraoperative reducibility.

Poster Session I
Abstract 63

Halle Bailey



Authors
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Mentor
Jacob Bailey, MS

Knee Disarticulation in Patients with Tibial Deficiency: A Multicenter Review of Functional and Surgical Outcomes

Background/Purpose
Tibial deficiency encompasses a spectrum of congenital lower extremity abnormalities in which a child is born with an absent or shortened tibia, resulting in severe limb deformity and functional impairment. In severe cases, knee disarticulation may provide a stable limb for prosthetic fitting and facilitate ambulation. Limited date describes long term functional outcomes and postoperative complications in this population. This study evaluates surgical characteristics, wound healing, subsequent procedures, prosthetic use, and functional outcomes following knee disarticulation in patients with tibial deficiency.

Methods
A retrospective cohort study was conducted at a single pediatric center using data from nine affiliated hospitals. Patients who underwent knee disarticulation between January 1, 2008 and July 15, 2025 were identified. Patients with prior major ipsilateral lower extremity surgery unrelated to knee disarticulation were excluded. Demographics, surgical indications, postoperative complications, mobility status, prosthetic use, and Patient-Reported Outcomes Measurement Information System (PROMIS) measures were abstracted from the medical record.

Results
76 patients with tibial deficiency underwent knee disarticulation, including 49 males and 27 females; 9 also had a bifid femur. 56 patients underwent unilateral, 17 bilateral, and 3 staged bilateral procedures. Mean age at index surgery was 2.21 ± 1.88 years, with mean follow-up of 7.62 ± 3.95 years.

Routine wound healing occurred in 50 patients, while 26 experienced delayed wound healing or wound dehiscence; 7 requiring operative management. 26 patients (34%) underwent subsequent surgical procedures. Most patients ambulated using prosthetic limbs at latest follow-up. 71 patients were ambulatory, 3 primarily used a wheelchair, and 2 lacked ambulation documentation. 16 patients reported pain. Among 20 patients undergoing bilateral procedures, 14 used stubbies, and 1 was fitted but did not use them. PROMIS data included 471 scores from 36 unique patients, demonstrating moderate mobility, low pain intensity, moderate pain interference, and strong peer relationships.

Conclusions
Knee disarticulation in patients with tibial deficiency can facilitate functional mobility, with most patients achieving long term prosthetic ambulation, routine wound healing, and low pain levels. However, subsequent procedures and wound complications remain common. These findings support knee disarticulation as a functional treatment option for severe tibial deficiency.

Poster Session II
Abstract 14

Palmer Ball, MS



Authors
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Mentor
Senthuran Ravindran, MD

Hypernasal Speech and Cervical Adenopathy in a 6-year-old Boy

Background/Purpose
Burkitt lymphoma (BL) is the most common pediatric non-Hodgkin lymphoma and is characterized by rapid growth, high proliferative activity, and MYC gene rearrangement. While sporadic BL most commonly presents with abdominal disease, head and neck involvement may occur and can mimic common infectious processes. This case highlights an unusual presentation of BL as a nasopharyngeal mass causing upper airway symptoms and bilateral cervical lymphadenopathy.

Methods
Initial laboratory evaluation demonstrated a normal complete blood count, comprehensive metabolic panel, lactate dehydrogenase, uric acid, and inflammatory markers apart from a mildly elevated erythrocyte sedimentation rate. Broad infectious testing, including Epstein-Barr virusrtonella, HIV, mumps serologies, and tuberculosis screening, was unrevealing. Computed tomography of the neck demonstrated bulky bilateral cervical adenopathy and a posterior nasopharyngeal soft tissue mass. Otolaryngology performed nasal endoscopy, which revealed a large exophytic nasopharyngeal mass extending into the bilateral choanae. Biopsy and partial debulking were performed. Histopathology demonstrated CD20-positive, CD10-positive B cells with a Ki-67 proliferation index greater than 95%. Additional testing identified a MYC rearrangement, confirming Burkitt lymphoma.

Results
This case illustrates an uncommon presentation of Burkitt lymphoma masquerading as persistent cervical lymphadenitis. Despite having a highly aggressive malignancy, the patient lacked constitutional symptoms, significant laboratory abnormalities, and evidence of disseminated disease. The development of hypernasal speech, mouth breathing, snoring, and hearing changes reflected progressive nasopharyngeal obstruction and ultimately prompted further evaluation. Staging studies demonstrated disease confined to the nasopharynx and regional cervical lymph nodes. The patient was treated with an R-COPADM chemotherapy regimen consisting of rituximab, cyclophosphamide, vincristine, prednisone, doxorubicin, and methotrexate. He tolerated initial therapy well and continues treatment under pediatric hematology-oncology follow-up.

Conclusions
This case highlights an unusual presentation of pediatric Burkitt lymphoma as a nasopharyngeal mass causing bilateral cervical lymphadenopathy and progressive upper airway obstruction. New-onset hypernasal speech, worsening nasal obstruction, mouth breathing, snoring, and hearing changes in conjunction with persistent adenopathy should raise suspicion for nasopharyngeal pathology. Importantly, aggressive pediatric malignancies may present without constitutional symptoms or significant laboratory abnormalities, emphasizing the importance of maintaining a broad differential diagnosis when symptoms fail to improve with standard therapy.

Poster Session II
Abstract 83

Jada Banks, MBS



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Mentor
Jennifer L. Trilk, PhD, FACSM, DipACLM

Objective Physical Activity Assessment in a Clinic-to-Community Exercise Referral Program: A Pilot Study

Background/Purpose
Exercise is Medicine Greenville (EIMG) is a clinic-to-community referral program that partners with local YMCA facilities to provide individualized exercise programming for patients who are physically inactive and/or have controlled chronic diseases. Previous evaluations of EIMG have demonstrated improvements in clinical outcomes; however, physical activity levels and sedentary behaviors have not been objectively measured. This pilot study evaluates the feasibility of integrating wrist-worn accelerometers into EIMG to objectively characterize baseline PA and sedentary behavior, while comparing objective and self-reported PA measures.

Methods
From July 6, 2026 to September 8, 2026, patients were referred to EIMG by physicians at partnering Prisma Health clinics. Subjective PA was assessed using the three-question Physical Activity Vital Sign and the EIMG Referral Coordinator connected patients with local YMCA facilities. Patients interested in the accelerometry study received a waiver of documentation of informed consent letter and an accelerometer at EIMG orientation.

Objective PA assessments will be completed using a wrist-worn ActiGraph wGT3X-BT accelerometer worn on the patient's non-dominant wrist for seven days. Data will be collected at a 30-Hz sampling rate captured with 60-second epochs and processed in ActiLife7 using the Choi automated wear-time algorithm and Montoye (2020) wrist-worn cut points. Valid wear will be defined as ³10 hours/day on ³4 of 7 monitoring days. Participants will document sleep and non-wear periods.

Results
Of 29 eligible patients contacted, 9 verbally agreed to participate in the accelerometry study. Two participants could not be reached, two declined at orientation, two completed baseline assessments, and three are scheduled for orientation. Participants reported contributing to future patient care as a motivation, while reasons for declining included concerns of data privacy and time constraints. Accelerometry data from at least two representative participants will be presented alongside recruitment findings.

Conclusions
This pilot study will identify practical approaches to improve patient engagement with accelerometry and provide objective measures of PA upon EIMG entry. Findings will inform future studies integrating objective PA assessment into clinic-to-community exercise referral programs. This study will also advance standardized approaches to wrist-worn accelerometer data processing and analysis.

Student research funding was provided by
Scholars Fellowship Award, School of Medicine Greenville

Poster Session I
Abstract 109

Kasey Battle



Authors
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Mentor
Mirinda Gormley, PhD

Association Between Comprehensive Case Management and ED Utilization Among Postpartum Women with Substance Use Disorders

Background/Purpose
With the rising increase in substance use disorder (SUD) among pregnant individuals, it has become a leading cause of death among postpartum individuals with most deaths occurring within one year postpartum. The purpose of this study is to examine pregnancy and treatment outcomes in patients within a comprehensive care program that provides antepartum and postpartum care for patients with substance use disorder in Greenville, South Carolina.

Methods
In this population-based study, we reviewed electronic medical records through Epic to identify pregnancy events from Prisma Health's Greenville Magdalene Clinic and SEEDS program, which provide perinatal care for pregnant individuals with a documented SUD or history of SUD. Patients were included in the study if they established and received care from the Magdalene Clinic and subsequently referred to the SEEDS program during a pregnancy event between 2018 and 2026. Patients were eligible if they were seen by the Greenville Magdalene Clinic, followed by an associated clinician, and had a documented substance use history. Patients who established care with the Magdalene Clinic only composed the control study group and pregnancy outcomes were compared to patients who established care with the Magdalene Clinic and were further eligible for and referred to the SEEDS program.

Results
We hypothesized that SEEDS program patients would be less reliant on the emergency department for perinatal care, more often present with positive treatment outcomes, and have better program retention rates and visit attendance than patients enrolled in the Magdalene Clinic alone. After data analysis is completed, results will show the association between SEEDS and Magdalene Clinic enrollment and ED visits throughout pregnancy as one of the primary measures. We will also evaluate the dose effect of SEEDS visits on patient outcomes with the hypothesis that the more visits patients attended, the better their outcomes would be.

Conclusions
This study will add to the existing body of literature an evaluation of a comprehensive care program for perinatal individuals with substance use disorder. In the future, studies may include a spatial analysis of patients that enroll in these programs and social determinants of health that affect both program retention and healthcare outcomes.

Student research funding was provided by
Scholars Fellowship Award, School of Medicine Greenville

Allison Beiter

Poster Session II
Abstract 102



Authors
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Mentor
Tim Large, MD

Retrospective Comparison of Irrigation Management Systems during Endoscopic Enucleation of the Prostate

Background/Purpose
Endoscopic enucleation of the prostate (EEP) is an established treatment for benign prostatic hyperplasia. Continuous irrigation supports visualization, hemostasis, and efficient enucleation. Despite advances from gravity-based to heated, pump-regulated irrigation systems, their impact on perioperative outcomes remains unclear.

Objective: To compare operative performance and perioperative outcomes during EEP among three irrigation systems: gravity-fed Y-tubing, Thermedx, and ThermaClear.

Methods
A retrospective, single-surgeon cohort included patients undergoing Thulio laser EEP from February 1, 2024 onward, grouped by irrigation system. Continuous and categorical variables were compared using Kruskal-Wallis and Pearson chi-square tests, respectively. Multivariable regression analyses evaluated total hemostasis time and hospital admission, respectively, using Y-tubing as the reference irrigation group. The preliminary models adjusted for fellow involvement, urinary retention, relevant comorbidities, and specimen wet weight.

Results
Preliminary analyses demonstrated differences in operative outcomes across irrigation systems. ThermaClear was not independently associated with increased hemostasis time compared with Y-tubing after adjustment for relevant patient and procedural factors. Fellow involvement differed substantially across irrigation groups and was associated with hemostasis time, identifying trainee participation as a potential confounder. Analyses are being repeated in a cohort excluding fellow-involved cases to investigate this potential confounding.

Conclusions
Preliminary findings do not demonstrate an independent association between ThermaClear and increased hemostasis time compared with Y-tubing. Differences in fellow involvement across irrigation groups may confound observed operative outcomes. Ongoing analyses with a dataset excluding fellow-involved cases will further evaluate the independent association between irrigation system and perioperative outcomes during EEP.

Student research funding was provided by
Scholars Fellowship Award, School of Medicine Greenville

Bsmla Berber
Caitlin Ulmer

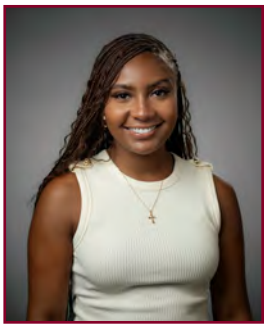
Poster Session I
Abstract 75

Authors
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Mentor
Amy Crockett, MD





Cefoxitin Compared with Standard Antibiotic Therapy for Maternal Fever Duration in Pregnant Patients with Clinical Chorioamnionitis

Background/Purpose
Clinical chorioamnionitis is an intra-amniotic infection characterized by maternal fever with or without additional clinical signs including fundal tenderness, purulent cervical discharge, and fetal tachycardia. The American College of Obstetricians and Gynecologists recommends ampicillin and gentamicin, with clindamycin or metronidazole in the setting of cesarean delivery, as the standard multidrug treatment for chorioamnionitis. Without appropriate treatment, chorioamnionitis increases the risk of maternal and neonatal morbidity, including postpartum endometritis and neonatal sepsis. Although cefoxitin monotherapy has emerged as an alternative to the multidrug regimen, its impact on maternal fever resolution has not been well described. Our objective is to compare maternal fever duration after antibiotic initiation among patients with clinical chorioamnionitis treated with cefoxitin versus the multidrug regimen.

Methods
This retrospective cohort study included patients treated for clinical chorioamnionitis within the South Carolina Prisma Health system. Patients receiving the multidrug regimen were compared with those receiving cefoxitin monotherapy. Demographic, obstetric, and clinical data were extracted from the electronic medical record. The primary outcome was maternal fever duration after antibiotic initiation, reported as median hours with interquartile ranges (IQR). Baseline characteristics and fever duration were compared between treatment groups.

Results
Among 1,147 patients, 939 (81.9%) received the multidrug regimen, and 208 (18.1%) received cefoxitin. Baseline characteristics were similar between groups, although patients receiving cefoxitin had higher rates of hypertensive disorders of pregnancy (37.5% vs. 26.5%, p=0.002), beta-lactam allergy (7.7% vs. 1.4%, p<0.001), longer duration of rupture of membranes (15.0 vs. 14.0 hours, p=0.02), and longer duration of broad-spectrum antibiotic treatment before delivery (2.6 vs. 1.4 hours, p<0.001). Median fever duration after antibiotic initiation did not differ significantly between the multidrug regimen and cefoxitin groups (1.9 [IQR 1.1-5.0] vs. 2.2 [IQR 1.5-4.2] hours, p=0.78).

Conclusions
Cefoxitin monotherapy was not associated with a statistically significant difference in maternal fever duration compared to the multidrug regimen. These findings support cefoxitin monotherapy as a potential alternative treatment option for chorioamnionitis, with comparable maternal fever resolution to the multidrug regimen.

Student research funding was provided by
Scholars Fellowship Award, School of Medicine Greenville

Poster Session I
Abstract 81

Madalyn Bergman



Authors
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Mentor
John Absher, MD, FAAN

Investigation of Sex-Stratified Neuroanatomical Connectivity in Parkinson's Disease Using DTI-based Tractography

Background/Purpose
Parkinson's Disease (PD) is the second most common neurodegenerative disorder, affecting 0.15% of the population worldwide. PD pathogenesis involves the loss of dopaminergic neurons, presenting clinically with considerable variability in motor impairments and disease progression. Current patient classification based on clinical observations of motor and non-motor symptoms results in variable PD subtype categorization and fails to reflect underlying biological mechanisms associated with disease prognosis. Previous research on structural connectivity has suggested that disruptions in the neural connectome may correlate with specific clinical manifestations of PD. As such, this study aims to investigate sex-related structural connectivity variations using diffusion tensor imaging (DTI) tractography to better understand unique pathophysiologies of PD, aiding in the development of more effective, targeted clinical treatment.

Methods
DTI data from 179 PD subjects were extracted from the Parkinson Progression Marker Initiative (PPMI). Diffusion Spectrum Imaging (DSI) Studio batch processing tools refined and removed scans with low-quality or missing data. The "ICBM152_adult" atlas was utilized to generate DTI metrics for 61 pre-selected white matter (WM) tracts using DSI Studio's "Automatic Fiber Tracking" function. After excluding WM tracts and participant scans with missing values (to minimize skew), 145 PD subjects and 39 WM tracts remained. Sex-stratified correlation matrices were constructed to evaluate the association between the Unified Parkinson's Disease Rating Scale (MDS-UPDRS) symptom scores and WM tract patterns in Posit (RStudio).

Results
Using correlation values ³0.30, 16 models (15 female, 1 male) were generated to predict motor symptom severity using DTI metrics for ³2 correlated WM tracts. Logistic regression analyses assessed the accuracy of each WM tract model; 80% of the data were used for model training, and the remaining 20% were used for model evaluation. Confusion matrices generated for each model demonstrate variable (60-90%) model accuracy, suggesting that specific sex-stratified WM connectome patterns may be predictive of PD motor symptomatology.

Conclusions
These preliminary results illustrate the importance of sex-stratified PD research and a potential future in DTI to predict PD symptomatology and severity in a clinical context.

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Poster Session II
Abstract 78

Madalyn Bergman



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A Socially Accountable Approach to Improving Food Literacy Among Recently Housed Individuals in Greenville, South Carolina

Background/Purpose
Background: Food literacy describes the ability of an individual to obtain, understand, and integrate nutritional information to make informed food choices that promote health. While seemingly simple, numerous systemic and socioeconomic factors pose barriers to healthy eating. Commonly cited examples of barriers include education level, numerical literacy, income, transportation, and access to healthcare. Long-term poor dietary habits stemming from limited food literacy are associated with negative health outcomes and chronic health conditions, which can further exacerbate health inequities faced by under-resourced populations. In the United States, unhoused and recently housed individuals disproportionately experience barriers to food literacy and nutrition access, increasing their chronic health burden and exposure to health inequity.

Objective: This project aims to improve food literacy among recently housed individuals in Greenville, South Carolina. A socially accountable approach will guide this project through sustained community involvement and collaboration with diverse stakeholders to promote health equity.

Methods
Study Design: In collaboration with social workers, individuals with lived experience of being unhoused, medical students, and physicians, a 60-minute nutrition education session will be developed for small groups of individuals currently residing in transitional housing. During each session, participants will receive a microwave-friendly recipe cookbook to facilitate discussion and instruction on macronutrients, micronutrients, and nutrition label interpretation. Cookbooks were funded through the Office for Culture, Access, & Stakeholder Engagement at the University of South Carolina School of Medicine Greenville. The interplay between food and health will also be discussed, with particular emphasis on how nutrition impacts hypertension, hyperlipidemia, and diabetes. Conversations will be tailored to meet the unique needs of transitional housing residents, including discussions on grocery store layouts and strategies for purchasing affordable, nutritious foods.

Results
At the conclusion of educational sessions, focus groups will be conducted to assess changes in participants' food literacy and gather feedback on the educational intervention. Qualitative content analysis will be used to identify key themes and patterns within participant responses. Educational sessions will commence in October 2026.

Conclusions
This project highlights the potential of community-engaged nutrition education to improve food literacy and reduce nutrition-related health inequities among individuals in transitional housing in Greenville, South Carolina.

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Poster Session I
Abstract 69

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Assessing the Impact of Pulmonary Embolism Thrombectomy Before and After the Implementation of a PE Response Team (PERT)

Background/Purpose
Pulmonary embolism (PE) is a potentially life-threatening condition that requires timely diagnosis and management to reduce morbidity and mortality. Mechanical thrombectomy has emerged as an important treatment option for select patients with intermediate-high and high-risk PE. A multidisciplinary pulmonary embolism response team (PERT) model is intended to facilitate rapid evaluation, coordinated decision-making, and timely intervention for patients with acute PE. Studies have demonstrated improvements in metrics such as hospital and ICU length of stay and procedural outcomes in patients undergoing mechanical pulmonary thrombectomy versus standard anticoagulation, with some showing improvement in mortality compared to pharmaceutical thrombolytic therapy. In other studies, improvements in right ventricular function and hemodynamic parameters following thrombectomy have also been reported. Historically, there was not a standard approach to decision-making for patients with PE. Consequently, this underscores the potential value of multidisciplinary PE management and the need for further institution-specific outcomes research. This retrospective cohort study seeks to compare clinical outcomes of patients undergoing thrombectomy before and after PERT implementation at a single institution, with the pre-PERT cohort spanning April 2022 through January 2024 and the post-PERT cohort spanning January 2024 through May 2025. Outcome measures include hospital length of stay, mortality, procedural morbidity, and changes in pulmonary artery pressures following thrombectomy.

Methods
The study team is currently engaged in chart review and data abstraction, including collection of demographics, clinical, and echocardiographic data within a REDCap database. Variables include patient demographics, comorbid conditions, hospital length-of-stay, mortality, procedural complications, and pulmonary artery pressures before and after thrombectomy. Data will be analyzed by a Prisma Health biostatistician.

Results
As data collection remains ongoing, no study results are available at this time. We hypothesize that PERT implementation will be associated with improved patient outcomes, including shorter hospital stays, lower mortality rates, reduced procedural morbidity, and greater improvement in pulmonary artery hemodynamics.

Conclusions
Should these hypothesized benefits be demonstrated, the findings may provide additional support for broader adoption of the PERT model as a strategy to improve the quality of care for patients with acute intermediate-high and high-risk PE.

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Poster Session II
Abstract 57

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Feeding Beyond the Threshold: Outcomes of Expanded Home NGT Eligibility

Background/Purpose
Delayed oral feeding can prolong neonatal intensive care unit (NICU) hospitalization. Home enteral feeding programs have helped address this issue; however, the comparative evidence and selection criteria for infants receiving a nasogastric tube (NGT) versus gastrostomy tube (G-tube) are limited. In 2023, University of Rochester Medical Center removed its 40% oral intake requirement for home NGT discharge. This study evaluated NGT weaning outcomes, including among infants taking <40% orally, and compared post-discharge safety between NGT and G-tube cohorts.

Methods
We retrospectively reviewed infants discharged from our level IV NICU with an NGT or G-tube from September 1, 2019, through January 31, 2025. Data were obtained from a prospective database and electronic medical records. Infants were followed one year post-discharge. Patients were excluded if transferred before discharge, lost to follow-up, had gastrointestinal indications for G-tube placement, or were tube-fed for non-nutritional indications only. Descriptive statistics and chi-square tests were performed.

Results
The preliminary cohort included 320 infants: 237 (74.1%) discharged with NGT and 83 (25.9%) with a G-tube. Overall, 82.3% of infants discharged home with NGT feeding achieved full oral feeds within one year; the median time to NGT weaning was 0.9 months. Within one year, 60.0% of infants taking no feeds orally at discharge achieved full oral feeding, compared with 87.7% of infants taking ³40% orally and 88.7% taking >0% to <40% orally. Infants taking no feeds orally were significantly less likely to achieve full oral feeding than infants in either oral-intake group (both $p<0.01$). By one year, 10.5% of NGT recipients had a G-tube placed. Compared with the G-tube cohort, the NGT cohort had lower rates of overall ED visits (24.9% vs 68.7%), tube-related ED visits (2.1% vs 32.5%), and respiratory events (10.5% vs 39.7%) (all $p<0.01$).

Conclusions
Most infants discharged with an NGT achieved full oral feeding within one year, including 60% of those taking no feeds orally at discharge. Tube-related complications were uncommon and occurred less frequently in the NGT group compared with the G-tube group. These findings support broader inclusion of infants in home NGT programs. Further study should identify predictors of NGT-weaning failure.

Poster Session II
Abstract 92

Marge Bilokin



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Analyzing the Representativeness and Characteristics of Menstrual Tracking Apps in Relation to the United States Female Population

Background/Purpose
Menstrual tracking apps have become an increasingly popular tool for monitoring reproductive health and a valuable data source for women's health research. However, it remains unclear whether app users are representative of the US female population, which determines whether findings from these data can guide care for all women.

Methods
We compared demographic, reproductive, and socioeconomic data from seven published US-based studies representing six menstrual tracking apps: Natural Cycles, Flo, Apple Women's Health, Ovia Fertility, Dynamic Optimal Timing (Dot), and Clue. Studies included women of reproductive age; age ranges varied by study. Age, race/ethnicity, marital/relationship status, educational attainment, income, and current and prior contraceptive use were compared with survey-weighted National Survey of Family Growth (NSFG) 2022-2023 data for US females aged 18-44. Variables reported by at least two apps were included, and categories were harmonized. Comparisons were descriptive.

Results
App users were similar in age to US females (mean/median age, 26.0-33.6 vs. 31.0 years) but generally more often partnered (married or in a relationship). Most app users were White (54%-78%), and Hispanic users were underrepresented in all five apps reporting ethnicity (12%-17% vs. 21.4%). App users were also more highly educated, with post-secondary education exceeding the rate among US females (68.0%) in all but one app. Income was reported by only two apps; Flo users more often earned less than $50,000 (61% vs. 40%), while Ovia users more often earned $50,000-$99,999 (38% vs. 27%). Among the two apps reporting contraceptive use, users relied more on male condoms and less on IUDs and injection, ring, patch, or implant methods than US females; Clue users more often used fertility awareness-based methods.

Conclusions
Overall, app users were more often partnered and more highly educated than US females, while their racial/ethnic, income, and contraceptive composition varied by app. Findings from menstrual tracking data may not generalize to all US females and should be interpreted in the context of each app's user population. Inconsistent demographic, socioeconomic, and reproductive health reporting across studies limited comparison and highlights the need for standardized reporting.

Poster Session II
Abstract 79

Khushi Bimbrahw



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Looking Between the Spines: Ultrasound Assessment of Gravid Sea Urchins

Background/Purpose
Sea urchins have long been used as a model for studying fertilization and early embryonic development because of their external fertilization and transparent embryos. Their gametes have been crucial in foundational discoveries of developmental biology. Because these studies depend on obtaining fresh gametes, identifying reproductively mature (gravid) adults is essential. Current methods induce gamete release via potassium chloride (KCl) injections; however, this approach provides no prior indication of an individual's sex or reproductive status and results in inefficient use of the animals. Our project addresses this gap by developing a non-invasive ultrasonographic method to assess sea urchin reproductive status.

Methods
Adult sea urchins (Lytechinus variegatus) ordered from Sea Critters of the Florida Keys (N=18) were imaged using a high-frequency ultrasound probe (Sonosite PX L19-5) on the ocular setting to assess the internal gonads. Built-in ultrasound tools were used to measure gonad length and width. We collected gametes from sea urchins after injecting 0.5 M KCl and remeasured the gonads post-spawning

Results
Due to variable gonad shape and the novel nature of this methodology, both cylindrical and ellipsoid volumetric calculations were done for each gonad using the length and width measurements taken during scanning. All statistical tests were done for both shapes. The data are non-Gaussian and therefore underwent logarithmic transformation prior to conducting Wilcoxon tests and Welch's t-tests. There is a significant difference in gonad volume pre- and post-KCl injection in both gravid and nongravid urchins (both shapes: $p=0.0021$, $p=0.0156$). There is also a difference between volumes of gravid and nongravid urchins (both shapes: $p=0.0466$). The data did not demonstrate significant differences between male and female urchin gonad volumes.

Conclusions
The ability to detect changes pre- and post-KCl injections and between gravid and non-gravid sea urchins means that ultrasound scanning is a viable methodology for urchin gravidity determination. Further studies are needed to increase the sample size and refine and validate the ultrasound protocols based on what we have learned. Our goal is providing a practical tool to improve the efficiency of sea urchin research while reducing unnecessary animal use.

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Poster Session I
Abstract 77

Camryn Briggs



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Genotype Positive Non-Ischemic Cardiomyopathy: A Single-Center Retrospective Cohort of 205 Adults with Pathogenic or Likely Pathogenic Variants

Background/Purpose
Nonischemic cardiomyopathy (NICM) sets a precedent for potential clinical deterioration into conditions such as heart failure, arrhythmias, and sudden cardiac death. Prompt diagnosis, risk stratification, and early treatment play pivotal roles in patient prognosis. Diagnosing NICM comes with challenges due to its non-specific symptoms, overlap with other conditions, and incomplete family histories. This has elicited the need to evaluate the relationship between genetics and NICM; striving to minimize the time patients go without appropriate treatment. Genetic variants are detected in ~40 % of patients who have end stage NICM (Pugh et al., 2014). The current NICM genetic evaluation from The Journal of Cardiac Failure (Hershberger et al., 2018) suggests that specific therapies can be guided based on variant testing results, therefore providing a more holistic approach to personalized care of patients. With this, the 2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure (Heidenreich et al., 2022) recommends genetic testing for all recognized NICM phenotypes and referral to genetics professionals. Once this diagnosis is identified, it is ideal to pursue a family approach by encouraging cascade genetic testing accompanied by counseling. Despite the high diagnostic yield and current guidelines, real-world uptake remains <60 % and counselling <45 %. Limited data describes outcomes once a pathogenic or likely pathogenic variants are identified; this study is to further assess the potential impact genotypes have on clinical presentations and responses to treatment.

Methods
This single-center, retrospective observational cohort uses electronic medical record review of 144 patients aged ³18 years with NICM and ³1 pathogenic or likely pathogenic variant identified through genetic testing. Patients are excluded for ischemic etiology or genetic variants classified as uncertain significance or benign according to ACMG guidelines. Primary outcomes are first occurrence of (a) VT/VF ³30 seconds or ICD therapy, (b) cardiac hospitalization, (c) LVAD implantation or heart transplantation, and (d) all-cause mortality

Results
At the conclusion of this study, we hypothesize that specific gene classes (e.g., cytoskeletal vs sarcomeric) independently predict the composite outcome. Patients' adherence to guideline directed medical therapy (GDMT) mitigates genotype associated risk. Finally, systematic cascade testing uptake remains <50 % despite institutional resources.

Conclusions
The study bridges gaps by focusing on genotype positive adults earlier in the HF continuum than transplant cohorts, using granular EMR variables (labs, imaging, medications) to build further understanding of prognosis, and quantifying cascade testing implementation.

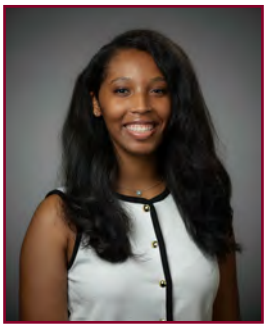
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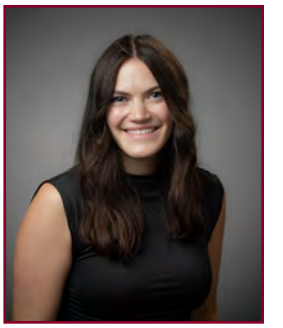
Poster Session I
Abstract 36

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Aspirin Recommendation for Preeclampsia Prevention in a Diverse Cohort: Disparities and Opportunities

Background/Purpose
Pre-eclampsia, a hypertensive disorder, affects about 1 in 12 pregnancies and is a leading cause of maternal and fetal morbidity and mortality. It is believed to result from inadequate placental vascular development, and low-dose aspirin is recommended as a preventive intervention for pregnant individuals at increased risk. Despite established guidelines, rates of pre-eclampsia remain high, raising concerns about consistency in risk identification and provider adherence to aspirin recommendations. The purpose of this retrospective cohort study is to evaluate the implementation of an Epic Best Practice Advisory (BPA) for low-dose aspirin recommendations in patients at increased risk of pre-eclampsia to standardize risk identification, clinical decision-making, and timely provider intervention.

Methods
The first phase of the study, currently underway, consists of a retrospective chart review of patients who delivered between June 1, 2025, and December 31, 2025, at a Prisma Health birthing hospital and who received outpatient prenatal care within the Prisma Health system, including at least one prenatal visit before 28 weeks' gestation. Data are being collected through Epic reporting tools and manual chart abstraction. Variables of interest include documented aspirin recommendations, pre-eclampsia risk factors, and patient demographic characteristics. The second phase will evaluate provider compliance following implementation of the Epic BPA by reviewing charts of patients who deliver after the intervention.

Results
The completed study is expected to demonstrate improved provider adherence to evidence-based low-dose aspirin recommendations for patients at increased risk of pre-eclampsia following implementation of the Epic BPA.

Conclusions
If effective, this intervention may strengthen prenatal care processes, thus helping reduce preventable maternal and fetal morbidity associated with pre-eclampsia.

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Isabella Chartier

Poster Session II
Abstract 65



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Fc Receptors and Antibody Interactions on Sperm: Implications for Male Infertility

Background/Purpose
Male infertility contributes to half of infertility cases worldwide, yet about 30% of cases remain unexplained. Previous studies have suggested the presence of Fc receptor-like proteins on spermatozoa and in seminal plasma, but their expression and clinical significance have not been well characterized.

Methods
In this study, human sperm samples were stained with fluorescent antibodies targeting Fc receptor candidates, including CD16 (Fc_RIII), CD32 (Fc_RII), CD64 (Fc_RI), CD89 (Fc_RI), and FAIM3 (Fc_R). Fluorescence intensity was assessed using nanodrop and flow cytometry to quantify receptor expression in a pooled population vs individual gametes, respectively. Fc receptor expression profiles will then be compared with corresponding clinical outcomes to determine whether specific Fc receptor expression patterns are associated with reproductive success.

Results
Characterizing Fc receptor expression on human sperm and its relationship with reproductive outcomes may be revolutionary in the realm of male infertility.

Conclusions
If associated with successful pregnancy outcomes, Fc receptors could represent novel diagnostic biomarkers for male fertility and provide a foundation for future studies investigating fertilization pathways and processes.

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Sofia Chavez
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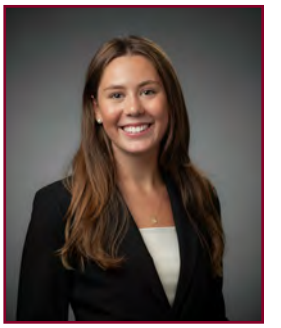
Poster Session I
Abstract 21

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Ivermectin and Cancer: A Survey of Patient Awareness, Perceptions, and Use

Background/Purpose
Social media has gained popularity over the last several years, becoming a place to seek news and medical information. Alternative cancer therapies have surged on these platforms, which may potentially influence patients' beliefs and decisions regarding treatment. Despite limited evidence, ivermectin has gained attention across social media platforms as an alternative cancer treatment. This study aims to evaluate patients' beliefs regarding ivermectin use in the oncology setting and their trust in information obtained from the internet compared with their care team.

Methods
A cross-sectional survey was conducted with 244 participants who reported their cancer or hematologic disease diagnosis, social media use, beliefs regarding ivermectin, current or prior ivermectin use (including dosage and schedule, if applicable), and perceived trust in their oncology care team.

Results
Among the 244 respondents, 37 (19.2%) reported considering using ivermectin as cancer treatment, and 60(24.6%) reported encountering information about ivermectin as a potential cancer treatment on social media. Of those exposed through social media, Facebook (n=50, 83.3%) and YouTube (n=16, 26.7%) were the most commonly reported platforms. 10 (5.7%) responded using ivermectin specifically because of beliefs about cancer treatment. Of those using ivermectin, 5 (50%) agreed or strongly agreed trusting information from non-medical sources, while 7 (70%) agreed or strongly agreed trusting information about ivermectin from physicians.

Conclusions
Our findings suggest that patients obtain health information from a variety of sources, including information regarding ivermectin and its use as an alternative cancer therapy. Despite exposure to non-medical sources, many participants who reported ivermectin use continued to express trust in physicians for health-related information. These findings highlight an opportunity for physicians to proactively address misinformation and engage patients in evidence-based discussions about ivermectin and other alternative therapies. Further research is needed to better understand how patients perceive online wellness content and how such information influences medical decision-making. As social media and wellness influencers continue to shape health-related discourse, medical education may benefit from preparing physicians to recognize emerging health trends, address misinformation, and effectively communicate evidence-based recommendations with patients.

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Poster Session I
Abstract 112

Hannah Chelli



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A Systematic Review of the Measures used to Evaluate Medical-Legal Partnerships

Background/Purpose
Although the physician's primary purpose is to address a patient's healthcare needs, there are often social and legal needs that extend beyond the physician's scope of practice but are vital to providing comprehensive healthcare. Certain patient cases, such as guardianship for patients with disabilities who are over 18 years of age, indicate the need for legal interventions which can be addressed through medical-legal partnerships (MLPs). As MLPs become more widely utilized, determining their value and impact in healthcare settings becomes increasingly important.

Methods
To better understand how the impact of MLPs has been evaluated, a review of the literature from the past 10 years was conducted to identify the measures used to evaluate MLP effectiveness. A search string was run through PubMed, 44 articles were screened, and 18 of the 44 articles were included. Review articles and articles that utilized the MLP to measure a different outcome were excluded. Articles that examined an outcome that resulted from the MLP, such as cost savings or improvements in perceived stress, were included.

Results
Measures were extracted from the literature and categorized into the following themes: value-based care, ROI, patient and economic stability, and impact on providers. Evaluation of additional literature and organization of the systematic review is ongoing.

Conclusions
Examining different measures used to assess MLPs demonstrated their impact in various contexts. Findings indicate that the value of MLPs in healthcare settings extends to patient, staff, and system levels, highlighting the importance of implementing multiple measures to evaluate their impact.

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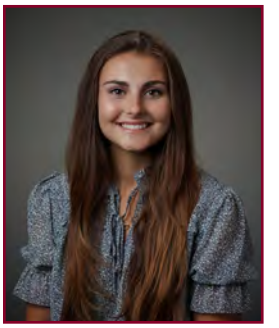
Maddi Clark
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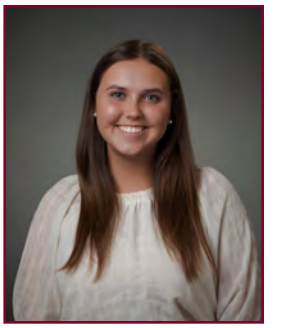
Poster Session II
Abstract 71

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Hemodynamic and Clinical Outcomes of Baroreflex Activation Therapy (BAT) in Patients with Heart Failure Across Multiple Remote Patient Monitoring Platforms

Background/Purpose
Heart failure (HF) affects nearly 7 million U.S. adults and maintains high hospitalization and mortality rates despite current guideline-directed medical therapy (GDMT), which is limited by cost, adherence, and tolerability. Baroreflex activation therapy (BAT) via the CVRx Barostim Neo improves quality of life in patients with HF and reduced ejection fraction (HFrEF) as well as exercise capacity. Remote patient monitoring (RPM), including cardiovascular implantable electronic device (CIED)-based algorithms (HeartLogic, TriageHF) and pulmonary artery (PA) pressure monitors (CardioMEMS, Cordella) predict and reduce HF events. The effects of BAT on RPM-derived parameters have not been reported.

Purpose: To determine whether BAT produces a significant change in RPM-derived parameters and clinical outcomes.

Methods
This retrospective, non-randomized case series included 18 patients managed at Prisma Health-Upstate. Eligible patients were adults with at least 6 months of RPM before and after Barostim Neo implantation. Data collection spanned at least 6 and up to 12 months pre- and post-implantation which included RPM parameters, NYHA class, vitals, GDMT/dosing, echocardiography, laboratory values, and HF events. RPM cohorts comprised of CardioMEMS (N=4), Cordella (N=2), Triage HF (N=9), and HeartLogic (N=6) with multiple patients utilizing more than one RPM platform.

Results
This cohort was predominately male (77.8%) and NYHA III (88.9%) with high comorbidity burden (chronic kidney disease 77.8%, diabetes 72.2%, atrial fibrillation 72.2%). Following BAT, PA pressures improved on both invasive platforms: CardioMEMS PA mean fell from 23.9 to 19.3 mm Hg and Cordella seated mean PA fell from 26.2 to 17.2 mm Hg. TriageHF OptiVol improved from 94.8 to 92 ½-days. Median HeartLogic Index remained stable at 10 at both 6 months pre- and post- implant. GDMT varied with beta blocker use decreasing (94.4 to 83.3%) alongside ARNI and SGLT-2i use remaining the same (50%), and SGLT-2i (72.2%). Acute care events decreased including cardiac hospitalizations (3 to 2) and cardiac ED visits (3 to 1).

Conclusions
This multi-platform case series demonstrates BAT was associated with lower PA pressures, improved congestion indices, and fewer acute care encounters, suggesting BAT-induced hemodynamic effects are detectable by RPM. These trends support co-management of HFrEF with RPM and BAT and warrant a prospective, higher-powered study.

Poster Session I
Abstract 45

Tamia Cobb, MS



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How Participation Takes Shape: A Scoping Review of Governance Structures and Practices in Community Based Participatory Research

Background/Purpose
Community-based participatory research (CBPR) is a collaborative research approach that emphasizes shared decision-making, equitable partnerships, and community leadership throughout the research process. Although the core principles of CBPR are well established, the participatory methods used across studies vary considerably.

Methods
This secondary analysis examined 102 studies from a PRISMA-ScR-guided scoping review of CBPR literature published from 2009-2024. Studies were coded for governance structures, structural barriers, reported outcomes, and accessibility practices. Descriptive frequencies characterized governance structures, and phi coefficients assessed associations between binary indicators. Associations with 95% confidence intervals excluding zero were reported.

Results
Voting/shared decision-making (68.6%), co-PI/shared leadership (62.7%), and community advisory boards (CABs; 58.8%) were the most frequently reported governance structures. No associations between CAB presence and reported outcomes met this criterion. In contrast, co-PI/shared leadership was associated with improved recruitment (_=.328) and systems change (_=.305), while voting/shared decision-making was associated with increased trust (_=.230) and policy impact (_=.265). Formal governance agreements were associated with intervention adaptation (_=.365) and implementation feasibility (_=.416)

Conclusions
These descriptive associations do not establish causality but suggest that advisory structures alone may be insufficient indicators of shared power. Findings support pairing CABs with explicit decision-making rights, shared leadership, and practices that enable community partners to exercise authority. Future analyses will examine how combinations of governance structures and accessibility practices relate to reported outcomes.

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Christian Cormas

Poster Session II
Abstract 122



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Hydroxychloroquine-associated Neuromyotoxicity in a Patient with Undifferentiated Connective Tissue Disease

Background/Purpose
Hydroxychloroquine (HCQ) is a disease-modifying antirheumatic drug widely prescribed for autoimmune conditions, including undifferentiated connective tissue disease (UCTD). Although generally well tolerated, prolonged HCQ exposure has been associated with rare neuromuscular toxicity, most commonly presenting as proximal vacuolar myopathy and occasionally involving peripheral nerves. Clinical manifestations are often nonspecific and may resemble inflammatory myopathies, glucocorticoid-induced myopathy, or other neuromuscular disorders. Furthermore, creatine kinase (CK) levels may remain within normal limits despite clinically significant muscle dysfunction, complicating timely recognition and diagnosis.

We present a case of suspected HCQ-associated neuromyotoxicity in an elderly patient with UCTD who developed progressive proximal muscle weakness, substantial weight loss, and acute hypoxic respiratory failure following more than two decades of HCQ exposure. This report aims to highlight the diagnostic challenges associated with HCQ-induced neuromuscular toxicity, demonstrate the importance of integrating clinical, electrodiagnostic, and histopathologic findings, and emphasize consideration of medication-induced myopathy in patients presenting with otherwise unexplained progressive weakness.

Methods
We conducted a retrospective review of the clinical course of a woman in her 80s with a history of UCTD, giant cell arteritis, and polymyalgia rheumatica who developed progressive muscle weakness and acute hypoxic respiratory failure after prolonged HCQ exposure. Clinical information was obtained from available medical records, including medication history, presenting symptoms, physical examinations, laboratory studies, diagnostic imaging, electrodiagnostic testing, muscle biopsy findings, and hospitalization outcomes.

The diagnostic evaluation included serial CK measurements, autoimmune and neuromuscular antibody testing, magnetic resonance imaging (MRI), electromyography and nerve conduction studies (EMG/NCS), and histopathologic examination of a left vastus lateralis muscle biopsy. Histopathologic assessment included hematoxylin and eosin staining, modified Gomori trichrome staining, and electron microscopy.

Clinical findings were evaluated in the context of the patient's prolonged HCQ exposure, chronic glucocorticoid use, and alternative potential causes of muscle weakness. The diagnostic course and subsequent management were summarized to illustrate the challenges of distinguishing medication-associated neuromyotoxicity from other inflammatory and noninflammatory neuromuscular conditions.

Results
A woman in her 80s with UCTD presented with progressive bilateral lower-extremity weakness, worsening dyspnea, and acute hypoxic respiratory failure requiring high-flow oxygen support. She reported approximately 30 pounds of unintentional weight loss over six months. HCQ therapy had been initiated in 2001, with a documented dose of 300 mg daily at presentation. She also had a history of chronic prednisone use.

Neurologic examination demonstrated bilateral proximal lower-extremity weakness, tongue fasciculations, and subsequently documented left foot drop. Despite significant muscle dysfunction, CK remained normal, measuring 68 U/L at presentation. Previous neuromuscular antibody testing was negative. MRI of the left femur demonstrated mild muscular atrophy and diffuse myositis involving the hip abductor musculature and proximal vastus lateralis. EMG/NCS revealed a proximal-predominant myopathic process without definitive evidence of active inflammation or myonecrosis.

Muscle biopsy demonstrated vacuolar myopathic changes, type II muscle fiber atrophy, and ultrastructural loss of thick filaments. Collectively, these findings supported a diagnosis of HCQ-associated neuromyotoxicity, although concurrent glucocorticoid-associated muscle changes could not be excluded.

The patient was weaned to room air during hospitalization and discharged to a skilled nursing facility on hospital day 21 for rehabilitation. HCQ was discontinued at discharge. Post-discontinuation functional recovery was not established in the available records.

Conclusions
This case highlights hydroxychloroquine-associated neuromyotoxicity as an important, potentially underrecognized cause of progressive muscle weakness in patients receiving long-term HCQ therapy. The presence of normal CK levels despite substantial functional impairment and supportive muscle biopsy findings illustrates the limitations of relying on serum muscle enzymes alone to exclude clinically significant myopathy.

The diagnostic process was further complicated by chronic glucocorticoid exposure, overlapping clinical features of inflammatory and noninflammatory myopathies, and concurrent respiratory compromise. Although respiratory muscle involvement was suspected, its contribution to hypoxemia could not be definitively established.

Recognition of HCQ-associated neuromyotoxicity requires careful medication review, consideration of alternative neuromuscular disorders, and integration of clinical findings with electrodiagnostic and histopathologic evaluation. Early identification and discontinuation of the offending medication may reduce the risk of further neuromuscular deterioration. This case emphasizes the importance of maintaining clinical suspicion for HCQ-related toxicity in patients with unexplained progressive weakness, even when CK levels remain normal.

Poster Session I
Abstract 24

Emiliano Costilla



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Management of Severe Lung Disease Post-Transfusion with Venovenous (VV) Extracorporeal Mechanical Oxygenation (ECMO): A Case Report

Background/Purpose
Historically, an inability to tolerate anticoagulation has been considered a hard contraindication to ECMO. Currently, the Extracorporeal Life Support Organization (ELSO) lists anticoagulation as a relative contraindication to VV ECMO in adults but not in pediatrics or neonates (1-3). However, a recent retrospective study suggested that anticoagulation can be safely held in trauma patients (4). We aimed to review the current literature on VV ECMO without anticoagulation and describe a case in which VV ECMO was utilized without anticoagulation to manage acute and life-threatening transfusion-related pulmonary edema in a patient with multisystem trauma.

Methods

The patient's chart was reviewed to collect diagnosis, hospital course, radiologic and operative imaging, and outcome information. No PHI was collected, and all information (including any images) has been de-identified. All abstracts, posters, and manuscripts were written to ensure the patient's identity cannot be disclosed.

Results
A 51-year-old male presented to our level I trauma center by ground ambulance as a transfer from an outside level III trauma center after car vs tree and massive transfusion. The patient arrived intubated, hypertensive, and hypoxic with two needle decompressions during transport. Insults included subdural hematoma, pelvic fracture with active hemorrhage, hemothorax, and florid pulmonary edema. Trauma surgery diagnosed TRALI. The patient received a chest tube, interventional pelvic embolization, and TEE-guided single canula VV ECMO without anticoagulation (subdural hematoma). The patient responded positively to ECMO and was ultimately discharged with no deficits and a complete return to previous function.

Conclusions
The use of VV ECMO without anticoagulation is relatively new and is supported only by hypothesis-generating research. This case report describes one such case in which the patient would likely have died without ECMO, but in whom anticoagulation was contraindicated. Further research, especially prospective research, is necessary before this practice can be adopted.

Poster Session II
Abstract 25

Emiliano Costilla



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Management of Severe Lung Disease Post-Transfusion with Venovenous (VV) Extracorporeal Mechanical Oxygenation (ECMO): A Case Report

Background/Purpose
Historically, an inability to tolerate anticoagulation has been considered a hard contraindication to ECMO. Currently, the Extracorporeal Life Support Organization (ELSO) lists anticoagulation as a relative contraindication to VV ECMO in adults but not in pediatrics or neonates (1-3). However, a recent retrospective study suggested that anticoagulation can be safely held in trauma patients (4). We aimed to review the current literature on VV ECMO without anticoagulation and describe a case in which a complex multidisciplinary surgical team successfully used anticoagulant-free VV ECMO.

Methods
The patient's chart was reviewed to collect diagnosis, hospital course, radiologic and operative imaging, and outcome information. No PHI was collected, and all information (including any images) has been de-identified. All abstracts, posters, and manuscripts were written to ensure the patient's identity cannot be disclosed

Results
A 27-year-old male presented to our level I trauma center and was believed to have sustained a non-survivable liver injury. Hepatic hemorrhage was refractory to standard surgical and interventional techniques. Transplant anesthesia, transplant surgery, trauma surgery, and cardiac surgery performed two-canula VV ECMO cannulation under fluoroscopy and anesthesia-monitored TEE without anticoagulation for total hepatic isolation. This allowed for successful partial hepatectomy despite florid liver failure with disseminated intravascular coagulopathy. Hospital course was complicated by Pseudomonal pneumonia and post-operative pericardial effusion with tamponade physiology. The patient was eventually discharged with no deficits, a complete return to previous function, and counseling on alcohol and hepatotoxic drugs.

Conclusions
The use of VV ECMO without anticoagulation is relatively new and is supported only by hypothesis-generating research. This case report describes one such case in which the patient would likely have died without ECMO, but in whom anticoagulation was contraindicated. Further research, especially prospective research, is necessary before this practice can be adopted.

Poster Session I
Abstract 88

Austin Dang



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Clinical Factors Associated With Thrombolysis in Acute Ischemic Stroke by Prior Stroke History

Background/Purpose
Acute ischemic stroke (AIS) may be treated with intravenous thrombolysis (tPA). However, tPA has strict guidelines for inclusion, and many factors may influence likelihood of tPA administration. Given the frequency of recurrent AIS, we investigated risk factors associated with tPA exclusion among AIS patients with a history of recurrent stroke.

Methods
This study utilized multivariable logistic regressions on 5,469 AIS patients from a regional registry to evaluate factors associated with tPA exclusion in AIS patients with and without a history of previous stroke. Demographics, risk factors, and laboratory values were compared between patients included and excluded for tPA using Pearson's chi-square and Student's t-tests. Adjusted odds ratios (ORs) and 95% confidence intervals (CIs) were calculated to determine association with increased or decreased tPA administration.

Results
Of 5,469 registered patients, 1,327 received tPA, and 1,424 had a history of previous stroke. Patients with history of stroke had increased tPA administration when coexisting with obesity (OR=1.750, CI=1.277-2.398, p<0.001) and previous TIA (OR=1.550, CI=1.016-2.366, p=0.042). However, tPA exclusion in this population was associated with carotid artery stenosis (OR=0.509, CI=0.281-0.922, p=0.026), diabetes mellitus (OR=0.600, CI=0.434-0.830, p=0.002), elevated LDL (OR=0.995, CI=0.991-1.000, p=0.032), elevated INR (OR=0.077, CI=0.027-0.223, p<0.001), and elevated systolic BP (OR=0.994, CI=0.988-0.999, p=0.029).

Conclusions
In AIS patients without previous stroke history, obesity and cholesterol medications were associated with increased tPA administration, whereas chronic renal disease, or elevated lipid count, serum creatinine, and INR were associated with decreased tPA administration. AIS patients with previous stroke history were significantly more likely to receive tPA if they had a history of obesity and previous TIA, but significantly less likely to receive tPA if their history included CAS, DM, or elevated LDL, INR, or systolic BP. These findings identified ways to improve care for AIS patients with a recurrent history of stroke.

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Poster Session II
Abstract 90

Austin Dang



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Can BMI and Albumin Be Used as Surrogate Markers for Sarcopenia to Assess Post Operative Outcomes?

Background/Purpose
Sarcopenia, significant loss of skeletal muscle mass, has been associated with poor outcomes following Whipple procedures and distal pancreatectomies. Patients undergoing pancreatic resection may be particularly susceptible to sarcopenia due to malignancy, nutritional compromise, and the physiologic stress of surgery. Although computed tomography (CT)-derived skeletal muscle index (SMI) or psoas muscle index (PMI) at the third lumbar vertebral level (L3) provides an objective assessment of muscle mass, readily available measures such as body mass index (BMI) and serum albumin are frequently used as surrogate indicators of nutritional status. This study evaluated perioperative changes in BMI and albumin among patients undergoing pancreatectomy and explored their utility as preliminary indicators of sarcopenia.

Methods
A retrospective analysis was conducted of 133 patients undergoing pancreatectomy at a single institution between 2024 and 2025. Demographic characteristics, comorbidities, laboratory values, postoperative complications, and clinical outcomes were collected. Preoperative and postoperative BMI and serum albumin were evaluated, and changes in these parameters were examined across pathologic stages.

Results
Postoperative changes in BMI and albumin demonstrated substantial variability across the study population and within individual pathologic stages. BMI generally declined following pancreatectomy, with the greatest mean reduction observed among patients with stage III disease. Changes in serum albumin also trended downward with an increasing pathological stage with the exception of stage IV, likely due to small sample size. However, despite the trends, the lack of significant relationships between BMI, albumin, and pathological staging suggests that these readily available clinical measures may not reliably characterize sarcopenia.

Conclusions
BMI and serum albumin alone appear to be incomplete surrogate measures of sarcopenia in patients undergoing pancreatectomy. BMI cannot distinguish skeletal muscle from adipose tissue, while albumin may be influenced by nutritional status, systemic inflammation, and perioperative illness. Consequently, direct assessment of skeletal muscle using routinely obtained CT imaging at L3 may provide a more accurate characterization of sarcopenia. Future analysis will incorporate CT-derived SMI or PMI to classify patients according to objective sarcopenia status and determine its association with postoperative complications and clinical outcomes following pancreatic resection.

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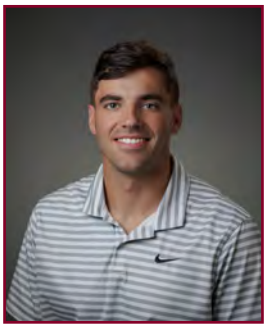
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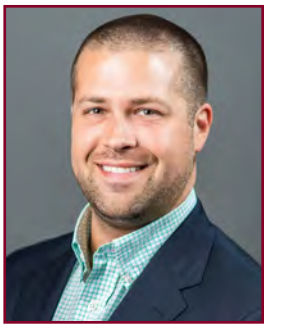
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Perceived and Experienced Pain/Anxiety Before and After Vasectomy

Background/Purpose
Many patients experience anxiety about the pain they anticipate prior to undergoing elective vasectomy. More often than not, these patients will utilize either pre-procedural benzodiazepines and/or intra-procedural nitrous oxide for anxiolytic therapy; along with local anesthetic. One study showed that experienced pain was significantly lower than perceived pain prior to vasectomy; however there is a paucity of literature surrounding the correlation between the perception of pain and pre-procedural anxiety levels, and this study aims to fill that literature gap.

Methods
Prospective Cohort Study
Patients are first contacted by Regional Urology staff to schedule a vasectomy consultation appointment, as well as the vasectomy procedure appointment. At the consultation appointment, details of the procedure itself, as well as risks and benefits are discussed. The options for anxiolytics (
including no anxiolytic, valium, or nitrous oxide through the Pro-Nox system), are also discussed at this appointment. Risks and benefits of the anxiolytics are also discussed, and the patient self-selects which form of anxiolytic they would like to use. Study consent will be signed for patients agreeing to participate. At this point the patients will fill out the preoperative anxiety and pain scales (PAS-7 and VAS). Patients will then follow up for the vasectomy procedure itself. Risks of vasectomy include: infection (1-2%), bleeding (1-2%), pregnancy (1 in 2000), chronic testicular pain (1%). Risks of one-time dose of valium include: drowsiness, dizziness, lack of coordination, muscle weakness, and cognitive impairment. Risks of nitrous oxide (Pro-Nox) include: dizziness/lightheadedness, nausea, fatigue/drowsiness, tingling sensations, blurred vision, sweating or shivering. Following the vasectomy, patients will again fill out VAS. This will end the patient's participation in the study.

Results
We hypothesize that no association will exist between experienced pain in the immediate post-operative period in patients with elevated perioperative anxiety scores.

Conclusions
Little research exists in the space of analyzing the suspected correlation between anxiety and perception of pain. Patients, despite adequate counseling, often experience heightened anxiety surrounding surgical procedures, and this is likely exacerbated by the fact that the procedure is occurring in a sensitive area. The goal of the project is produce information that would allow for data-driven patient counseling and hopefully show that even in patients with elevated anxiety, experienced pain in the immediate post-operative period is standard.

Student research funding was provided by

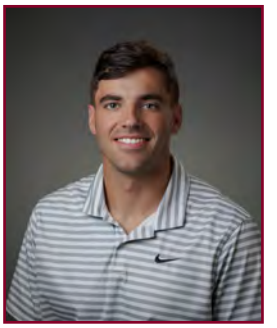
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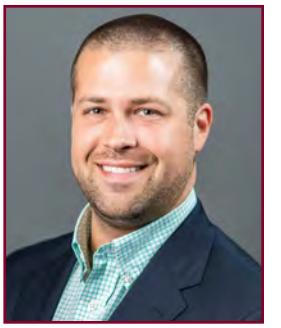
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The Utility of Routine Scrotal Ultrasound in the Evaluation of Azoospermia

Background/Purpose
Currently, the American Urological Association/American Society for Reproductive Medicine (AUA/ASRM) guidelines do not recommend scrotal ultrasound in the evaluation of infertile men. However, this is not a unanimous consensus among all professional associations and warrants further exploration (AIUM, 2021). Notably, the overall metastatic rate in men with small testicular masses ²20 mm has been found to be 23.8% (Tozzi et al., 2025). Given this rate, this case highlights the importance of obtaining scrotal ultrasound to detect non-palpable testicular masses. Raising awareness of this issue has the potential to influence guideline recommendations and prevent patients from developing metastatic disease that can severely alter their lives.

Methods
This is the case of a 34-year-old-male who presented to clinic for evaluation of infertility secondary to azoospermia. During workup, additional evaluation for varicocele was conducted via scrotal ultrasound (SUS). The patient was found to have bilateral small varicoceles, however, he was also incidentally found to have a non-palpable 1.1 cm testicular mass. Radical orchiectomy confirmed pure seminoma.

Results
This case demonstrates detection of an asymptomatic testicular mass via SUS, leading to timely treatment of disease. Metastatic workup was negative.

Conclusions
Scrotal ultrasound is a low-cost and minimally invasive diagnostic tool. This case seeks to highlight the utility of incorporating routine use of SUS during the evaluation of azoospermia.

Poster Session II
Abstract 106

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The Presence of Psychiatric Identifiers in Patient Photographs in the Electronic Health Record as a Source of Physician Bias: A Retrospective Study in the Emergency Department at Prisma Health

Background/Purpose
It is reported that 1 in 5 US adults experiences any type of mental illness, with rates steadily rising. Approximately 1 in 20 adults in the United States experience serious mental illness issues, defined as any mental illness that severely interferes with daily activity due to emotional, mental, or behavioral dysregulation. Mental illness often overlaps with serious health issues, one being diabetes. Physicians often access electronic health records (EHRs) when treating patients, and these EHRs often contain intake photos. Inherent bias can be created when viewing these photos if they contain identifiers that are associated with mental health hospitals. For example, at Marshall I. Pickens Hospital, a mental health hospital in Greenville, South Carolina, patients are given characteristic purple disposable paper scrubs upon intake. As a result, physicians in non-psychiatric fields are familiar with these purple scrubs and may be aware of the mental health history of patients wearing them in their photos when accessing the EHR. This can create inherent bias in physicians and negatively affect the level of care these patients receive. This study aims to examine whether there is a relationship between photos of patients containing identifiers that are associated with admission into mental health facilities and the subsequent care that these patients receive in the emergency department (ED) for diabetes treatment.

Methods
The study will compare objective data, such as labs and tests ordered and the time of presentation to the ED for patients with diabetes who have co-existing mental illness, but may or may not have an identifying photo in the EHR. This was a retrospective study of all patients who presented to the emergency department for diabetes-related complications between January 1st, 2025 and January 1st, 2026, at Greenville Memorial Hospital in Greenville, South Carolina.

Results
The data obtained from the study were inconclusive, as additional data must be collected to conduct a thorough analysis.

Conclusions
The focus of this project has now shifted to writing a viewpoint article on the presence of photos in the EHR and its effect on physician bias.

Student research funding was provided by
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Poster Session I
Abstract 49

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Improving Diabetic Retinopathy Screening Rates in Family Medicine Residency Clinics

Background/Purpose
Diabetic retinopathy (DR) is a leading cause of preventable vision loss among working-age adults. Annual diabetic eye examinations facilitate early detection, yet screening rates remain suboptimal. Point-of-care retinal imaging in primary care may improve access by reducing barriers associated with referral-based ophthalmology care. In May 2026, DR screening rates at Prisma Health Centers for Family Medicine were 52.3% at Greer and 48.3% at Greenville, below the 53% division goal. This quality improvement project aims to increase DR screening rates by 10 percentage points from baseline through patient outreach and point-of-care retinal imaging.

Methods
This quality improvement project was implemented over seven weeks during June and July 2026 at both clinics, with screening rates monitored monthly through August 2026. Adults aged 18-75 years in the Epic Diabetes Registry without documented DR screening within the previous year were identified using clinic-specific Diabetes Eye Reports. Interventions included MyChart and telephone outreach, outside eye examination record retrieval, and point-of-care retinal imaging using Intelligent Retinal Imaging Systems (IRIS) cameras during primary care visits, nurse visits, and dedicated screening events. The primary outcome was change in DR screening rates. Secondary measures included IRIS screening completion, screening gap closure through outside records, and reasons for declining screening.

Results
By July 2026, outreach was completed for 442 patients at Greer and 509 at Greenville. Of 32 patients scheduled for screening events, 22 completed screening. An additional 61 were scheduled during primary care visits (n=25) or nurse visits (n=36), with 14 and 19 completing screening, respectively. Of 93 outside records requested, 29 were received and closed screening gaps. Twenty-two patients declined screening, citing preferences for outside providers, plans for later screening, or financial and transportation barriers. At the August 2026 post-intervention follow-up, DR screening rates increased from 52.3% to 61.8% at Greer (+9.5 percentage points) and from 48.3% to 48.9% at Greenville (+0.6 percentage points).

Conclusions
Targeted patient outreach, outside record retrieval, and point-of-care retinal imaging were associated with improved DR screening rates at post-intervention follow-up, although outcomes varied by clinic. A second intervention cycle planned for January-February 2027 will address outreach nonresponse, delays in record retrieval, and missed appointments.

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Poster Session II
Abstract 3

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Near-Peer Teaching in Clerkships: The Impact of 4th Year Medical Student Chiefs on the OBGYN Clerkship

Background/Purpose
Clinical skill acquisition during the Obstetrics and Gynecology (OB/GYN) clerkship is essential but often limited by patient preferences, time constraints, and the sensitivity of examinations. Inadequate hands-on exposure may affect students' confidence, competence, and attainment of educational objectives. Growing evidence supports near-peer teaching (NPT) as a model for strengthening learner engagement and skill acquisition in a safe environment. This study examines the current literature on NPT within medical school clerkships and evaluates a fourth-year medical student (M4) OB/GYN chief elective. We hypothesize that this model will improve third-year students' (M3) knowledge, perceived skill competence, and preparedness for clinical encounters.

Methods
A PubMed literature search identified 23 studies published between 2013-2026, articles included examined clinical skill instruction provided by senior medical students to junior students during clerkships. Key terms included "peer-assisted learning," "near-peer," and "M4 medical student chief."
A prospective survey study will evaluate the M4 OB/GYN chief elective during the six-week clerkship rotations open to the entire cohort. Four M4s will lead weekly skills sessions covering labor and delivery simulations, breast and pelvic examinations, suturing, knot-tying, and sterile gowning and gloving. M3s will complete surveys at orientation and rotation completion using five-point Likert scales to assess changes in knowledge, perceived competence for each skill, and preparedness for clinical encounters. Data will be analyzed using paired-sample t-tests and thematic analysis of open-ended responses.

Results
Studies reviewed consisted of data across clerkships in multiple specialties, with pre- and post-clerkship surveys serving as the primary measure of effectiveness. Findings suggest that NPT is associated with statistically significant increases in learner engagement, knowledge, confidence, and clinical skill acquisition. However, no statistically significant differences in performance outcomes were observed between NPT and faculty-led teaching across studies. Preliminary analysis of the OB/GYN chief elective survey data is expected to demonstrate similar improvements in knowledge, perceived skill competence, and clinical preparedness.

Conclusions
The literature highlights the benefits of NPT across clerkship settings and supports its potential as an adjunct to help alleviate faculty teaching demands. Findings from this ongoing OB/GYN chief elective study may provide further insight to clinical NPT implementation and provide a model adaptable across core clerkships.

Poster Session I
Abstract 67

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Surgical Site Infection Following Cefoxitin Versus Traditional Antimicrobial Therapy for Intra-amniotic Infection in Cesarean Deliveries: A Retrospective Cohort Study

Background/Purpose
Intra-amniotic infection (IAI) is an obstetric complication linked to maternal and neonatal morbidities. Ampicillin and gentamicin, with clindamycin for cesarean delivery, are the first-line treatment. However, this regimen has limitations. During a clindamycin shortage, Prisma Health transitioned to cefoxitin monotherapy. Cefoxitin has a favorable administration profile, but data on cefoxitin outcomes are limited. This study compared surgical site infection rates among patients with IAI undergoing cesarean delivery who received cefoxitin versus traditional therapy.

Methods
A retrospective cohort study was conducted using EPIC medical records from mother-infant dyads delivered at Prisma Health facilities between April 1, 2018, and June 22, 2024. Outcomes included suspected early-onset neonatal sepsis, reinitiation of antibiotics for postpartum endometritis, readmission for postpartum endometritis within 6 weeks, transition to alternative antibiotics, additional surgery or procedure related to pelvic abscess or wound complication, surgical site infection for patients delivering by cesarean section, fever duration after initial antibiotics, and peak bilirubin values. Categorical comparisons used chi-square tests and continuous variables used Student's t-test or Mann-Whitney U test, as appropriate. Multivariable logistic regression and propensity score analyses will adjust for confounders.

Results
A total of 1,147 patients were evaluated, including 939 in the historical antibiotic group and 208 in the cefoxitin group. Groups were similar in median maternal age, nulliparity, BMI, medical comorbidities, and insurance status. Among 133 patients with chorioamnionitis undergoing cesarean delivery (112 historical treatment and 21 cefoxitin), surgical site infection rates were comparable between the cefoxitin and historical treatment groups (0% vs. 3.6%, p=0.38). Rates of organ-space infection (0% vs. 2.7%, p=0.37) and pelvic or intra-abdominal abscess (0% vs. 0.9%, p=0.61) were also similar. No significant differences were observed in the other outcomes evaluated. These findings are preliminary, as chart abstraction is ongoing.

Conclusions
These findings suggest that cefoxitin is a reasonable alternative to the traditional multi-drug regimen for treating IAI, with similar maternal and neonatal outcomes. Among patients with chorioamnionitis undergoing cesarean delivery, cefoxitin was associated with surgical site infection rates comparable to the historical antibiotic regimen. Continued data collection and completion of chart abstraction will further clarify these findings.

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Scholars Fellowship Award, School of Medicine Greenville

Poster Session II
Abstract 111

Maya Fiore



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Understanding Emergency Department Utilization Among Individuals Experiencing Homelessness in Greenville, South Carolina: Drivers, Patterns, and Opportunities for Street Medicine

Background/Purpose
Individuals experiencing homelessness face significant barriers to primary and preventive healthcare, often resulting in reliance on emergency departments (EDs) for acute and ongoing needs.1-3 This contributes to increased healthcare utilization and uncompensated costs. Limited local data characterize ED utilization among individuals experiencing homelessness in Greenville, South Carolina, where the 2025 Point-in-Time count identified 739 individuals experiencing homelessness.4 Understanding local utilization patterns may identify opportunities for Street Medicine and other community-based interventions.

To characterize ED utilization among individuals experiencing homelessness in Greenville; identify associated clinical, behavioral health, healthcare access, and social factors; and explore opportunities for Street Medicine to address unmet healthcare needs.

Methods
This retrospective longitudinal cohort study uses electronic health record (EHR) data from Prisma Health Upstate hospitals from 2020-2025. Eligible patients are identified using: (1) documented addresses matching known homeless shelters and service providers; (2) ICD-10 codes related to homelessness or housing instability; and (3) EHR registration identifiers documenting homelessness. The initial DSC search identified 1,558 unique patients accounting for 4,883 ED visits; additional queries will supplement this cohort. Duplicate patient records will be reconciled while retaining distinct ED encounters. Data include demographics, ED utilization and 30-day returns, encounter acuity, diagnoses and comorbidities, behavioral health and substance use diagnoses, social and healthcare access barriers, insurance status, and available financial measures. Encounters will be evaluated for recurring needs potentially amenable to Street Medicine interventions.

Results
Primary and secondary outcomes include overall, repeat, and frequent ED utilization; 30-day returns; encounter acuity; healthcare resource utilization and financial burden; and factors associated with ED use. Analyses are ongoing. We anticipate identifying utilization patterns, associated healthcare and financial burden, and recurring unmet needs amenable to community-based intervention.

Conclusions
Findings will provide locally relevant evidence to inform resource allocation and development of a Street Medicine program aimed at improving access and continuity of care while reducing avoidable ED utilization and associated costs.

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Poster Session I
Abstract 103

Luke Fisher



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Parameters That Influence The Development of Adjacent Segment Disease (ASD) Following Cervical Realignment Surgery

Background/Purpose
Adjacent segment disease (ASD) refers to degenerative changes at vertebral levels adjacent to a treated cervical segment and remains a major complication following cervical spine surgery. It has classically been attributed to compensatory increases in range of motion at adjacent segments after fusion. Alternative devices have been developed, such as cervical disc arthroplasty (CDA), which aims to preserve natural range of motion in the cervical spine.

Methods
A narrative review of the literature was performed, including biomechanical, kinematic, and clinical studies comparing adjacent-segment outcomes after ACDF, CDA, hybrid constructs, and posterior foraminotomy.

Results
Biomechanical evidence is incomplete, and kinematic studies comparing adjacent-segment motion after CDA versus ACDF have produced conflicting results. Moreover, ASD has still been reported after posterior foraminotomy, a procedure that preserves motion and involves no instrumentation placement. Collectively, this suggests factors other than motion loss are potentially risk factors for ASD. Large randomized trials and subsequent meta-analyses do show lower rates of adjacent-segment reoperation with CDA compared to ACDF at follow-up, along with reduced complication rates of dysphagia, readmission, and long-term cost. However, CDA introduces its own long-term complications, including heterotopic ossification which produces a de facto fusion at the level treated. Hybrid constructs that combine CDA and ACDF across levels appear in early data to lower ASD rates compared to multilevel ACDF, but how heterotopic ossification at the arthroplasty level interacts with fusion at adjacent levels remains unknown.

Conclusions
Construct type, number of levels fused, and heterotopic ossification stand out as the main biomechanical factors implicated with ASD risk, though current literature is inconsistent and often limited by differing follow-up durations and outcome definitions. More institution- and patient-specific data are needed to determine which parameters most reliably predict ASD across cervical procedure types.

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Poster Session II
Abstract 38

Samantha Fritsch



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Lifestyle Medicine Education in Psychiatry Training: A Scoping Review of Current Curriculum

Background/Purpose
Lifestyle medicine (LM) interventions, including nutrition, physical activity, restorative sleep, stress management, connectedness, and reduction of risky substances, are increasingly recognized as important components within psychiatric care. Despite increasing evidence supporting LM approaches to improve psychiatric outcomes, it remains unclear how lifestyle medicine is incorporated, if at all, within psychiatry education. To fill this gap, we conducted a scoping review that aimed to address what is known about LM curricula within psychiatry training.

Methods
A scoping review was conducted following PRISMA-ScR standards and managed through Covidence. Potential articles for inclusion were obtained through comprehensive database search, resulting in 5,984 articles. Upon removal of 1,752 duplicates by Covidence, a total of 4,224 abstracts were screened by individual reviewers. Each abstract was reviewed by two research team members to screen its eligibility for inclusion using pre-defined criteria. With 4,146 abstracts failing to meet inclusion criteria, the resulting 78 abstracts identified for inclusion underwent full-text review. Each full-text manuscript was reviewed by two researchers, resulting in 58 articles meeting inclusion criteria. Data extraction for the included 58 articles was conducted by two individual reviewers.

Results
The defining pillars of LM were separately accounted for during data extraction, with each included manuscript discussing one or multiple pillars. Within the 58 full-text manuscripts that met the inclusion criteria, the most represented LM pillars were reduction of risky substances (n=29) and connectedness (n=21). The following pillars were least represented: nutrition (n=7), restorative sleep (n=6), physical activity (n=4), and stress management (n=3). Manuscripts discussing education on the reduction of risky substances were further subcategorized by substance type(s): alcohol (n=22), opioids (n=19), nicotine/tobacco (n=18), cannabis products (n=9), and an “other” category (n=16).

Conclusions
Thus far, published literature describing evidence-based LM curricula for psychiatry education remains limited. Mapping current educational approaches by LM pillar will help identify what is known as well as highlight gaps in training to inform future curricular development to best prepare trainees how to incorporate LM into psychiatric practice to benefit future patients.

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Oral Session 1
Abstract 8

Katherine Fulmer



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Beyond Survival: A Pilot Study of Remote Follow-up Feasibility and Evaluation of Psychosocial Factors in Long-Term Stroke Recovery

Background/Purpose
Stroke is the fourth leading cause of death in the United States and the most common cause of permanent cognitive impairment. Although advances in acute stroke care have reduced mortality, many survivors experience persistent deficits that extend well beyond the acute recovery period. Beyond physical injury, psychosocial factors such as social support and emotional well-being play a critical role in shaping long-term recovery, functional independence, and quality of life. The feasibility of long-term participant recontact and remote multidimensional assessment following ischemic stroke was evaluated, and characteristics were identified in association with follow-up response to better direct future recontacting efforts.

Methods
Of 1,738 patients treated for acute ischemic stroke at Prisma Health Greenville Memorial Hospital from 2019-2020 (the original Stroke Outcome Optimization Project [SOOP] cohort), 247 were eligible for recontact; 17 responded, and 8 completed questionnaires and remote cognitive, language, and functional assessments (T-MoCA, rQAB, and modified Rankin Scale [mRS]). Local IRB requirements restricted eligible subject recontact to those individuals treated by a SOOP investigator during the index hospitalization. A composite recovery score incorporated key outcome measures, with higher scores indicating better recovery.

Results
Age (55.7 ± 14.1 vs 61.0 ± 15.0 years; $p = 0.154$), discharge location ($p = 0.600$), confirmed acute infarct on brain MRI (94.1% vs 88.7%; $p = 0.703$), and vascular distribution of infarction ($p = 1.000$) were all found to be similar between responders and nonresponders, respectively. Limited sample size precluded clinically meaningful outcomes at the composite recovery score or individual test levels. However, 8/17 respondents completed the questionnaire, and 13/17 completed the telephone assessment battery, confirming the feasibility of the testing approach.

Conclusions
The extended 5-6 year interval from acute ischemic stroke to recontact and eligibility criteria likely both contributed to the low response rate (17/1738, or ~1%). Therefore, future outcome assessments should occur within one year after stroke. An expanded acute ischemic stroke cohort with detailed analyses of patient characteristics may identify opportunities to better support survivors' long-term recovery and psychosocial needs.

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David Gayle

Poster Session II
Abstract 117



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Sex-Specific Outcomes of Lifestyle Interventions in Coronary Heart Disease: A Qualitative Systematic Review

Background/Purpose
Coronary heart disease (CHD) is responsible for nine million deaths each year. Although age-standardized CHD mortality has declined in high-income countries, the absolute number of deaths from CHD is increasing globally. CHD is largely preventable through lifestyle interventions, yet limited evidence exists on whether these interventions differentially affect males and females in secondary CHD prevention. This systematic review therefore examines the outcomes of various lifestyle interventions in males and females receiving guideline-recommended pharmacotherapy for CHD.

Methods
Outcomes of interest included sex-specific major adverse cardiovascular events (MACE) and secondary CHD risk markers such as low-density lipoprotein cholesterol (LDL-C) and cardiorespiratory fitness. This review searched the MEDLINE, EMBASE, and CENTRAL databases for randomized controlled trials, cohort studies, and case-control studies reporting sex-specific outcomes of lifestyle interventions for CHD. A total of 2864 studies were screened and 236 underwent full-text review. Twelve studies are included in the final review.

Results
The results of this review demonstrated mixed responses by each sex to multicomponent lifestyle therapy in regard to MACE and secondary markers of CHD risk. Notably, a reduction in MACE occurred more dramatically in men adherent to the Mediterranean diet versus low-fat diet than women in one study. With multicomponent interventions, however, both sexes often had similar reductions in angina, LDL, triglycerides, BMI and blood pressure across studies. Some studies demonstrated better lipid control by females following lifestyle interventions which persisted more than males in a particular study. Often starting at a lower baseline cardiorespiratory fitness, females demonstrated greater capacity to improve in some studies but not in others.

Conclusions
The results of this review suggest that lifestyle interventions in CAD patients affect males and females differently, although this difference in response is inconsistent. What stands out is that most studies have insufficient power to detect significant improvements in females undergoing lifestyle interventions. Males are more often found to have statistically meaningful benefit from cardiac rehabilitation. Of the improvements in CHD markers, superior lipid control seems to be more consistently achieved in females when statistical significance is met.

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Oral Session 1
Abstract 41

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Assessing the Effects of a Quality Improvement Protocol on Pediatric Hypertension Referrals and Diagnostic Outcomes

Background/Purpose
The diagnosis of pediatric hypertension is frequently hindered by poor adherence to clinical practice guidelines, leading to both underdiagnosis and misclassification. This study aimed to evaluate the impact of a guideline-focused quality improvement (QI) initiative on primary care referral patterns to pediatric nephrology and the utilization and diagnostic yield of ambulatory blood pressure monitoring (ABPM).

Methods
We conducted a retrospective, observational, pre-during-post study using de-identified electronic health record data. The study compared three sequential six-month periods: Period 1 (Pre-QI: Jan-Jun 2024), Period 2 (During-QI: Jul-Dec 2024), and Period 3 (Post-QI: Jan-Jun 2025). The population included patients aged 3-18 years referred for elevated blood pressure. Primary outcomes were referral volume and ABPM ordering rates. Secondary outcomes included ABPM completion rates and diagnostic results (normotension, white coat hypertension, and sustained hypertension) classified according to 2014 American Heart Association standards.

Results
A total of 114 referrals were assessed. Referral volume increased by 244% from Period 1 (n=18) to Period 3 (n=62). Among completed referrals (n=114), ABPM ordering rates increased from 46.67% in Period 1 to 74.51% in Period 3 (__=4.14, p=0.042). ABPM completion rates remained steady over the study period (__=0.007, p=0.936). Of the 46 evaluable ABPM studies, the detection of normotension increased from 16.7% in Period 1 to 27.3% in Period 3, while sustained hypertension (including reclassified pre-hypertension and nocturnal patterns) was identified in 54.5% of patients in Period 3. A significant health equity signal was identified: 22.1% of patients were lost to follow-up, 100% of whom resided in zip codes with a HRSA Unmet Needs Score ³41, and 80.00% were Medicaid-insured.

Conclusions
Implementation of a guideline-focused QI initiative significantly increased both referral to pediatric nephrology and the ordering of ABPM in a primary care setting. The increased detection of normotension suggests improved diagnostic accuracy and the potential to reduce unnecessary treatment. However, the concentration of follow-up failure among Medicaid-insured patients in high-need communities highlights a critical need for equity-focused interventions to ensure that guideline-adherent care reaches the most vulnerable pediatric populations.

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Poster Session II
Abstract 4

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Sex-Specific Clinical Profiles Associated With Prior Cholesterol-Lowering Therapy Among Patients With Acute Ischemic Stroke

Background/Purpose
Sex differences in the clinical presentation, vascular risk profile, and outcomes of acute ischemic stroke (AIS) may influence prevention and treatment strategies. Although cholesterol-lowering therapy is central to cerebrovascular risk reduction, the clinical profiles of treated patients may differ by sex. This study examined factors independently associated with sex among patients with AIS receiving cholesterol-lowering medication before hospital admission.

Methods
We conducted a retrospective cohort analysis of patients with AIS treated between January 2010 and December 2016. Demographic characteristics, vascular comorbidities, medication history, laboratory parameters, physiologic measurements, stroke severity, treatment, and functional status were evaluated. Univariate analyses compared clinical characteristics according to sex and prior cholesterol-lowering medication use. Multivariable logistic regression was subsequently performed among patients receiving prior cholesterol-lowering therapy to identify factors independently associated with male versus female sex. Adjusted odds ratios (aORs) and 95% confidence intervals (CIs) were estimated, with aOR >1 indicating association with male sex and aOR <1 indicating association with female sex.

Results
Among AIS patients receiving cholesterol-lowering medication before admission, distinct sex-associated clinical profiles were identified. Migraine, heart failure, hypertension, and prior antidepressant use were independently associated with female sex. NIHSS, total cholesterol, and heart rate were also associated with female sex. Conversely, drug or alcohol use, coronary artery disease, carotid artery stenosis, and sleep apnea were associated with male sex. Male sex was additionally associated with tPA administration, HDL >59, HDL >40, serum creatinine, and diastolic blood pressure.

Conclusions
Among patients with AIS receiving prior cholesterol-lowering therapy, males and females demonstrated distinct adjusted clinical profiles. Female sex was associated predominantly with neurological, cardiovascular, and medication-related factors, whereas male sex was associated with atherosclerotic disease, sleep apnea, substance use, renal and hemodynamic parameters, and tPA administration. These findings demonstrate sex-specific heterogeneity among AIS patients despite prior cholesterol-lowering therapy and support further investigation of sex-informed approaches to vascular risk assessment and secondary stroke prevention.

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Poster Session I
Abstract 7

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Weight-Based Versus Non-Weight-Based Diltiazem Dosing for Atrial Fibrillation with Rapid Ventricular Response: A Meta-Analysis

Background/Purpose
Atrial fibrillation is the most common sustained cardiac arrhythmia, and intravenous diltiazem is a widely accepted treatment to achieve acute rate control for atrial fibrillation, with guidelines recommending a weight-based 0.25 mg/kg bolus. Clinicians frequently administer lower, non-weight-based doses out of concern for hypotension, particularly in obese patients, but the mixed findings of prior studies have not been systematically summarized. We therefore conducted a meta-analysis comparing weight-based versus non-weight-based dosing of diltiazem for the treatment of atrial fibrillation with rapid ventricular response.

This research project aimed to conduct a meta-analysis to quantitatively summarize real world studies evaluating the impact of weight-based versus non-weight-based dosing of intravenous diltiazem in the setting of atrial fibrillation.

Methods
We conducted a systematic review and meta-analysis of observational studies comparing weight-based versus non-weight-based intravenous diltiazem dosing in adults with atrial fibrillation with rapid ventricular response. The databases PubMed, Scopus, and Embase were searched with two independent reviewers screening studies and extracting data, with discrepancies resolved by consensus. The primary outcome was failure to achieve rate control with a secondary outcome of hypotension. Meta-analysis was performed using the random effects model to account for variability among studies. Heterogeneity was assessed using the I_ statistic. Statistical analyses were conducted via R.

Results
Twelve studies were included for the primary outcome (NWB n = 1,992; WB n = 922) and eight studies were included for the secondary outcome of hypotension (NWB n = 1,724; WB n = 763). Non-weight-based dosing was associated with a significantly higher risk of failing to achieve rate control compared with weight-based dosing (RR 1.36, 95% CI 1.24-1.48; I_ = 0.0%). There was no statistically significant difference in hypotension between groups (RR 0.86, 95% CI 0.69-1.07; I_ = 0.0%).

Conclusions
In this meta-analysis, weight-based diltiazem dosing achieved rate control significantly more often than non-weight-based dosing, without a significant difference in hypotension. These findings support adherence to weight-based dosing for atrial fibrillation with rapid ventricular response.

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Poster Session I
Abstract 107

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Matrix Metalloproteinase Upregulation at the Cusp of Oral Premalignancy/Malignancy

Background/Purpose
To examine MMP-2 and MMP-9 expression differences between premalignant lesions and early malignancy, and whether expression varies by smoking status. This molecular profiling may have future utility in stratifying risk or aiding in diagnosis.

Methods
Study Design: RNA-sequencing analysis from oral punch biopsies.
Methods: Oral premalignant lesions (LP) or early cancers (LC) (n=18) with adjacent mucosa (NP) or (NC) underwent RNA-sequencing. RNA-seq data were analyzed for MMP-2 and MMP-9 via GraphPad Prism two-way ANOVA.

Results
We previously demonstrated TNF_ and Cigarette Smoke Concentrate upregulated MMP-2 and MMP-9 gene expression in squamous cancer cells and oral leukoplakia cells. Presently, as judged by RNA-seq, there was a significant increase in MMP-2 from normal mucosa to invasive cancer ($p=0.003$) and between premalignant and malignant lesions ($p=0.0004$). For MMP-2, using NP as a control, NC had a 1.2-fold increase, LP had a 2.6 increase, and LC had a 11.6 increase. MMP-9 was not found to be different between the four groups. Interestingly, MMP-9 was significantly increased between LC values of former smokers and never smokers ($F(1,14)=4.9$, $p=0.0427$), but no significant difference in MMP-2.

Conclusions
MMPs increased from normal oral mucosa to cancer. Further, we found that a smoking history increased MMP-9, in matched cohorts. These findings support future work in the roles of key MMPs in oral cancer progression.

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Ainsley Hartman

Poster Session II
Abstract 82



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Mentor
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Robotic Ventral Hernia Repair Series: Evaluating Long-Term Outcomes

Background/Purpose
Robotic ventral hernia repairs have demonstrated short-term outcomes comparable to those of laparoscopic and open hernia repairs. However, short-term follow-up may not fully capture recurrence or delayed surgical site complications. This study aimed to characterize long-term outcomes following robotic ventral hernia repairs in a large institutional series.

Methods
A retrospective review was conducted of 729 robotic ventral hernia repairs performed at Prisma Health from 2013 - 2026. Data were collected in REDCap and the Abdominal Core Health Quality Collaborative, including patient demographics, hernia type, hernia dimensions, surgical details, length of stay, long-term follow-up modality, hernia recurrence, surgical site infections (SSIs), and surgical site occurrences (SSOs).

Results
Among the 729 robotic ventral hernia repairs reviewed, the median body mass index was 35.5 kg/m2 and the median hospital length of stay was 1 day (range, 0-51 days). Annual case volume increased over the first part of the study period before declining, with peak volume occurring between 2018 and 2022. Of the 729 patients with a robotic ventral hernia repair, 609 patients had documented long-term follow-up, with a median follow-up duration of 48 months. The overall hernia recurrence rate was 6.1%. The SSI rate was 0.3%, and the SSO rate was 6.1%, with seromas accounting for the majority of SSOs.

Conclusions
With a median follow-up of 48 months, this series provides a longer duration of follow-up than has been reported in previous literature analyzing robotic ventral hernia repair. The 6.1% recurrence rate and identification of delayed SSOs and SSIs indicate the potential for recurrence and complications to be identified beyond the follow-up periods of many prior studies. These findings provide a foundation for future comparisons of long-term outcomes among robotic, laparoscopic, and open ventral hernia repair.

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Poster Session II
Abstract 34

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Lifestyle Medicine Education in U.S. Health Professions Institutions: A National Assessment of Curriculum Integration and Resource Utilization

Background/Purpose
Lifestyle Medicine (LM) is increasingly recognized as essential to addressing chronic disease. Lifestyle Medicine Education (LMEd) offers open-access, evidence-based curricular resources to facilitate LM integration, yet integration across health professions programs remains inconsistent. This study aimed to characterize curriculum integration across U.S. health professions programs, evaluate LMEd resource utilization, and identify barriers and facilitators influencing LM implementation and American College of Lifestyle Medicine (ACLM) curriculum certification.

Methods
Following University of South Carolina Institutional Review Board approval, health professions educators affiliated with U.S. programs and previously registered with LMEd were invited to complete a 28-item REDCapTM survey and a semi-structured interview conducted via Microsoft Teams. The survey assessed, and semi-structured interviews explored, LM curriculum integration, resource utilization, and implementation barriers. Undergraduate Medical Education (UME) participants also reported ACLM certification status and interest. Quantitative data were analyzed in Microsoft Excel; interviews were independently coded and thematically analyzed in DedooseTM following establishment of a 70% inter-coder agreement threshold.

Results
Of 459 eligible registrants, 43 completed the survey (9.36%) and 11 participants completed interviews. Respondents represented M.D. (64%), D.O. (8%), P.A. (15%), and N.P. (8%) programs. LM curricula were reported in 14/25 (56%) M.D., 1/3 (33%) D.O., 3/6 (50%) P.A., and 2/3 (67%) N.P. programs. M.D. programs reported a mean of 12.0 (SD=7.85) preclinical and 8.8 (SD=0.71) clinical hours. LM content was most commonly delivered through electives (25%), biomedical science modules (23%), LM interest groups (21%), clinical clerkships (12%), and case-based learning (12%). LMEd resources were utilized by 43% of M.D., 0% of D.O., 33% of P.A., and 33% of N.P. programs. Among M.D. programs, 12% reported ACLM UME certification, while 50% of non-certified programs expressed interest. Recurring barriers included limited curricular time, faculty funding and availability; insufficient institutional and faculty awareness and support; and resource length and level of detail. Facilitators included LMEd's open-access, evidence-based content; student and institutional motivation; LM-experienced faculty; interfaculty collaboration; and dedicated funding.

Conclusions
LM integration remains variable across U.S. health professions programs. Findings highlight opportunities to improve curricular accessibility, resource usability, faculty capacity, and institutional support to facilitate broader LM integration and ACLM certification.

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Poster Session I
Abstract 85

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Mentor
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Papillary Meningioma: A Single Institution Case Series and Literature Review

Background/Purpose
Meningiomas are the most common primary central nervous system tumor. Papillary meningiomas (PM) are considered a more aggressive subtype, encompassing <1% of all meningiomas characterized by the presence of >50% papillary features, bone/brain invasion, and increased mitotic figures. Due to its rarity, there is a lack of standardized guidelines for definitive diagnosis, characterization, and optimal treatment. Here, we evaluate two cases at a single institution and provide a comprehensive literature review to evaluate these metrics. Our two cases were found in older (mean 71) symptomatic males; literature reports younger (mean 33.2) symptomatic patients with a male female ratio of 0.84. Our patients CT/MRI demonstrated a maximum average tumor diameter of 8.00cm versus published reports of 4.86cm. Our patients underwent both surgical resection and adjuvant radiotherapy 100% of the time, with 50% survival, while literature reports use of both 38.2% of the time (n=42) with 62.5% survival (range 2 days after surgery to 14 years). Analysis of the literature shows that commonly used terms for histopathological diagnosis includes “papillary,” “angioblastic,” and “whorls.” The rarity of PM has hampered the development of a widely applicable diagnostic algorithm. The parameters within the literature can lead to downgraded diagnoses, which could be a contributing factor of our institution’s increased age and tumor size. Although our cases detailed highly aggressive meningiomas, neither obtained a definitive WHO grade III diagnosis due to current criteria. Here, we propose more stringent morphological guidelines, consensus on immunohistochemical markers, and increased use of tumor genotyping to appropriately classify these lesions.

Methods
Two cases of papillary meningioma from a single institution were evaluated and compared with a comprehensive review of published cases. Clinical presentation, imaging, histopathology, treatment, recurrence, and outcomes were assessed.

Results
The literature review identified 110 cases from 31 institutions. Compared with published cases, our patients were older and had larger tumors. Considerable variability was observed in histopathologic features, immunohistochemical findings, treatment, and outcomes, with recurrence reported in 64.6% of evaluable published cases.

Conclusions
Papillary meningioma remains difficult to consistently classify because of heterogeneous diagnostic features and limited standardized criteria. More consistent morphologic and immunohistochemical criteria, supplemented by molecular profiling, may improve classification and guide management.

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Poster Session I
Abstract 89

Sean Holden-Kapshuck, MBS



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Mentor
Thomas I. Nathaniel, PhD

Sex-Specific Clinical Profiles in Patients With Acute Ischemic Stroke and Chronic Kidney Disease

Background/Purpose
Chronic kidney disease (CKD) is common among patients with acute ischemic stroke (AIS) and is associated with worse outcomes. Although sex-related differences in stroke are well recognized, it remains unclear whether clinical characteristics associated with sex differ according to CKD status. We characterized sex-associated clinical profiles among patients with AIS with and without documented CKD.

Methods
Methods: We conducted a retrospective analysis of the PRISMA Health Stroke Registry. Baseline characteristics were compared between patients with and without documented CKD in the overall cohort and after stratification by sex. Multivariable logistic regression with backward likelihood-ratio selection was used to identify independent clinical characteristics associated with documented CKD in the overall cohort and with male sex within the CKD and non-CKD subgroups. Adjusted odds ratios (ORs) and 95% confidence intervals (CIs) were calculated. Internal stability was assessed using bootstrap resampling.

Results
Results: Among 5,469 patients with AIS, 447 (8.2%) had documented CKD. Independent characteristics associated with CKD included prosthetic heart valve (OR, 3.73), elevated serum creatinine (OR, 2.79), obesity (OR, 2.51), heart failure (OR, 2.21), hypertension (OR, 2.20), African American race (OR, 2.11), and depression (OR, 1.97). In stratified analyses, associations of male sex with sleep apnea, smoking, and diastolic blood pressure ³80 mmHg were numerically stronger in the CKD group than in the non-CKD group: sleep apnea, OR 4.62 versus 2.38; smoking, OR 3.19 versus 1.31; and diastolic blood pressure ³80 mmHg, OR 2.58 versus 1.43. However, formal interaction testing did not demonstrate statistically significant effect modification by CKD status. The sex-association model among patients with CKD demonstrated greater apparent discrimination than the corresponding non-CKD model (AUC, 0.785 vs. 0.630).

Conclusions
Conclusion: Patients with AIS demonstrated distinct sex-associated clinical profiles according to CKD status. Although several associations were numerically stronger among patients with CKD, formal interaction testing did not establish statistically significant effect modification. These findings characterize clinical heterogeneity among men and women with established AIS and warrant further investigation to determine whether these profiles have implications for treatment or outcomes.

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Poster Session II
Abstract 87

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Mentor
Christine Schammel, PhD

Persistent Bilateral Sciatic Artery Aneurysms: A Case Report and Review of Reported Bilateral Cases

Background/Purpose
Background: Persistent sciatic artery (PSA) is a rare congenital vascular anomaly caused by failure of regression of the embryonic axial artery. Aneurysmal degeneration is its most common complication, while bilateral persistent sciatic artery aneurysms (PSAAs) are particularly uncommon and remain poorly characterized.

Methods
We present a case of bilateral persistent sciatic artery aneurysms with approximately eight years of longitudinal imaging and review the literature regarding clinical presentation, imaging characteristics, management strategies, and outcomes.

Results
A 57-year-old man with incidentally identified bilateral persistent sciatic artery aneurysms demonstrated interval aneurysmal enlargement and progressive thrombosis on serial imaging. Despite these changes, he did not develop acute limb-threatening ischemia or rupture and was managed with continued imaging surveillance. Literature review demonstrated variable presentations and treatment approaches, with thrombotic and ischemic complications occurring more commonly than rupture.

Conclusions
Bilateral persistent sciatic artery aneurysms are rare and require individualized management based on symptoms, vascular anatomy, aneurysm characteristics, and limb perfusion. This case provides a unique longitudinal assessment of untreated bilateral disease and highlights the importance of CTA surveillance for monitoring aneurysmal growth and thrombotic progression.

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Liza Hopper
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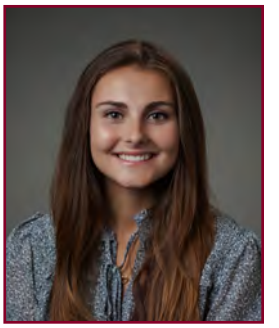
Poster Session I
Abstract 31

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Hemodynamic and Clinical Outcomes of Baroreflex Activation Therapy (BAT) in Patients with Heart Failure Across Multiple Remote Patient Monitoring Platforms

Background/Purpose
Heart failure (HF) affects nearly 7 million U.S. adults and maintains high hospitalization and mortality rates despite current guideline-directed medical therapy (GDMT), which is limited by cost, adherence, and tolerability. Baroreflex activation therapy (BAT) via the CVRx Barostim Neo improves quality of life in patients with HF and reduced ejection fraction (HFrEF) as well as exercise capacity. Remote patient monitoring (RPM), including cardiovascular implantable electronic device (CIED)-based algorithms (HeartLogic, TriageHF) and pulmonary artery (PA) pressure monitors (CardioMEMS, Cordella) predict and reduce HF events. The effects of BAT on RPM-derived parameters have not been reported. To determine whether BAT produces a significant change in RPM-derived parameters and clinical outcomes.

Methods
This retrospective, non-randomized case series included 18 patients managed at Prisma Health-Upstate. Eligible patients were adults with at least 6 months of RPM before and after Barostim Neo implantation. Data collection spanned at least 6 and up to 12 months pre- and post-implantation which included RPM parameters, NYHA class, vitals, GDMT/dosing, echocardiography, laboratory values, and HF events. RPM cohorts comprised of CardioMEMS (N=4), Cordella (N=2), Triage HF (N=9), and HeartLogic (N=6) with multiple patients utilizing more than one RPM platform.

Results
This cohort was predominately male (77.8%) and NYHA III (88.9%) with high comorbidity burden (chronic kidney disease 77.8%, diabetes 72.2%, atrial fibrillation 72.2%). Following BAT, PA pressures improved on both invasive platforms: CardioMEMS PA mean fell from 23.9 to 19.3 mm Hg and Cordella seated mean PA fell from 26.2 to 17.2 mm Hg. TriageHF OptiVol improved from 94.8 to 92 ½-days. Median HeartLogic Index remained stable at 10 at both 6 months pre- and post- implant. GDMT varied with beta blocker use decreasing (94.4 / 83.3%) alongside ARNI and SGLT-2i use remaining the same (50%), and SGLT-2i (72.2%). Acute care events decreased including cardiac hospitalizations (3 → 2) and cardiac ED visits (3 → 1).

Conclusions
This multi-platform case series demonstrates BAT was associated with lower PA pressures, improved congestion indices, and fewer acute care encounters, suggesting BAT-induced hemodynamic effects are detectable by RPM. These trends support co-management of HFrEF with RPM and BAT and warrant a prospective, higher-powered study.

Allison Hyde

Poster Session II
Abstract 72



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Mentor
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Opposing stress responses reveal distinct roles for CDC42/CDC420 and Septins in Cryptococcus Neoformans

Background/Purpose
Cryptococcus neoformans is an opportunistic fungal pathogen whose ability to grow at 37¡C is essential for its virulence in mammalian species. The conserved Rho-like GTPases Cdc42 and Cdc420 and the filament-forming GTPases, septins, contribute to cytokinesis and thermotolerance of C. neoformans. In other fungi, particularly Saccharomyces cerevisiae, Cdc42 has a clearly defined upstream role in septin recruitment to the presumptive bud site and assembly of the septin complex at the mother-bud neck. However, the functional relationship between Cdc42/Cdc420 and septins in C. neoformans remains unclear.

Methods
We compared the growth of wild-type, cdc42 single-knockout, cdc42 cdc420 double-knockout, and septin-mutant strains in a variety of conditions to determine whether these proteins function in a shared linear pathway.

Results
Most notably, Cdc42-deficient strains exhibited marked growth impairment on CaCl_-containing medium, with little to no growth at 37¡C, whereas septin mutants showed improved growth under the same condition. Furthermore, when calcineurin was inhibited with cyclosporine A, septin mutants were more severely impaired as compared to Cdc42 mutants. Combining CaCl_ and cyclosporine A caused profound growth inhibition in both mutant groups, confirming that calcineurin activity becomes critical during calcium stress.

Conclusions
These opposing responses to calcium and calcineurin inhibition support a model in which Cdc42/Cdc420 and septins have distinct interactions with calcineurin-dependent stress responses, rather than functioning solely in a simple linear pathway. Future localization and interaction studies will define the mechanisms linking these pathways.

Poster Session II
Abstract 50

Allison Jordan



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Structure Without Rigidity: Behavioral Patterns Linked to Medical Student Resilience

Background/Purpose
Medical students experience high rates of anxiety, depression, and burnout. Resilience, defined as the ability to recover and adapt following adversity, is a protective factor for mental health and a potential target for intervention. While previous studies have largely focused on non-modifiable factors associated with resilience, identifying modifiable factors may inform future wellness interventions. A prior mixed-methods pilot suggested that highly resilient medical students maintain structured daily routines while remaining flexible enough to adapt routines during periods of significant stress. This study aimed to further investigate these associations among medical students.

Methods
A cross-sectional survey was administered to all four years at the University of South Carolina School of Medicine Greenville. The survey included Likert-scale items to evaluate logistical lifestyle structure (LogQ) and flexibility in modifying established routines during periods of significant stress (EmoQ). Composite scores were calculated for each domain. Psychological resilience was measured using the validated Connor-Davidson Resilience Scale 10-Item (CD-RISC-10). Simple linear regression analyses were performed to examine associations between resilience scores and survey domains.

Results
Seventy-one students responded to the survey and 58 completed the CD-RISC-10. The distribution of the CD-RISC-10 was 20 first-year students, 26 second-year students, 6 third-year students, and 6 fourth-year students. The average scores by class were 29.85, 31.31, 30.50, and 29.33, respectively. High resilience scores significantly predicted higher LogQ (_ = 0.270, 95% CI 0.028-0.512, p = .030), explaining 8.2% of the variance (R_ = .082). And higher EmoQ (_ = 0.202, 95% CI 0.030-0.374, p = .022), accounting for 9.0% of the variance (R_ = .090).

Conclusions
These findings suggest that resilient medical students use behavioral and adaptive coping strategies. Specifically, resilient students appear more likely to maintain structured routines while also demonstrating the flexibility to modify their routines when significant stressors arise. Although the observed relationships were statistically significant, the relatively small R_ values indicate that resilience is influenced by factors beyond these individual coping behaviors. Nevertheless, the ability to maintain structure without rigidity so one can adapt to medical school's challenges represents a modifiable behavior that may serve as a valuable target for future wellness and resilience-building initiatives.

Student research funding was provided by
Scholars Fellowship Award, School of Medicine Greenville and the Prisma Health Department of Pediatrics

Poster Session II
Abstract 19

Allie Karges



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Mentor
Renee Chosed, PhD

Placental and Developmental Gene Expression in Blastocoel Fluid-Conditioned Media Differs by Maternal Age

Background/Purpose
In vitro fertilization (IVF) is the most common assisted reproductive technology for treating infertility. Women of advanced maternal age (AMA) show reduced fertility and lower implantation rates, even when chromosomally normal embryos are transferred following preimplantation genetic testing for aneuploidy (PGT-A). Because abnormal placental development contributes to pregnancy complications such as preeclampsia, molecular markers detectable at the preimplantation stage could help identify patients at risk. We examined expression of BCL6, FLT1, NRIP1, and TRIM36, genes implicated in placental development and early embryonic function, in blastocoel fluid-conditioned media from successfully implanted euploid embryos of AMA and non-AMA patients.

Methods
Blastocoel fluid-conditioned media was collected from IVF embryos at Ovation Fertility on day 5 of development at the time of PGT-A biopsy. Media samples from euploid embryos that successfully implanted were pooled based on patient age. Four pooled groups (10 media samples per group) were established from patients younger than 35 years, and four pooled groups were established from patients 35 years or older. RNA was purified from each pooled group and cDNA was synthesized. Next, RT-qPCR (TaqMan Assays, ThermoFisher) was used to evaluate expression of BCL6, FLT1, NRIP1, and TRIM36. The 18S gene served as the housekeeping control. Delta CT values and SEM were then calculated and groups were compared using the Mann-Whitney U test.

Results
Relative expression of TRIM36, BCL6, and NRIP1 was higher in media from euploid embryos of AMA (³35 years) patients than in media from non-AMA patients. In contrast, FLT1 expression was higher in the non-AMA (<35 years) group. None of these differences reached statistical significance (all $p > 0.05$), potentially reflecting the small sample size.

Conclusions
Blastocoel fluid-conditioned media from AMA embryos showed higher expression of TRIM36, BCL6, and NRIP1, and lower expression of FLT1 compared with non-AMA embryos. The direction of change may suggest that maternal age may be associated with the expression of genes involved in placental development and early embryonic function as early as the preimplantation stage. Future work will follow these patients to determine whether preeclampsia develops, with the longer-term goal of identifying preimplantation biomarkers to inform patients of potential preeclampsia risk in IVF embryos.

Student research funding was provided by
Scholars Fellowship Award, School of Medicine Greenville

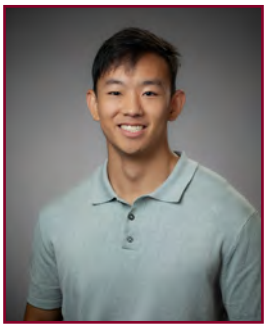
Matthew Kim, MBS
Chloe Everard

Oral Session 1
Abstract 56

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Mentor
Stephan Pill, MD





Age-Dependent Differences in ASES and SANE Scores After Rotator Cuff Repair: The Role of Preoperative Scores and Tear Size

Background/Purpose
Optimal surgical management of symptomatic rotator cuff tears in elderly patients remains controversial due to concerns regarding impaired tendon healing and increased retear risk. Consequently, these patients typically undergo reverse shoulder arthroplasties (RSA) opposed to rotator cuff repairs (RCR). However, evidence suggests favorable outcomes following RCR. Our goals were to evaluate the association between age and RCR outcomes via American Shoulder and Elbow Surgeons (ASES) and Single Assessment Numeric Evaluation (SANE) scores and to identify preoperative factors predictive of long-term outcomes.

Methods
A retrospective cohort of 530 RCR patients was analyzed utilizing multivariable linear regression models to examine associations between 2-year post-op ASES and SANE scores and our variables of interest: age, pre-op scores, and tear size. Subgroup analyses were completed with patients aged ³ 70 (n = 92) to examine associations in pre-op scores and rotator cuff tear size. Interaction models were performed to see if the effects of identified variables changed between subgroups of age ³ 70 and age < 70 (n = 438).

Results
Pre-op ASES (_ = 0.21, p < 0.001) and SANE (_ = 0.12, p = 0.04) scores had statistically significant associations with 2-year post-op outcomes while age and tear size did not. This trend persisted when analyzing pre-op ASES (_ = 0.32, p = 0.002) and SANE (_ = 0.34, p = 0.03) scores in patients age ³ 70. There was a statistically significant interaction between pre-op SANE scores and age (_ = 0.41, p = 0.01) indicating the effects of pre-op SANE scores on 2-year SANE scores are stronger in patients age ³ 70 compared to patients age < 70.

Conclusions
Age was not independently associated with RCR outcomes supporting its consideration in elderly patients. Additionally, the associations between pre-op and post-op ASES were consistent across age groups while the associations between pre-op and post-op SANE scores varied significantly by age. These findings suggest that pre-op patient-reported outcomes may help guide surgical decision-making, with baseline SANE potentially providing greater prognostic value in older patients. The gradient of outcome expectations that varies with age is a viewpoint to examine further for treating this patient population.

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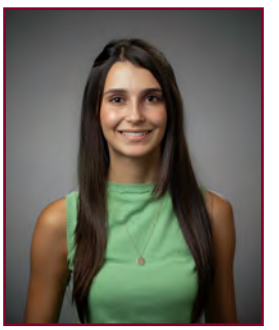
Morgan Locklear
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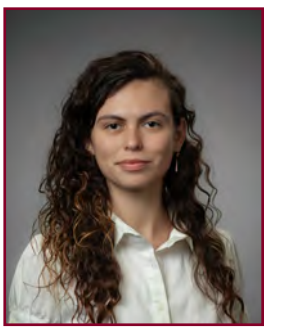
Poster Session II
Abstract 95

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Behavioral and Psychosocial Interventions to Support SUD Treatment Retention in Postpartum Women With Substance Use Disorders: A Scoping Review

Background/Purpose
The postpartum period is a vulnerable window for individuals with perinatal substance use disorder (SUD), demonstrating increased incidences of treatment discontinuation, substance relapse, and mortality. Existing perinatal SUD literature primarily focuses on pharmacotherapy treatment during pregnancy, failing to consider the importance of treatment retention in the postpartum period. The objective of this scoping review is to synthesize the existing literature on behavioral and psychosocial interventions designed to support retention in SUD treatment in postpartum individuals.

Methods
MEDLINE/PubMed, PsycINFO, SOCIndex, and CINAHL were searched from database inception through May 30, 2026, and results were uploaded into Covidence. We included any study design or media article written in English that examined behavioral or psychosocial interventions supporting postpartum people with substance use disorders. Two authors independently screened titles, abstracts, and full-text and extracted data from literature meeting inclusion/exclusion guidelines. Percent agreement (PA) and kappa was used to assess reviewer agreement, with disagreements resolved by a third author. Data were entered into a standardized spreadsheet to synthesize and summarize results. Methods were performed per the Preferred Reporting Items for Systematic Reviews and Meta Analyses extension for Scoping Reviews.

Results
Investigators screened 11,556 titles (PA=92%); 519 abstracts (PA=70%); and 169 full texts (PA=TBD). Reasons for exclusion include not applicable (n=224), wrong patient population (n=110), wrong intervention (n=52), no intervention (n=35), and wrong outcomes (n=12). We extracted data from 17 articles to assess the common characteristics of behavioral and psychosocial interventions that support retention in SUD treatment in postpartum individuals. The categories of data extraction include setting and years of recruitment, study design, population characteristics, substances used, intervention type and activities, intervention personnel, and outcomes.

Conclusions
Preliminary review suggests that few interventions specifically target postpartum people with SUD. Many interventions focus on providing treatment, especially MOUD, during pregnancy. Among behavioral and psychosocial interventions addressing postpartum retention in SUD treatment, motivational enhancement therapy, text messaging or computerized interventions, and screening, brief intervention, and referral to treatment (SBIRT) were common. This scoping review highlights a need for more research on behavioral and psychosocial interventions that promote postpartum retention in SUD treatment.

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Poster Session I
Abstract 68

Olivia Longsworth



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Mentor
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Improving Referral Rates for Evidence-Based Lifestyle Medicine Programs for Patients with Hypertension

Background/Purpose
Uncontrolled hypertension (blood pressure >130/80 mmHg) is highly prevalent in primary care practices and significantly increases the risk of cardiovascular disease, stroke, and other complications. Regular physical activity is a well-established, evidence-based intervention that effectively lowers blood pressure and improves overall cardiovascular health. The 2025 American Heart Association/American College of Cardiology (AHA/ACC) Hypertension Guideline identifies exercise as a key part of blood pressure management. Aerobic activities like walking and cycling can reduce systolic blood pressure by 4-7 points and diastolic blood pressure by 3-4 points, with increasing benefits seen as exercise duration increases to 150 minutes per week1. A 2021 AHA Scientific Statement calls physical activity a critical first-line treatment for essential hypertension2. Structured lifestyle medicine programs, like the Exercise is Medicine Greenville program, have been shown to enhance patient adherence to exercise recommendations, leading to better blood pressure control. The Exercise is Medicine program demonstrated that healthcare provider referrals to supervised group exercise increased physical activity by 64.7 minutes per week and reduced systolic blood pressure by 2.9 mm Hg, while also reducing perceived stress and depressive symptoms in the participants3. The established research supporting exercise as a first-line intervention for hypertension in adults and the growing body of evidence supporting referrals to supervised exercise programs for adults with hypertension supports increasing referrals to the Exercise is Medicine program in the Prisma Health Center for Family Medicine patient population. Despite these proven benefits, referral rates to such programs remain low at the Prisma Health Center for Family Medicine. This project addresses a gap in referrals by implementing an identification and outreach process to increase referrals to existing evidence-based lifestyle programs.

Methods
The aim of this project was to increase the number of referrals to the Exercise is Medicine Greenville (EIMG) program by 10% from baseline among patients with uncontrolled hypertension seen in the Family Medicine Clinic over a 30-day period. The Epic EMR SlicerDicer tool was used to identify eligible adult patients with a high blood pressure reading recorded during a clinic visit in a 30-day window and establish a baseline of zero prior referrals. Chart review confirmed program eligibility based on EIMG criteria. Eligible patients were contacted a maximum of two times using a standardized phone script. Outreach attempts, referral status, program enrollment status, and reason for non-enrollment were recorded. Data were analyzed using descriptive statistics only to visualize data.

Results
Of 117 patients reviewed, 58 remained eligible after chart review and were contacted. Of the patients contacted, 13 (22.4%) agreed to referral. Of those referred, 4 (30.8%) enrolled. Common reasons for non-enrollment after referral included cost and scheduling conflicts. Student-led patient outreach effectively increased the number of referrals from baseline.

Conclusions
Improvements to increase future referrals for patients with at risk chronic health conditions could include providing for information on program cost and scheduling earlier in the referral process. Patient outreach is a feasible approach to increasing referrals for lifestyle medicine programs among eligible patients with hypertension or other at-risk chronic health conditions.

Student research funding was provided by
Scholars Fellowship Award, School of Medicine Greenville

Rose Luna

Poster Session II
Abstract 101



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Mentor
Jennifer T. Grier, PhD

SARS-CoV-1 Nsp1-Mediated Regulation of Stress Granule Formation

Background/Purpose
The COVID-19 Pandemic brought the coronavirus family into the forefront of scientific research due to its devastating global impact. Both SARS-CoV-1 and SARS-CoV-2 have high rates of mortality and morbidity due in large part to their ability to disrupt antiviral immune responses. SARS-CoV-1 Nonstructural protein 1 (Nsp1) suppresses host protein translation and inhibits type I interferon (IFN) signaling, a critical component of the innate immune response. Nsp1 has also been shown to induce the formation of stress granules. It is unclear if Nsp1 immune interference and stress granules modulation work independently or cooperatively. This study aims to characterize the relationship between Nsp1 and stress granules.

Methods
The human respiratory epithelial line cell, A549, was transfected with V5-tagged wild type Nsp1 or mutant Nsp1 that lacks translation or immune interference functions. Localization of NSP1 in relation to stress granules was assessed using fluorescence imaging to detect the tagged Nsp1 proteins and G3BP1, a protein present in stress granules.

Results
Preliminary results demonstrate close spatial localization of Nsp1 and G3BP1, suggesting that Nsp1 may interact with or be recruited to stress granule-associated cellular regions, but may alter the timing or structure of the stress granule formation.

Conclusions
Understanding of the relationship between SARS-CoV-1 Nsp1 immune intereference and stress granules may reveal important foundations concepts in coronavirus pathogenesis and identify novel targets for antivirals against this medically significant viral family.

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Scholars Fellowship Award, School of Medicine Greenville

Poster Session II
Abstract 93

Gillian Marshall



Authors
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Mentor
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Neonatal Hyperbilirubinemia Following Maternal Treatment of Intraamniotic Infection with Cefoxitin Versus Standard Therapy.

Background/Purpose
Intraamniotic infection (IAI) is a common condition in pregnancy that is linked to several serious maternal and neonatal morbidities, including neonatal hyperbilirubinemia. The primary antibiotic treatment regimen is ampicillin and gentamicin with clindamycin or metronidazole added for patients undergoing cesarean delivery, referred to by the American College of Obstetricians and Gynecologists' (ACOG) guidelines as the "primary regimen". During a national shortage of clindamycin, Prisma Health transitioned to the use of cefoxitin monotherapy, and this study reviewed maternal and neonatal outcomes associated with the transition. The purpose of this study was to compare neonatal peak bilirubin values in term and preterm deliveries for patients exposed to cefoxitin for treatment of IAI versus ampicillin and gentamicin.

Methods
This was a retrospective cohort study of all patients who delivered and were treated for IAI in Prisma Health System between April 1, 2018 and July 31, 2024. Data were collected by both automated reporting from the electronic medical record and manual chart abstraction. Continuous variables were compared with student's T test and categorical variables were compared with chi-square test or Fisher's exact test. A mixed-effects logistic regression model was used to yield adjusted odds ratio.

Results
Preliminary analyses included 1,147 pregnancies treated for IAI (939 primary regimen, 208 cefoxitin). Overall neonatal peak bilirubin levels differed between treatment groups (p=0.03). Among term neonates (>37 weeks), mean peak bilirubin was lower in the cefoxitin group than the primary regimen group (7.6 vs 8.5), whereas among late preterm neonates (35-36 weeks), mean peak bilirubin was higher in the cefoxitin group (11.5 vs 9.7). Additional analyses are ongoing to determine whether these subgroup differences remain significant.

Conclusions
Preliminary findings suggest that cefoxitin may be a safe alternative to the traditional antibiotic regimen for treatment of IAI. Continuation of chart abstraction and final analyses are needed to determine whether clinical outcomes are comparable between treatment groups. The suggestion that "alternative" treatment options may be equivalent regarding patient outcomes has the potential to allow obstetric care providers to consider other characteristics of the antibiotic choice such as ease of administration and potential adverse effects.

Student research funding was provided by
Scholars Fellowship Award, School of Medicine Greenville

Poster Session II
Abstract 10

Brenna Matthews



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Mentor
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When Trauma is Not the Whole Story: Persistent Abdominal Pain after a Blunt Trauma in a Pediatric Patient

Background/Purpose
This case report is designed to outline an atypical diagnostic algorithm for pediatric nephroblastoma that will encourage a broader differential for abdominal pain. Wilms tumors are highly clinically significant for the field of pediatrics. Therefore, the learning objective is to increase awareness of the challenges in diagnosing pediatric symptomatology despite having a well understood malignancy. Wilms tumors are the most common primary renal tumor in children and account for 5% of all pediatric cancer diagnoses (National Comprehensive Cancer Network [NCCN] 2026). The most well-described presentation of the disease includes diagnoses between ages 2-5 with an incidentally palpated abdominal mass that is, otherwise, asymptomatic (Jhaveri, 2025). Gaining an understanding of this case is important because this is a highly treatable malignancy once diagnosis is established.

Methods
We conducted a retrospective review of the patients electronic medical records including initial presentation, diagnostic studies, and current treatment course.

Results
The diagnosis in this case was made after blunt abdominal trauma in a 4-year-old female resulted in persistent symptoms and new fever. A large renal mass with metastasis to the lungs was then identified via CT imaging. First line treatment of unilateral Wilms tumors is upfront nephrectomy with lymph node sampling. During surgical intervention, it was found that the tumor itself had ruptured, resulting in spillage into the abdomen. After successful surgical intervention, the patient has begun the appropriate chemotherapy course for stage IV nephroblastoma.

Conclusions
Discussion in this case report will explore if the rupture played a role in how symptoms such as fever and hypertension occurred. Additional conversation will include whether this rupture was a result of the trauma and key to eventual diagnosis. This is important given the previously discussed incidence of pediatric nephroblastoma; it is essential that clinicians consider the diagnosis outside of normal diagnostic indicators.

Poster Session I
Abstract 33

William McCamy



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Mentor
Stephan Pill, MD

Age-Related Outcomes Following Reverse Total Shoulder Arthroplasty: A Comparison of Patients Younger and Older than 65-Years

Background/Purpose
The number of reverse total shoulder arthroplasty (rTSA) procedures continues to increase and its clinical indications expand, including its use in younger populations. Younger patients often have higher expectations and higher activity levels, which may threaten the durability and success of its outcomes. The purpose of this study is to provide a single-center analysis comparing patient related outcomes and revision rates of rTSA in patients younger and older than 65 years.

Methods
Patients who had primary elective rTSA were prospectively enrolled in a patient registry at a large academic institution. Revision cases and acute fracture cases were excluded. All surgeries were performed by fellowship-trained surgeons with minimum ten-year experience in shoulder arthroplasty. Pre-operative and minimum two-year patient reported outcome (PRO) data were recorded, along with patient demographics, surgical details, and revision rates. The PRO included SANE and ASES scores. Paired t-tests were conducted to compare the pre-operative and two-year post-operative SANE and ASES scores of the overall cohort and within both age groups (younger than 65 and older than 65). An independent sample t-test was performed to compare the two-year postoperative ASES and SANE scores between the two age groups.

Results
There were 289 patients included in the study, including 54 patients in the younger group (²65 years) and 235 patients in the older group (>65 years of age). Both groups had statistically significant improvements in PROs from pre-operative to two-years follow-up ($p < 0.001$). There was no significant difference in two-year postoperative SANE score (71.7 vs. 71.2; $p = 0.889$) or ASES score (73.1 vs. 79.1; $p=0.081$) between patients aged ²65 years and those aged > 65 years, respectively.

Conclusions
Patients younger and older than 65 years can both expect substantial improvements after primary rTSA at two-years. There was no difference in PROs between groups. Our results show that age may be of lesser importance than traditionally believed when considering early success and patient expectations after rTSA. Longer follow-up data of rTSA is needed to ensure the results last particularly in the younger population.

Student research funding was provided by
Scholars Fellowship Award, School of Medicine Greenville

Poster Session II
Abstract 9

Gracelyn Metts



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Mentor
Ryan Duhe, MD

Management of Tracheostomal Hemorrhage Complicated by Obstructing Clot in a Post-Laryngectomy Patient Presenting to a Rural Emergency Department

Background/Purpose
Total laryngectomy (TLE) permanently separates the respiratory and digestive tracts, making patients obligate "neck-only breathers." Consequently, oxygenation and airway interventions must be performed exclusively through the tracheostoma. This case highlights the importance of recognizing altered post-TLE anatomy during emergency airway management.

Methods
N/A - Case Report

Results
Case Presentation: A 70-year-old man with chronic obstructive pulmonary disease was transported by Emergency Medical Services (EMS) to a rural emergency department (ED) with acute respiratory distress, hypoxemia, and massive tracheostomal hemorrhage. He had undergone TLE for squamous cell carcinoma approximately two weeks earlier. A medical-alert bracelet stating "resuscitate from neck only" prompted EMS to administer high-flow oxygen directly over the stoma. On arrival, he was tachycardic at 115 beats/min, tachypneic at 36 breaths/min, and hypoxemic at 58% despite 15 L/min oxygen delivered through the stoma. Examination revealed a large, gelatinous, golf-ball-sized clot partially obstructing the tracheostoma and significantly impairing inspiration. Gentle manual extraction removed the clot and revealed an attached cast of the trachea and upper bronchial airway, resulting in improved respiratory status. Persistent hemorrhage was treated with digital pressure at the suprasternal notch, 1 g intravenous tranexamic acid, and fluid resuscitation. Hemoglobin had decreased from 12.1 g/dL at recent discharge to 8.9 g/dL, prompting transfusion of two units of emergency uncrossmatched packed red blood cells. The patient was stabilized and transferred to a tertiary care center, where subsequent bronchoscopy demonstrated anterior tracheal erosion as the suspected source of bleeding.

Conclusions
Tracheostomal hemorrhage following TLE can produce life-threatening airway obstruction by clot formation, rapidly compromising the patient's sole route of ventilation. Emergency clinicians must promptly recognize neck-only breathers, provide oxygen through the stoma, assess and relieve obstruction, control hemorrhage, and stabilize patients for definitive specialty care. Awareness of the anatomical differences between TLE and conventional tracheostomy is essential to prevent delays in appropriate airway management.

Poster Session II
Abstract 99

Reese Mohesky



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Mentor
Christine Schammel, PhD

Synchronous Presentation of Primary Pancreatic and Primary Lung Adenocarcinoma

Background/Purpose
Synchronous primary cancers - defined as more than one primary malignancy diagnosed within one year - are rare, comprising approximately 1% of all cancer cases. Synchronous pancreatic and lung adenocarcinomas are exceedingly rare, with only five reported cases in the literature. Pancreatic adenocarcinoma carries a poor prognosis with a five-year survival rate below 10%, and its aggressive biology typically determines the trajectory of treatment in the setting of synchronous malignancies.

Methods
Clinical data was obtained through thorough retrospective review of a patient's medical record. Data obtained describes a 54-year-old male with a remote smoking history presented with a locally advanced pancreatic tail adenocarcinoma (cT4N1M1) and a concurrent pulmonary nodule. Initial biopsy of the lung lesion demonstrated focal TTF-1 and napsin A positivity, supporting a diagnosis of primary lung adenocarcinoma. Subsequent biopsy yielded TTF-1-negative results, shifting the working diagnosis to pulmonary metastasis of pancreatic origin. Given unresectable, metastatic disease, palliative systemic therapy was initiated with FOLFIRINOX, followed by gemcitabine/nab-paclitaxel, and ultimately salvage immunotherapy on a clinical trial.

Results
Differential chemotherapeutic responses between lesions provided compelling indirect evidence for two distinct primary malignancies. The pancreatic mass remained stable during FOLFIRINOX while pulmonary lesions progressed; upon transition to gemcitabine/nab-paclitaxel, the pulmonary lesions responded while pancreatic disease progressed - a pattern inconsistent with shared tumor origin. Variability in TTF-1 expression complicated definitive histologic classification throughout the clinical course.

Conclusions
This case illustrates the diagnostic and therapeutic complexity of synchronous pancreatic and lung adenocarcinomas, underscoring the importance of comprehensive immunohistochemical profiling, molecular characterization, and individualized treatment consideration for each primary malignancy when synchronous cancers are suspected.

Student research funding was provided by
Scholars Fellowship Award, School of Medicine Greenville

Poster Session I
Abstract 91

Misbaah Muqri



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Mentor
Jennifer Grier, PhD

Systematic Review of Respiratory Syncytial Virus (RSV) Severity Scoring Methods

Background/Purpose
RSV is the most common cause of acute respiratory infections in children and the leading cause of hospitalization in infants. There is a lack of consensus in US healthcare as to which, if any, tool is most accurate in predicting RSV severity in patients. Having an accurate and efficient severity scoring system to predict the severity of pediatric RSV cases in patients aids physicians in determining the specific care a pediatric RSV patient may require. The aim of this project was to systematically review and critically analyze RSV severity scoring systems that are currently applied to pediatric patients (<18 years old).

Methods
Four databases were queried using search terms relevant to RSV and bronchiolitis to isolate articles containing relevant RSV severity scoring methods. A ROBINS E Risk of Bias Assessment was done for each article included for in-depth review.

Results
A total of 19,729 articles were identified. After screening, 65 articles were included for full-text review with in-depth review of 38 articles completed so far. A table of study characteristics for each article was constructed and main findings were synthesized. Of the reviewed articles, 20 were prospective cohort studies and 13 articles were found to be retrospective studies. Among the 38 articles, 24 used and/or validated an existing severity scoring method, while 4 articles developed a novel scoring system. For the majority of the articles, there were some concerns about risk of bias in assessing confounding and assessing post-exposure concerns, and there was low concern in most of the articles about risk of bias due to missing data.

Conclusions
A total of 65 studies were identified with information relevant to the systematic review of RSV-specific scoring systems. Reviewed studies included multiple study types that applied a variety of either established or novel RSV scoring methods, with some variability in concerns for bias. The lack of standardization in RSV clinical studies and infection assessments supports the ongoing need for a systematic evaluation of existing RSV scoring tools. The final results of this work will inform physicians as they evaluate and care for children with RSV.

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Poster Session I
Abstract 16

Trinity Myers



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Mentor
Christine Schammel, PhD

Adrenal Vein Sampling: From Lateralization to Targeted Treatment in Primary Aldosteronism

Background/Purpose
Primary aldosteronism (PA) is the most common cause of secondary hypertension. With PA, accurate subtype classification of unilateral from bilateral aldosterone excess is essential, because unilateral disease may be treated with adrenalectomy, whereas bilateral disease requires life-long mineralocorticoid receptor antagonist (MRA) therapy. Adrenal vein sampling (AVS) is the current gold standard for subtype classification, but technical complexity and variation in procedural practices limit its use. This study evaluated the implementation of a multidisciplinary PA diagnostic pathway incorporating a standardized AVS protocol for the diagnosis and management of PA.

Methods
A retrospective single-center cohort study included 20 patients with confirmed PA who underwent AVS between 2016 and 2023. The diagnostic pathway incorporated biochemical testing, adrenal CT, dexamethasone suppression testing, and AVS. We assessed AVS technical success, subtype classification, treatment selection, and short- and long-term clinical and biochemical outcomes. Patients with unilateral aldosterone-producing adenoma (APA) underwent adrenalectomy when appropriate; those with bilateral adrenal hyperplasia (BAH) received MRA therapy.

Results
20 patients underwent AVS. Bilateral adrenal vein cannulation was successful in 18 procedures (90%), and no procedural complications occurred. AVS classified 9 patients as APA and 7 as BAH; 2 could not be included in subtype-specific analyses because complete follow-up records were unavailable. CT showed no adrenal abnormality in 5 patients (25%) despite biochemical confirmation of PA. After adrenalectomy, patients with APA had significant reductions in systolic blood pressure (149.5 to 126.5 mmHg; p=0.016), antihypertensive medications (4 to 2; p=0.013), and potassium supplementation (p=0.004). Patients with BAH had a significant reduction in systolic blood pressure after medical therapy (152 to 116 mmHg; p=0.016). At mean follow-up of 4.7 years for APA and 3.8 years for BAH, blood pressure control and normokalemia were maintained in most patients. Overall clinical and biochemical success were achieved in 16 of 20 (80%) and 19 of 20 patients (95%), respectively.

Conclusions
A multidisciplinary diagnostic pathway with a standardized AVS protocol achieved high technical success, enabled subtype-directed treatment, and was associated with long-term clinical and biochemical improvement. These findings support the use of a standardized AVS protocol within a multidisciplinary care pathway to optimize PA evaluation and management.

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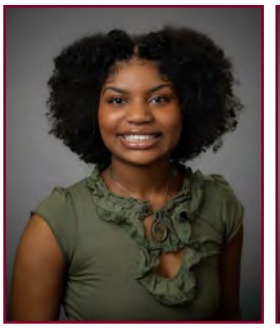
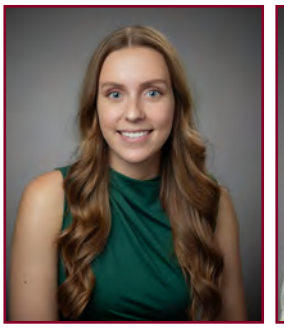
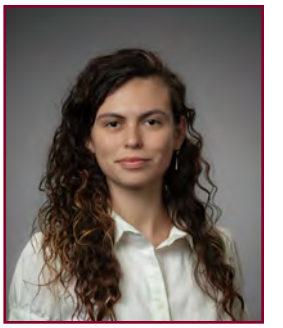
Trinity Myers
Noelle Forcier
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Poster Session II
Abstract 17

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Mentor
Luigi Boccuto, MD

Metabolic Impact of Insulin-Like Growth Factor 1 (IGF-1) and Growth Hormone (hGH) on an In Vitro Model of Phelan-McDermid Syndrome.

Background/Purpose
Phelan-McDermid syndrome (PMS) is a neurodevelopmental disorder caused by 22q13.3 deletions or pathogenic variants in SHANK3. PMS is associated with developmental delay, hypotonia, speech impairment, seizures, and gastrointestinal problems. Due to the genetic heterogeneity and clinical variability of PMS, treatment development has been complicated. Currently, growth factors, including human growth hormone (hGH) and insulin-like growth factor-1 (IGF-1), are under investigation for their neurotrophic effects. Considering PMS cells are less efficient than healthy cells at using major energy sources to generate NADH, we examined IGF-1 and hGH and whether these treatments can improve abnormal metabolic activity.

Methods
Lymphoblastoid cell lines (LCLs) from individuals with PMS were previously classified as high or low responders to IGF-1 and hGH according to their metabolic treatment response. Five high- and five low-responder PMS LCLs and 50 control LCLs were evaluated using Biolog Phenotype Mammalian Microarrays. Cells were exposed to IGF-1 or hGH at 1, 10, and 100 ng/mL. NADH production was measured across PM-M1 carbon-source arrays and PM-M6, PM-M7, and PM-M8 metabolic-effector arrays.

Results
Baseline metabolic profiles differed by responder group. IGF-1 high-responder LCLs had reduced NADH production from several glucose-related and other high-efficiency carbon sources, with greater NADH production from alternative energy sources; IGF-1 produced only modest changes. IGF-1 low-responder LCLs showed increased NADH production from numerous carbon sources at baseline. Treatment, particularly at 100 ng/mL, reduced the number of metabolic differences from controls. hGH high-responder LCLs showed broadly increased NADH production from high- and low-efficiency energy sources. Higher hGH concentrations reduced differences from controls, particularly for glucose-related metabolites and Krebs-cycle intermediates. hGH low-responder LCLs had fewer baseline alterations; hGH reduced differences in carbon-source utilization while increasing responsiveness to selected metabolic effectors. Both responder groups demonstrated generalized hyper-responsiveness to several metabolic effectors, especially on PM-M7.

Conclusions
IGF-1 and hGH produced distinct metabolic effects in PMS LCLs, suggesting that metabolic response patterns may help identify patients most likely to benefit from these treatments. Larger studies should evaluate these findings and determine whether preclinical metabolic stratification can inform enrollment in PMS clinical trials.

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Scholars Fellowship Award, School of Medicine Greenville

Poster Session I
Abstract 15

Jacob Nichols



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Mentor
Christopher Farrell, PhD

Real World Evaluation of Concordance with Guideline-Specific Biomarkers in Non-Small Cell Lung Cancer

Background/Purpose
This project seeks to identify disparities concerning molecular testing for non-small cell lung cancer (NSCLC) within the United States (US). Inaccessibility to biomarker testing hinders diagnostic precision and optimal treatment of lung cancer. The occurrence of molecular targeted analysis with biomarker panels assessing driver somatic mutations were compared with geographical and practice diversity.

Methods
Statistics from patients with lung cancer from Neo Genomics were utilized for patient panels ordered, including mutation-specific panels (EGFR, KRAS, BRAF) and profile panels (encompasses multiple mutations). Lung and Bronchus Cancer occurrence from 2015-2023 was collected from the Departments of Health (DoH) of South Carolina, North Carolina, and Alabama to standardize the rate of panels ordered for NSCLC patients (States did not possess explicit NSCLC data). DoH data was used to standardize Neo Genomics test and case data. Census Organization provided county classifications for mostly urban, mostly rural, or completely rural. Paired T-Tests were utilized to determine significance of findings.

Results
Testing rates across the US varied from 10% in early years of the study to 80% utilization in recent years. Geographic disparities were observed consistently, with rural patients having lower rates of comprehensive molecular testing (0.1% in older studies and close to 10% in more recent studies). Urban and academic centers more commonly adhered to guideline-specific testing compared to rural centers. A paired T-Test demonstrated the average ratio of panels ordered to patient cases from 2017-2023 was higher in “mostly urban” areas of SC compared to “mostly rural,” but the findings were statistically insignificant.

Conclusions
Differences observed in the standardized ratio of patient cases between rural and urban populations in SC may suggest a potential gap for patient care in rural geographic areas. Although findings from the paired T-test of SC data were insignificant, disparities cannot be nullified until more data is gathered. This project plans to extend these comparisons into the remainder of the United States and gather data from other organizations to identify nationwide variations in care. Following the expansion into the United States, the project will investigate specific panel tests comparatively with Next-Gen Based Sequencing ordered by healthcare workers, and the associated patient outcome. The use of lung and bronchus cancer statistics and data limited to Neo Genomics are considered limitations of the study.

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Oral Session II
Abstract 5

Brooke Olin



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Differential Risk Factor Profiles by Sex in Acute Ischemic Stroke Patients Receiving Dual Antiplatelet Therapy

Background/Purpose
Dual antiplatelet therapy (DAPT) is used for the treatment and prevention of ischemic cerebrovascular disease by inhibiting platelet activation and aggregation through complementary pharmacologic pathways. Despite preventive therapy, some patients receiving DAPT experience acute ischemic stroke (AIS). Sex-specific differences in vascular risk factors, comorbidities, and physiologic characteristics may contribute to differences in the clinical profiles of these patients. Characterizing these differences may identify clinically relevant factors for individualized risk assessment and secondary prevention. This study examined sex-specific differences in demographic characteristics, vascular risk factors, and comorbidities among AIS patients with and without prior DAPT use.

Methods
We conducted a retrospective analysis of patients with AIS treated at a stroke center between 2010 and 2016. Demographic characteristics, medical comorbidities, vascular risk factors, laboratory parameters, physiologic measurements, and stroke severity were evaluated. Patients were stratified according to prior DAPT use. Multivariable logistic regression models were used to identify factors independently associated with sex within the DAPT-stratified populations. Adjusted odds ratios (aORs) and 95% confidence intervals (CIs) were calculated to quantify the strength and direction of associations, with statistical significance defined as $P < 0.05$.

Results
Among AIS patients receiving DAPT before admission, multivariable analysis identified distinct sex-associated clinical profiles. Migraine and chronic renal disease were independently associated with female sex ($P < 0.005$). Higher NIHSS score, HDL cholesterol, heart rate, and BMI were also independently associated with female sex ($P < 0.005$). In contrast, drug or alcohol use was strongly associated with male sex ($P<0.005$). Higher diastolic blood pressure was also independently associated with male sex ($P<0.001$).

Conclusions
AIS patients receiving DAPT before admission demonstrated distinct sex-specific clinical profiles. Female sex was associated with migraine, chronic renal disease, NIHSS, HDL cholesterol, heart rate, and BMI, whereas male sex was associated with drug or alcohol use and diastolic blood pressure. These findings identify clinically relevant and potentially modifiable factors that may help refine individualized risk-factor surveillance and management for male and female AIS patients receiving DAPT. Further prospective studies are needed to validate these associations, clarify their underlying mechanisms, and determine whether incorporating sex-specific clinical profiles into preventive strategies can improve antiplatelet management and secondary stroke prevention.

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Poster Session II
Abstract 13

Caitlyn Owen



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Mentor
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Maternal Age-Associated Expression of Placental Development Genes in Blastocoel Fluid-Conditioned Media from Human IVF Embryos

Background/Purpose
Successful implantation after in vitro fertilization (IVF) remains challenging, particularly among women of advanced maternal age (≥35 years), who are also at increased risk for complications such as preeclampsia. Because angiogenesis-related genes including FLT1, PAPPA, and PAPPA2 are essential for placental development and are frequently dysregulated in preeclampsia, we examined their expression in blastocoel fluid-conditioned media (BFCM) from IVF embryos of women <35 and ≥35 years to identify age-associated differences in early placental gene expression.

Methods
Blastocoel fluid-conditioned media was collected from IVF embryos at Ovation Fertility on day 5 of development at the time of PGT-A biopsy. Media samples from euploid embryos that successfully implanted were pooled based on patient age. Four pooled groups (10 media samples per group) were established from patients younger than 35 years, and four pooled groups were established from patients 35 years or older. RNA was purified from each pooled group and then cDNA was synthesized. Next, RT-qPCR (TaqMan Assays, ThermoFisher) was used to evaluate expressions of FLT1, PAPPA, and PAPPA2. The 18S gene was used as a housekeeping control gene for all RT-qPCR studies. Delta CT values and SEM were then calculated for all groups.

Results
RT-qPCR revealed lower expression of FLT1, PAPPA, and PAPPA2 in pooled BFCM samples from women aged ≥35 years compared with women <35 years. The greatest of these decreases were observed for PAPPA and PAPPA2.

Conclusions
This study revealed reduced expression of FLT1, PAPPA, and PAPPA2 in BFCM from IVF embryos of women aged ≥35 years compared with women <35 years. These findings suggest that advanced maternal age may be associated with altered expression of genes involved in angiogenesis and placental development during the preimplantation stage of embryo development. Notably, PAPPA and PAPPA2 showed markedly decreased expression, due to altered IGF signaling that may contribute to early placental dysfunction and should be further investigated. Further studies using larger sample sizes are needed to determine whether these genes can serve as early biomarkers of embryo viability, pregnancy outcomes or an early indicator of preeclampsia.

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Poster Session I
Abstract 2

Sophia Pavento



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Mentor
Peter Gyarmati, PhD

Prevalence and Detection of Cytomegalovirus in Pediatric Patients with Hematological Malignancies

Background/Purpose
Human herpesvirus 5 (cytomegalovirus, CMV) is a prevalent virus that has a higher risk of causing severe infections in immunocompromised patients, including pediatric patients with hematological malignancies. Currently, there is no routine screening for CMV in this patient population, even though there is an effective antiviral that could treat diagnosed infections. This study aims to determine the prevalence of CMV in pediatric patients with hematological malignancies using blood and plasma samples. It also seeks to compare the diagnostic effectiveness of plasma versus whole blood for viral detection and to assess the association between CMV positivity and clinical parameters.

Methods
Forty-six previously hospitalized pediatric patients with known hematologic malignancies presenting with fever and suspected bloodstream infection were included in this study. Blood samples were taken from each patient. DNA was extracted from whole blood and plasma. CMV detection was performed on the extracted DNA using TaqMan quantitative PCR (qPCR) with a commercial kit from Norgen Biotek.

Results
16 of the 46 patients tested positive for CMV with 8 testing positive in both whole blood and plasma samples. There was a significant difference between days of neutropenia experienced by the patients who tested positive for CMV via the whole blood samples and those who tested negative for CMV in both whole blood and plasma samples. Those with positive whole blood samples experienced more days of neutropenia than those without CMV. Based on clinical data, patients who tested positive for CMV experienced fewer antibiotic changes during their hospitalization than those who tested negative for CMV.

Conclusions
This study suggests that CMV has a higher prevalence in pediatric patients with hematologic malignancies than previously thought. Longer durations of neutropenia and more changes to antibiotic regimens with little improvement may be key clinical factors to steer physicians towards a CMV infection. While more research with larger sample sizes and clinical factors is needed to determine the exact correlation, this study highlights the potential impact of CMV screening and treatment in this patient population.

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Poster Session I
Abstract 39

Emma Ruth Pedersen



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Mentor
Christine Schammel, PhD

Hiding in Plain Sight: Metastatic Breast Cancer Presenting in the Gastrointestinal Tract

Background/Purpose
Breast cancer metastasis to the gastrointestinal(GI) tract is uncommon and rarely represents the initial manifestation of an otherwise undiagnosed primary breast malignancy. Distinguishing metastatic breast cancer from primary GI tumors is challenging because clinical presentation, imaging findings, histology, and immunohistochemical (HC) profiles may overlap.

Methods
We conducted a retrospective single-institution study of patients diagnosed with breast cancer through GI biopsy and performed a comprehensive literature review to better characterize presentation, diagnosis, treatment, and outcomes. Five institutional cases were identified and combined with 32 published cases, yielding a total cohort of 37 patients.

Results
Ages ranged from 46 to 87 years (mean 65.5 years), including 36 females and one male. Common presenting symptoms included abdominal pain, weight loss, nausea/vomiting, constipation, diarrhea, anemia, and GI bleeding. Imaging most frequently demonstrated circumferential wall thickening, ascites, or masses but was often nonspecific. Diagnosis was established primarily through esophagogastroduodenoscopy or colonoscopy with biopsy. Histologically, most cases represented invasive lobular carcinoma, although invasive ductal carcinoma was also observed. Accurate diagnosis relied on comprehensive IHC evaluation, typically demonstrating positivity for ER, PR, GATA-3, GCDFP-15, mammaglobin, and CK7, with negative staining for CK20 and CDX2. Several patients had radiologically occult breast primaries or previously negative mammograms. Treatment was predominantly systemic, including hormone therapy and chemotherapy, while surgery was generally reserved for palliation or management of complications. Outcomes were variable, with most patients either alive with disease or deceased from disease.

Conclusions
Breast cancer diagnosed on GI biopsy remains rare and requires careful clinicopathologic correlation to ensure appropriate diagnosis and treatment.

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Scholars Fellowship Award, School of Medicine Greenville

Oral Session II
Abstract 40

Allison Phelps



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Mentor
Erica Lowing, MD

Improving Menopause Care Through Resident Education: A Standardized Menopause Educational Module for Resident Trainees

Background/Purpose
Menopause education in residency programs is lacking across specialties, including Obstetrics & Gynecology (OB/GYN), Internal Medicine (IM), and Family Medicine (FM), with many programs lacking definitive curricula (1). In a survey to OB/GYN program directors, only 31.3% of directors reported having menopause curriculum in their program (1). In a cross-sectional study of OBGYN, IM, and FM residents, 6.8% of the residents reported feeling adequately prepared to care for a menopausal patient (2). This study evaluated the implementation of a single-session self-directed menopause educational module for OB/GYN, IM, and FM residents.

Methods
56 residents (18 OB/GYN, 22 IM, and 16 FM) participated in a standardized patient encounter, completed the menopause educational module, and repeated the patient encounter. A resident self-evaluation following each encounter contained self-assessment statements in confidence, knowledge, and patient-centered communication, using a 5-point Likert scale of which a resident could give a score of 1 (strongly disagree) through 5 (strongly agree).

Results
Following completion of the menopause educational module, residents reported significant improvements across all self-assessment measures. The most significant changes were observed in knowledge-related items, including understanding the clinical principles of diagnosing and staging menopause (mean change 1.43, 95% CI 1.21-1.64) and applying evidence-based guidelines to menopause management (mean change 1.25, 95% CI 1.02-1.48). Significant gains were also reported in counseling confidence, assessment of hormone therapy risks and benefits, addressing common misconceptions, and provision of empathetic menopause counseling (all $p<0.001$). These findings suggest that the educational intervention improved residents' perceived preparedness to provide menopause care. FM residents had the greatest improvement in confidence (mean change of 0.85), knowledge (mean change of 1.11), and patient-centered communication (mean change of 0.56), but knowledge improvements were substantial across all specialties. When stratified by postgraduate year, all training levels demonstrated improvements in each category.

Conclusions
The results suggest that a menopause education module was beneficial for OB/GYN, IM, and FM residents to improve their perceived confidence, knowledge, and patient-centered care while caring for menopausal patients.

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Poster Session II
Abstract 51

Avery Phelps



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Mentor
Jeremy Warren, MD

Robotic ventral hernia repair series: Evaluating long-term outcomes

Background/Purpose
Robotic ventral hernia repairs have demonstrated short-term outcomes comparable to those of laparoscopic and open ventral hernia repairs. However, long-term outcomes following robotic repair have yet to be fully characterized, and short-term follow-up may not fully capture recurrence or delayed surgical site complications. This study aimed to characterize long-term outcomes following robotic ventral hernia repair in a large institutional series.

Methods
A retrospective review was conducted of 729 robotic ventral hernia repairs performed at Prisma Health between 2013 and 2026. Data were collected in REDCap and the Abdominal Core Health Quality Collaborative (ACHQC), including patient demographics, hernia characteristics, operative details, length of stay, long-term follow-up modality, hernia recurrence, surgical site infections (SSIs), and surgical site occurrences (SSOs).

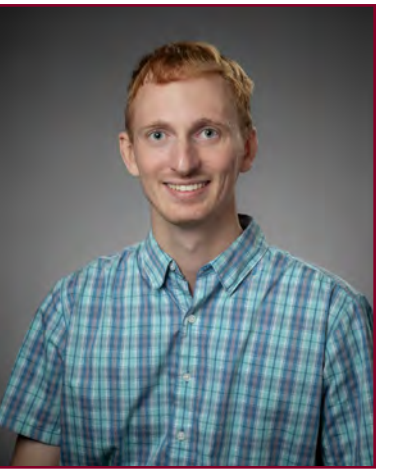
Results
Among the 729 robotic ventral hernia repairs reviewed, median body mass index was 35.5 kg/m_, median hernia width was 6 cm, and median hospital length of stay was 1 day (range, 0 - 51 days). Peak annual case volume occurred between 2018 and 2022. Long-term follow-up was available for 609 patients, with a median duration of 48 months. The overall hernia recurrence rate in these patients was 6.1%. The SSI rate was 0.3%, and the SSO rate was 6.1%, with seromas accounting for the majority of SSOs.

Conclusions
With a median follow-up of 48 months, this series provides a longer duration of follow-up compared to much of the existing literature analyzing robotic ventral hernia repairs. The 6.1% recurrence rate and identification of delayed SSOs and SSIs indicate that clinically relevant outcomes continue to be identified beyond the follow-up periods of many prior studies. These findings also provide a foundation for future comparisons of long-term outcomes among robotic, laparoscopic, and open ventral hernia repair.

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Scholars Fellowship Award, School of Medicine Greenville and the Prisma Health Department of Surgery

Poster Session II
Abstract 42

Brandon Phillips



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Mentor
Christine Schammel, PhD

Does Surgical Pathology Correlate with Completion of Key Pancreatic CT Criteria in Patients Undergoing Pancreaticoduodenectomy?

Background/Purpose
Pancreaticoduodenectomy (Whipple procedure) is the standard surgical treatment for malignant, premalignant, and selected inflammatory diseases of the pancreatic head and periampullary region. Dedicated pancreatic protocol computed tomography (CT) is the imaging gold standard for preoperative evaluation, providing critical information regarding tumor characteristics, vascular involvement, and resectability. However, conventional free-text radiology reports frequently omit key findings recommended by National Comprehensive Cancer Network (NCCN) guidelines. This study evaluated the completeness of NCCN-based reporting elements in preoperative CT reports for patients undergoing pancreaticoduodenectomy at a regional medical center.

Methods
Following institutional review board approval, a retrospective review was performed of adults undergoing pancreaticoduodenectomy between January 2024 and December 2025 at a single institution. Demographic, clinicopathologic, and imaging data were collected. CT reports were evaluated for inclusion of NCCN-derived morphologic, arterial, venous, and extrapancreatic reporting elements. Comparisons between pancreatic protocol and non-pancreatic protocol CT were performed using chi-square or Fisher's exact tests, one-way analysis of variance, and univariate logistic regression.

Results
Seventy-five patients were included; all underwent pretreatment CT, with 62 (82.7%) receiving pancreatic protocol CT. Overall report completeness was low, with mean completion rates of 76.4% for morphologic findings, 37.6% for extrapancreatic findings, 21.2% for venous criteria, 15.7% for arterial criteria, and 30.1% overall. Non-pancreatic protocol CT reports were significantly less likely to document tumor size, tumor location, celiac axis contact, and superior mesenteric artery contact, and demonstrated significantly lower arterial, venous, and overall completion rates.

Conclusions
Preoperative CT reports for patients undergoing pancreaticoduodenectomy frequently lacked key NCCN-recommended imaging elements, particularly vascular assessment. Pancreatic protocol CT improved reporting completeness, although deficiencies remained. Adoption of standardized synoptic reporting may improve report completeness, facilitate multidisciplinary communication, and enhance preoperative surgical planning.

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Scholars Fellowship Award, School of Medicine Greenville

Oral Session II
Abstract 104

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Mentor
Christine Schammel, PhD

H pylori-negative Chronic Active Gastritis: Pathologic Diagnosis, Etiology, Diagnostic Methods, and Follow-up

Background/Purpose
Chronic active gastritis (CAG) is a histopathologic diagnosis defined by the concurrent presence of chronic mononuclear inflammatory infiltrates and active neutrophilic inflammation within the gastric mucosa. Although H. pylori is the most common cause of gastritis worldwide, recent studies point to an upward trend in H. pylori-negative gastritis, for which the etiology, clinical significance, and optimal management remain poorly defined. This retrospective chart review aims to refine the evaluation and management of patients with H. pylori-negative CAG by characterizing clinical presentations, diagnostic evaluations, treatment patterns, and follow-up.

Methods
Following IRB approval, all patients over the age of 18 diagnosed with H. pylori-negative CAG between 1/1/2025 and 5/6/2025 were retrospectively evaluated. Patients with inactive gastritis, acute gastritis, or records indicating H. pylori infection were excluded. Demographic and clinicopathologic data were collected, including patient history, EGD findings, biopsy findings, iron and vitamin B12 deficiencies, medication history, and repeat EGD follow-up.

Results
The cohort was predominantly female (56.7%) and White (60.0%), with 63.3% classified as overweight or obese. GERD (76.7%), abdominal pain (66.7%), nausea/vomiting (56.7%), and loss of appetite (40.0%) were the most common presenting features. Chemical/NSAID-related gastritis was identified in 40.0% of cases and autoimmune gastritis in 3.3%; 56.7% of cases remained without a clearly identifiable etiology. Iron deficiency was present in 60.0% and vitamin B12 deficiency in 53.3% of patients. PPI therapy was nearly universal (96.7%).

Conclusions
Findings support a systematic, etiology-directed approach to H. pylori-negative chronic gastritis encompassing identification of underlying causes, nutritional deficiency evaluation, and histopathologic assessment. Despite comprehensive review, over half of cases remained without a clearly identifiable etiology, underscoring the persistent diagnostic uncertainty inherent to H. pylori-negative CAG. The nearly universal use of PPI therapy irrespective of etiology reflects a uniform treatment approach despite the heterogeneous nature of this condition.

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Poster Session I
Abstract 94

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Mentor
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Beyond Fascial Closure: Long-Term Patient-Reported and Surgical Outcomes Following Partial Fascial Closure During Open Abdomen Therapy

Background/Purpose
Damage control laparotomy (DCL) is a lifesaving strategy for critically ill trauma and emergency general surgery (EGS) patients that often requires temporary open abdomen management, placing patients at risk for fascial retraction, planned ventral hernia and long-term abdominal wall dysfunction. Negative pressure wound therapy (NPWT) is commonly used for temporary abdominal closure, and partial fascial closure (PFC) can be added to preserve the abdominal wall and facilitate definitive closure; however, it remains unclear whether these surgical benefits result in better long-term patient-reported abdominal wall function and quality of life.

We compared patients managed with NPWT plus PFC to those managed with NPWT alone to evaluate surgical outcomes, including planned ventral hernia rate (PVHR), and long-term abdominal wall function and quality of life using the Hernia-Related Quality-of-Life Survey (HerQLes).

Methods
Clinical outcomes were retrospectively collected from the electronic medical records of patients undergoing DCL with temporary open abdomen management at a Level I trauma center from 2016-2026. Long-term abdominal wall function and quality of life were assessed by telephone using the validated HerQLes survey. HerQLes data were available for 86 patients: 67 managed with NPWT alone and 19 managed with NPWT plus PFC.

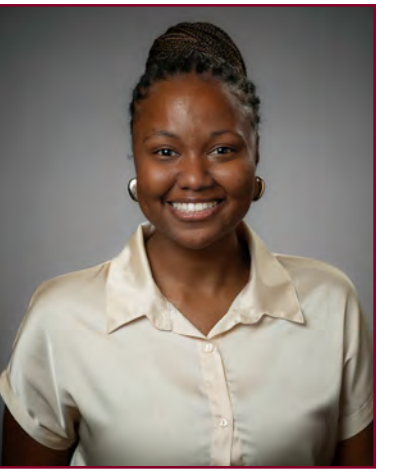
Results
Among 389 patients, 92 were managed with NPWT plus PFC, and 297 with NPWT alone. Compared with NPWT alone, NPWT plus PFC had a higher rate of fascial closure during index hospitalization (98.9% vs 85.9%, $p < 0.001$), lower PVHR (1.1% vs. 14.1%, $p < 0.001$), and shorter time to definitive fascial closure (2.0 ± 1.3 vs. 3.8 ± 4.6 days, $p < 0.001$). There were no significant differences in postoperative complications, reoperation, or in-hospital mortality between groups. HerQLes scores also did not differ significantly between the NPWT plus PFC and NPWT-alone groups (55.1 ± 32.7 vs. 65.0 ± 32.6, $p = 0.248$).

Conclusions
Compared with NPWT alone, NPWT plus PFC was associated with improved surgical outcomes without increased complications, reoperation, or mortality. However, no significant difference in long-term patient-reported abdominal wall function or quality of life was identified. Larger prospective studies with greater long-term follow-up are needed to determine whether improved surgical outcomes translate to improved quality of life for patients.

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Poster Session II
Abstract 52



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Closing the Gap: Community Paramedicine and Hepatitis C Treatment Success Following Emergency Department Screening

Background/Purpose
Emergency department (ED) hepatitis C virus (HCV) screening identifies HCV in patients who may face barriers to accessing conventional office-based treatment (OBT), and community paramedics (CP) can extend HCV treatment.

Methods
Retrospective cohort study evaluated adults (³18 years) with active HCV identified at a community hospital and tertiary care center ED from 10/1/21-7/20/26. ED care coordinators link HCV+ patients to OBT. Patients unable to access OBT because of transportation barriers or missed appointments were offered CP intervention, where CPs facilitate telehealth visits, perform baseline and 4-week post-treatment lab work, and provide medication assistance and delivery. Patients completing prescribed HCV medication regimen (sofosbuvir/velpatasvir or glecaprevir/pibrentasvir) were classified as completing treatment. Undetectable HCV RNA four weeks post-treatment (SVR4) was classified as virologic cure. Chi-square and T-tests compared differences in the distribution of characteristics between CP and OBT patients. Multivariable logistic regression calculated adjusted odds ratios and 95% confidence intervals (aOR, 95% CI), adjusting for age, sex, race, liver disease, self-report of any substance use disorder (SUD) or injection drug use at the time of treatment, and 2022 Social Vulnerability Index (SVI).

Results
Among 472 patients, 42 (8.9%) were CP participants. Age, sex, race, liver disease, SUD, injection drug use and SVI did not differ significantly between the groups. Treatment completion occurred in 52.4% of CP participants versus 24.9% of OBT patients (_2 p=0.0005), and cure occurred in 50.0% versus 24.9%, respectively (_2 p=0.0005). After adjustment for confounders, CP participants over three-fold higher odds of treatment completion (3.23; 1.54-6.79) and over three-fold higher odds of cure (3.13, 1.48-6.59) compared with patients receiving OBT.

Conclusions
Community paramedicine was associated with substantially improved HCV treatment completion and virologic cure among patients linked to treatment following ED-based screening. Findings suggest CP programs may reduce barriers to HCV care and help close the gap between diagnosis and cure in vulnerable populations. Limitations include single-site, retrospective data collection, inability to account for all confounders, and selection bias excluding individuals with no known address.

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Poster Session II
Abstract 35

Dora Rice



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Objectively Measured Physical Activity in a Chronic Disease Cohort: A Literature Review

Background/Purpose
Physical activity (PA) is a key determinant of health and is associated with improved health outcomes. Accelerometers objectively quantify PA and classify intensity using established cut points. While hip-worn accelerometers have traditionally been used, wrist-worn devices have grown in popularity due to improved participant compliance and ability to capture upper-extremity movement. The aims for this literature review were: 1) to provide an overview of the use of accelerometers in a chronic disease cohort, and 2) to determine current analytical approaches for wrist-worn accelerometers, particularly vector magnitude counts per minute (VMCPM) cut points used to classify PA intensity in chronic disease populations.

Methods
Initial search terms using the PubMed database were, ((“Obesity” OR “Hypertension” OR “Dyslipidemia” OR “Diabetes Mellitus” OR “Sedentary”) AND “Accelerometry”). Studies were reviewed to identify key trends and patterns between articles on accelerometer usage and analysis across a broad cohort of chronic disease patients. A refined search using “ActiGraph” as a search term and filtering results to adults aged ³19 years helped identify the most frequently used pre-processing and analysis parameters in adults with chronic disease.

Results
The literature search identified 102 articles published between 2000-2026; 10 of which used wrist-worn ActiGraph accelerometers. Fifty-eight articles lacked agreement regarding cut-points, accelerometer models, and eligibility requirements for participation. The most frequently reported previously validated cut-points: Montoye 2020 (2/10), Freedson 1998/Troiano 2008/Sasaki 2011 (1/10), and Hibbing 2018 (1/10). Montoye 2020 classified PA intensity (measured in VMCPM) as sedentary (<2860), light (2860-3940), and moderate-vigorous (>3940); Troiano 2008 as sedentary (0-99), light (100-2019), moderate (2020-5998), and vigorous (³5999); Freedson 1998 as sedentary (0-99), light (100-1951), moderate (1952-5724), and vigorous (³5725); and Sasaki 2011 as light (0-2690), moderate (2691-6166), and vigorous (³6167). Hibbing classified PA intensity utilizing metabolic equivalents. Six out of 10 articles did not report or use validated cut-point values.

Conclusions
Greater adoption of wrist-specific analytical methods and cut-points may improve the accuracy of PA classification by accounting for both upper- and lower-extremity movement. These findings highlight the need for additional research and consensus on analytical approaches for objectively measuring PA in adults with chronic disease.

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Caleb Rogers

Poster Session I
Abstract 37



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Development of a Patient-Facing Infographic and FAQ Document Using Input from Patient Experts for an Implementation Facilitation Study

Background/Purpose
Exercise is Medicine Greenville (EIMG) is a clinic-to-community physical activity (PA) referral pathway designed to improve the health and well-being of adults who are physically inactive and/or living with chronic disease. Challenges persist across clinics in identifying and referring eligible patients to the program. Therefore, individualized Implementation Facilitation (IF) approaches are being used with participating Prisma Health clinics. Improved information sharing could be achieved through patient-facing documents, including infographics and "frequently asked questions" (FAQ) sheets. To create an effective infographic and FAQ sheet as options for IF, we sought guidance from the University of South Carolina School of Medicine Greenville Patient Engagement Studio (PES).

Methods
The PES is composed of patient experts offering unique perspectives to ensure research better aligns with patient needs. The infographic and FAQ sheet were designed to concisely address common points of confusion regarding EIMG. First drafts were created by the medical student research team and presented to PES patient experts by PES moderators. The PES team generated a detailed report with their feedback, which the EIMG team incorporated into final drafts. The use of these documents by primary care clinics, in addition to or instead of other IF resources/activities, was tracked in the first step of the IF stepped wedge trial.

Results
PES feedback guided key revisions of both documents, including placement of the cost and insurance information sections, a statement regarding the program's impact on social health, and additional referral timeline details. Six clinics participated in Wave 1 of the stepped wedge trial, all of which are receiving active IF as of September 2026. Clinic staff were asked to rank their preferred facilitation activities to create a customized, clinic-specific IF plan. Four clinics selected the FAQ sheet, and three the infographic

Conclusions
We found working with the PES patient experts to be an effective method to tailor patient messaging. Beyond serving as an outside perspective, patient experts provided valuable insight into the patient experience. These recommendations directly shaped the final infographic and FAQ sheet, which will continue to be utilized as IF resources and help to improve efficiency of the EIMG referral process.

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Poster Session I
Abstract 115

Rae Schiess



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Preoperative Nerve Blocks and Prolonged Opioid Use Following Lower Extremity Amputation in Patients With Vascular Disease

Background/Purpose
Lower extremity amputations are associated with significant morbidity and mortality, particularly among patients with vascular disease. Sedation or monitored anesthesia care (MAC) combined with peripheral nerve blocks may help reduce perioperative opioid requirements and improve postoperative pain management. However, the relationship between anesthetic technique, preoperative nerve block use, and prolonged postoperative opioid use remains unclear. This retrospective study aims to evaluate the association between preoperative nerve block use and prolonged postoperative opioid use in patients with vascular disease undergoing above- or below-knee amputation. Findings may help identify opportunities to optimize perioperative anesthesia and pain management, reduce opioid use, and improve long-term patient quality of life.

Methods
This retrospective cohort study includes adult patients with documented peripheral vascular disease who underwent below-knee or above-knee amputation at Prisma Health between March 2023 and March 2024. Patients were identified through the institutional electronic medical record system. Chart review has continued to collect demographic characteristics, comorbidities, anesthetic technique, use of regional anesthesia or peripheral nerve blocks, and postoperative opioid utilization. Opioid consumption during the index hospitalization is assessed using oral morphine milligram equivalents (MME). Prolonged postoperative opioid use is evaluated based on opioid prescriptions filled 90-180 days following surgery.

Results
Chart review remains ongoing, and further data analysis is pending. The association between preoperative nerve block use and prolonged postoperative opioid use has not yet been determined.

Conclusions
This study will evaluate the relationship between preoperative nerve block use and prolonged postoperative opioid use among patients with vascular disease undergoing lower extremity amputation. Findings may help inform perioperative pain management strategies and guide future research into approaches to reducing prolonged opioid use in this patient population.

Rae Schiess

Poster Session II
Abstract 116



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Restructuring Medical Student Organizations Through a Coalition-Based Leadership Model: A Quality Improvement Initiative

Background/Purpose
Medical student organizations provide opportunities for professional development, specialty exploration, leadership, and community engagement. However, an increasing number of student organizations, competing leadership commitments, limited funding, and scheduling constraints can contribute to fragmented programming, low event attendance, and uneven distribution of leadership responsibilities. At the University of South Carolina School of Medicine Greenville (USCSOMG), these challenges were amplified by an accelerated preclerkship curriculum, prompting the need for a more sustainable organizational structure.

Objective: To describe the development and early implementation of a coalition-based student organization model designed to improve student engagement, distribute leadership responsibilities, optimize organizational resources, and strengthen community impact.

Methods
This quality improvement initiative followed the Plan-Do-Study-Act (PDSA) framework. Student Government Association (SGA) leadership collaborated with student organization leaders, the Office of Student Affairs, school administration, and a student working group to evaluate limitations of the existing structure and develop a revised organizational model. The previous system included more than 65 interest groups and approximately 250 leadership positions within a class of 115 students. The revised model organized related interest groups into broader coalitions led by executive teams while preserving opportunities for specialty-specific exploration. Additional changes included a centralized election process, standardized leadership transitions, and a limit on the number of leadership positions held by individual students. Following administrative and student approval in May 2025, implementation began in fall 2025, with the incoming class of 2029 serving as the first cohort under the new model.

Results
Formal outcome evaluation remains ongoing. Planned measures include comparing the number of events and attendance between the new model and historical data from 2024-2025, with continued monitoring through 2026-2027.

Conclusions
A coalition-based leadership model represents a structured approach to addressing organizational fragmentation and resource limitations in medical education. By consolidating related interest groups while retaining specialty-specific programming, this initiative seeks to support a more sustainable distribution of leadership opportunities, improve student engagement, and maximize the educational and community impact of extracurricular activities. Continued evaluation is necessary to determine the model's effectiveness and guide subsequent PDSA cycles.

Cooper Schneider

Oral Session 1
Abstract 80



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Does Size Matter? A Matched Comparison of 400-µm and 600-µm Holmium Laser Fibers During HoLEP

Background/Purpose
Holmium laser enucleation of the prostate (HoLEP) is an established treatment for benign prostatic hyperplasia, with laser fibers of varying diameters available for enucleation. However, limited research has compared whether fiber diameter impacts operative performance and perioperative outcomes. This study aimed to compare operative performance and perioperative outcomes between 400-µm and 600-µm holmium laser fibers during HoLEP using a matched cohort.

Methods
Patients who underwent HoLEP between May 1, 2024, and July 31, 2025, were grouped by laser fiber diameter. Patients were matched 1:1 without replacement by pathologic specimen wet weight using a 5-g caliper, maximizing unique pairs while minimizing wet weight differences. Outcomes were compared using paired statistical tests. Multivariable linear regression with cluster-robust standard errors by matched pair evaluated the association between fiber diameter and enucleation time, adjusting for specimen wet weight and urinary retention

Results
Of 366 patients, 348 met eligibility criteria, including 133 treated with a 400-µm fiber and 215 with a 600-µm fiber. After matching and exclusion of three pairs containing missing enucleation-time values, the final cohort included 168 patients in 84 matched pairs. No statistically significant differences were observed for total operative time (86 vs 83 minutes; P=0.2), enucleation time (35 vs 34 minutes; P=0.3), morcellation time (5.5 vs 5.0 minutes; P=0.6), hemostasis time (7.0 vs 7.0 minutes; P=0.4), enucleation efficiency (1.41 vs 1.49 g/min; P=0.094), postoperative disposition (P=0.7), or 30-day complications (18% vs 15%; P=0.8). On multivariable analysis, fiber diameter was not independently associated with enucleation time (adjusted _, _2.23 minutes; 95% CI, _5.27 to 0.82; P=0.152), while greater specimen wet weight was associated with longer enucleation time (_, 0.28 minutes/g; 95% CI, 0.18-0.37; P<0.001).

Conclusions
In this matched cohort, 400-µm and 600-µm fibers demonstrated similar operative and short-term perioperative outcomes. Given its lower disposable cost, the 400-µm fiber may reduce procedural costs without an observed decrease in operative performance or short-term clinical outcomes.

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Poster Session I
Abstract 12

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Mentor
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Not Staying Put: Reasons for Transport Following a Prehospital Treat-in-Place Program

Background/Purpose
Low-acuity 9-1-1 utilization places a substantial burden on prehospital resources, straining emergency departments and EMS systems. Prehospital treat-in-place programs led by community paramedics (CPs) can reduce unnecessary ambulance transports and ED visits among low-acuity patients. However, little is known about why patients initially identified as appropriate for treatment-in-place ultimately require EMS transport. This study aimed to characterize circumstances for subsequent EMS transport among patients assigned to a prehospital treat-in-place program and identify barriers to successful diversion.

Methods
Data were obtained from Greenville County EMS's Prehospital Assisted Treatment and Healthcare Services (PATHS) program from 10/12/2025-7/20/2026. Adults (³18 years) with protocol-defined low-acuity 9-1-1 complaints were eligible for CP evaluation with nurse practitioner (NP) online or in-person support as needed. Encounters were reviewed if patients were transported to the ED following a PATHS evaluation. One investigator categorized transport reasons from EMS chart narratives. Two investigators independently assigned categories, with a third resolving discrepancies. Interrater reliability was assessed using percent agreement and Cohen's kappa. Descriptive statistics summarized transport reasons.

Results
Of 524 calls assigned to PATHS, 117 (22.3%) resulted in an EMS transport after PATHS patient contact. Reviewer percent agreement was 91.7% with a Cohen's Kappa of 89.7%. Most common reasons for patient transport after CP arrival were vitals/symptoms CPs deemed incompatible with patient remaining at scene (31.6%), patient requesting ambulance despite recommendation to receive treatment-in-place (34.8%), CP or NP determined need for imaging, labs, or procedures at the ED (15.4%), patient required social services or mental health evaluation (7.7%), or family member insisting on transport despite recommendation for treatment-in-place (4.3%). Seventeen (14.5%) encounters did not provide a clear reason for transport.

Conclusions
Most transports following treatment-in-place evaluations reflected clinical escalation due to CP/NP concerns for vital signs, symptoms, and the need for ED-based diagnostics. Additional questions during the CP screening process could expedite appropriate care and decrease ineligible PATHS responses. Patients and family members often declined to participate in PATHS, representing a modifiable barrier to treatment-in-place. Findings will inform modification of existing screening protocols and development of patient/family education on PATHS. Limitations of this single-site analysis include retrospective chart review, incomplete documentation, and documentation bias.

Poster Session I
Abstract 70

Veronica Scott



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Mentor
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Mild/Incomplete Lymphocytic Colitis on Colon Biopsy: Diagnosis, Treatment, and Disease Progression

Background/Purpose
Mild/incomplete lymphocytic colitis (LCi) is an understudied subtype of microscopic colitis (MC) characterized by clinical features similar to lymphocytic colitis (LC) without meeting the histologic threshold for diagnosis. Current management is extrapolated from LC despite limited evidence regarding its natural history and optimal treatment.

Methods
We conducted a retrospective single-institution cohort study of adults diagnosed with LCi between March 2016 and December 2025. Demographic, clinical, histopathologic, treatment, and outcome data were collected from the electronic medical record. Associations between clinical characteristics, medication exposures, treatment, symptom remission, and relapse were analyzed.

Results
Twenty-seven patients met inclusion criteria (mean age 65.8 years; 59.3% female). Diarrhea was the most common presenting symptom (81.5%), and colonoscopy demonstrated normal mucosa in 88.9% of patients. Most patients were overweight or obese (77.8%), and proton pump inhibitor (PPI) use was the most common medication exposure (70.0%). Smoking and alcohol exposure were reported in 51.9% and 74.1% of patients, respectively. All patients treated with budesonide who completed follow-up achieved symptom remission, with relapse in 22.2%. Patients managed without budesonide also achieved complete initial remission, with a higher but nonsignificant relapse rate (38.5%; p=0.43). Persistent irritable bowel syndrome (IBS)-like symptoms occurred in over half of patients.

Conclusions
LCi shares many clinical features with LC but may differ in treatment response. Conservative management, including withdrawal of potential offending medications, may be an appropriate initial strategy for selected patients. Larger prospective studies are needed to establish standardized diagnostic criteria and evidence-based treatment recommendations.

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Poster Session II
Abstract 84



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Mentor
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Progression of Operative Participation During HoLEP Training in an Endourology Fellowship

Background/Purpose
This study aimed to characterize fellow operative participation throughout Endourology fellowship training and evaluate whether increasing participation was associated with changes in operative performance.

Methods
A retrospective analysis was performed on 144 patients who underwent HoLEP for BPH between 09/16/2025 and 06/24/2026. All procedures were performed by an Endourology fellow under the supervision of a high-volume, fellowship-trained surgeon. Fellow operative participation was reported by the fellow and documented by operating room nursing staff. Outcomes of interest included enucleation time, morcellation time, and hemostasis time. Cases were divided chronologically into three fellowship stages of 48 cases each: early (09/16/2025-01/22/2026), mid (01/22/2026-04/02/2026), and late (04/07/2026-06/24/2026). Fellowship-stage differences were assessed using one-way ANOVA with Tukey post hoc testing, while linear regression evaluated the association between case number and fellow operative participation.

Results
Mean fellow operative participation increased significantly across fellowship stages from 58.9% early to 70.9% mid and 76.5% late (ANOVA, $p = 0.001$), representing a 29.9% relative increase from early to late fellowship. Post hoc analysis demonstrated significantly greater operative participation during mid ($p = 0.035$) and late fellowship ($p = 0.001$) compared with early fellowship, with no significant difference between mid and late fellowship ($p = 0.487$). Linear regression demonstrated a significant positive association between fellowship case number and fellow operative participation ($B = 0.205$, $R_ = 0.121$, $p < 0.001$). Despite increasing fellow participation, enucleation (59.2 vs 54.8 vs 51.7 min; $p = 0.140$), morcellation (10.1 vs 7.3 vs 8.3 min; $p = 0.265$), and hemostasis times (6.8 vs 7.4 vs 7.4 min; $p = 0.770$) did not differ significantly across fellowship stages.

Conclusions
Fellow operative participation increased by 29.9% relative to early fellowship, demonstrating progressive operative autonomy. Increasing fellow participation was not associated with significant differences in operative performance metrics, demonstrating increasing autonomy while maintaining standard operative times.

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Poster Session II
Abstract 105

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Investigating Discrepancies in Brain Age Across Motor Subtypes of Parkinson's Disease

Background/Purpose
Parkinson's disease (PD) is a heterogeneous neurodegenerative disorder characterized by variability in motor presentation and disease progression. Motor phenotypes, including tremor-dominant (TD) and postural instability/gait difficulty (PIGD) subtypes, may reflect differences in underlying neurodegenerative processes. Brain age gap (BAG), defined as the difference between neuroimaging-predicted brain age and chronological age, has emerged as a potential biomarker of neurodegeneration. Although increased BAG has been associated with PD and disease progression, whether BAG differs across PD motor subtypes remains unclear. This study investigated whether structural MRI-derived BAG differs among healthy controls (HC), TD PD, and PIGD PD participants in the Parkinson's Progression Markers Initiative (PPMI) cohort. We hypothesized that participants with PD would demonstrate a greater positive BAG than HC, with PIGD participants exhibiting the greatest BAG.

Methods
T1-weighted structural MRI scans from PPMI participants were analyzed using VolBrain to generate predicted brain age estimates. BAG was calculated as predicted brain age minus chronological age, with positive values indicating an older-appearing brain relative to chronological age. Participants were classified as HC, TD, or PIGD, and analyses were restricted to records that passed quality control. Differences in BAG among groups were evaluated using a one-way analysis of variance (ANOVA).

Results
The final sample consisted of 125 participants, including 34 HC, 80 TD, and 11 PIGD participants. BAG did not significantly differ among the three groups, $F(2, 122) = 0.62$, $p = .538$, $__ = .010$. Motor subtype accounted for approximately 1% of the variance in BAG, indicating a negligible effect. The substantially smaller PIGD sample may have limited statistical power to detect group differences.

Conclusions
In this PPMI sample, structural MRI-derived BAG did not significantly differ among HC, TD, and PIGD participants. These findings suggest that BAG may not distinguish PD motor phenotypes in this cohort, although the unequal distribution of motor subtypes, particularly the small PIGD sample, limits definitive conclusions. Larger and more balanced samples, as well as longitudinal analyses, may help determine whether accelerated brain aging is associated with PD motor phenotype or disease progression.

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Poster Session I
Abstract 108

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Robotic Ventral Hernia Repair Series: Evaluating Long-Term Outcomes

Background/Purpose
Robotic ventral hernia repairs have demonstrated short-term outcomes comparable to those of laparoscopic and open ventral hernia repairs. However, long-term outcomes following robotic repair have yet to be fully characterized, and short-term follow-up may not fully capture recurrence or delayed surgical site complications. This study aimed to characterize long-term outcomes following robotic ventral hernia repair in a large institutional series.

Methods
A retrospective review was conducted of 729 robotic ventral hernia repairs performed at Prisma Health between 2013 and 2026. Data were collected in REDCap and the Abdominal Core Health Quality Collaborative (ACHQC), including patient demographics, hernia characteristics, operative details, length of stay, long-term follow-up modality, hernia recurrence, surgical site infections (SSIs), and surgical site occurrences (SSOs).

Results
Among the 729 robotic ventral hernia repairs reviewed, median body mass index was 35.5 kg/m_, median hernia width was 6 cm, and median hospital length of stay was 1 day (range, 0 - 51 days). Peak annual case volume occurred between 2018 and 2022. Long-term follow-up was available for 609 patients, with a median duration of 48 months. The overall hernia recurrence rate in these patients was 6.1%. The SSI rate was 0.3%, and the SSO rate was 6.1%, with seromas accounting for the majority of SSOs.

Conclusions
With a median follow-up of 48 months, this series provides a longer duration of follow-up compared to much of the existing literature analyzing robotic ventral hernia repairs. The 6.1% recurrence rate and identification of delayed SSOs and SSIs indicate that clinically relevant outcomes continue to be identified beyond the follow-up periods of many prior studies. These findings also provide a foundation for future comparisons of long-term outcomes among robotic, laparoscopic, and open ventral hernia repair.

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Scholars Fellowship Award, School of Medicine Greenville and the Prisma Health Department of Surgery

Zac Simpson

Poster Session I
Abstract 110



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Systematic Review of Pediatric Respiratory Syncytial Virus (RSV) Severity Scoring Methodology and Effectiveness

Background/Purpose
Respiratory Syncytial Virus (RSV) is one of the most common pediatric respiratory illnesses, particularly in children. There are a variety of existing scoring systems meant to assess the severity of a presenting RSV case, and these tools can assist healthcare professionals in classifying the severity of the infection which may impact treatment decisions for the patient. Not all RSV scoring systems are equally effective for all populations, and given the substantial RSV burden faced by South Carolina's children and infants, a more targeted RSV severity score may improve triage for children in South Carolina with RSV. This study aims to evaluate existing scoring systems and identify what clinical indicators are most significant and consistent in leading to the appropriate severity classification. Understanding what factors are most influential in RSV severity will assist development of an RSV Scoring Tool for use in the pediatric population of South Carolina.

Methods
Articles were screened from four databases, assembling 31,665 articles relevant to RSV severity scoring. Exclusion criteria applied to this pool of sources included reviews, systematic reviews, meta-analyses, commentaries, or involved a population over 18 years old. Through a systematic review of these studies, data was extracted based on the parameters outlined in the PRISMA 2020 checklist, including study design and key outcomes.

Results
Preliminary results suggest that the majority of studies employing RSV severity scoring tools use retrospective or prospective study designs and are limited by small, non-representative samples. Across studies, the clinical indicators most consistently associated with RSV disease severity include younger age, prematurity of birth, coinfection, and apnea. However, the impact of these factors varies by age group.

Conclusions
These preliminary findings suggest that an RSV severity scoring system should be adaptable across pediatric age groups and should account for baseline health status. Evaluation of RSV disease-associated considerations in South Carolina patient data will allow for a more specialized understanding of the factors most relevant to this population. Through the synthesis of global literature with local clinical data, this work has the potential to improve RSV infection outcomes within the pediatric population of Upstate South Carolina.

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Scholars Fellowship Award, School of Medicine Greenville

Poster Session I
Abstract 62

Christina Sims



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Comprehensive Scoping Review Related to Meeting the Neurodevelopmental Needs of Children with Autism Spectrum Disorders Accessing Emergency Care

Background/Purpose
Autism Spectrum Disorder (ASD) affects about 3.2% of children in the United States, and presents in a plethora of ways, from minor differences in communication style to severe obstacles in daily life such as new environments and sensory triggers. Children with ASD receive care in the emergency department (ED) at a much higher rate than their neurotypical counterparts and unfortunately wait longer for diagnosis and treatment in part due to the sensory and behavioral challenges created in an acute healthcare setting. The pediatric emergency department can be a loud, bright and chaotic place, and healthcare professionals may struggle to identify and meet the needs of the neurodivergent child in the medical environment.

Methods
The purpose of this scoping review is to find relevant literature and studies that help identify the barriers to care that patients with autism may face in the pediatric ED. With the help of software tools like Covidence, the team has conducted a broad review of hundreds of titles and abstracts to determine relevance to the topic. After the initial broad review, a more in-depth analysis of each selected article will be conducted.

Results
These results will provide possible explanations for the disparities between children with autism and their neurotypical peers with regards to the care they receive in the pediatric ED. Secondly, they will assist in outlining interventions that have been demonstrated to support the unique needs of children with ASD.

Conclusions
With the background and guidance of the reviewed literature, hypotheses regarding potential interventions will be developed and tested at Greenville Memorial Hospital Pediatric ED, then Emergency Departments across the Greenville area.

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Scholars Fellowship Award, School of Medicine Greenville

Caroline Smith

Poster Session I
Abstract 22



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Mitochondrial Gene Expression in Embryonic Cell Populations and Blastocoel Fluid Reflects Maternal Age and Implantation Outcome

Background/Purpose
Infertility affects 1 in 6 people globally, with advanced maternal age (AMA; ³35 years) at increased risk. In vitro fertilization (IVF) is the leading treatment for infertility; however, only about 50% of transferred embryos successfully implant. This number decreases with increasing maternal age, influenced by maternal mitochondrial gene products crucial for early development and implantation. Current methods for selecting the most viable embryos for transfer have shown limited implantation rate improvement. This study aims to identify mitochondrial gene expression signatures in trophectoderm (TE), inner cell mass (ICM), and blastocoel fluid-conditioned media (BFCM) to better predict embryo transfer outcomes.

Methods
TE and ICM were isolated from 10 euploid embryos (5 <35 years; 5 AMA). BFCM was collected from 190 embryos (100 <35; 90 AMA), stratified by implantation success (endometrial implantation of respective embryo) and pooled (n=10). RNA purification and cDNA synthesis were performed for TE, ICM, and pooled BFCM samples. RT-qPCR assessed 11 genes of interest (GOI), identified through previous RNA-seq (DNAJC19, NOA1, MTND2, MTND5, MLRP45, FXN, RAB9A, TOMM70, ISCU, ATP5A1, MTATP8), and 18S control. Delta CT values were calculated (18S - GOI) to evaluate relative gene expression; genes expressed in negative controls were excluded (MTATP8).

Results
TE from patients <35 showed higher relative gene expression compared to TE from AMA patients, except for TOMM70. ICM showed no consistent age-associated changes. BFCM of successful implantation paralleled TE expression patterns of DNAJC19, TOMM70, ISCU, and ATP5A1 in the <35 age group but was attenuated among AMA groups. BFCM of successful implantation consistently showed higher expression than BFCM of unsuccessful implantation for DNAJC19, FXN, TOMM70, and ATP5A1.

Conclusions
Maternal age impacts mitochondrial gene expression in TE, while ICM remains relatively conserved, potentially accounting for declining implantation rates. Overlap in expression patterns between <35 TE and BFCM of successful implantation outcomes (DNAJC19, TOMM70, ISCU, and ATP5A1) supports further investigation of BFCM as a non-invasive tool to enhance embryo selection. This preliminary study evaluates only the relative expression of these gene products, and future studies aim to identify consistent value ranges for prediction by expanding sample data, particularly TE and ICM.

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Oral Session II
Abstract 59

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Improving Conceptual Understanding in Immunology with AI-Generated Practice Questions: Development and Evaluation Study

Background/Purpose
As artificial intelligence (AI) becomes increasingly integrated into medical education, students and educators are exploring its use for feedback, tutoring, and practice question generation. Developing high-quality board-style multiple-choice questions (MCQs) is time-consuming, and AI tools provide an opportunity to streamline this process. Through prompt engineering, AI can generate higher-order MCQs that assess knowledge application rather than simple recall. Concept maps are validated educational tools that improve understanding and retention by representing meaningful relationships among concepts; however, their utility as references for AI-generated MCQs is unknown. We aimed to engineer and evaluate a ChatGPT prompt that generates higher-order, National Board of Medical Examiners (NBME)-style MCQs from concept maps.

Methods
The NBME Item-Writing Guide and a validated immunology concept map (ICM), with cropped images to improve readability, were provided to ChatGPT 5.5 (Pro). The prompt was iteratively refined by evaluating sets of 10 MCQs based on 9 characteristics of quality NBME-style MCQs: higher-order reasoning, NBME format, relevance, accuracy, lead-in clarity, option parallelism and homogeneity, test-wise cueing, explanation format, and answer-choice distribution. Prompts producing first-order questions were rejected. Refinement continued until the prompt consistently generated 10 higher-order questions and met a prespecified quality target of at least 7 out of 10 in each characteristic. The finalized prompt was then tested using 23 student-generated concept maps, with questions evaluated by three independent reviewers.

Results
Higher-order reasoning was the primary characteristic guiding prompt refinement. Prompt 4 was the first to generate 10 higher-order questions; subsequent prompts producing first-order questions were rejected. Option homogeneity and test-wise cueing were the next most discriminating characteristics. Prompt 16 achieved the quality target and maintained acceptable performance in two additional ICM trials. Among 13 handwritten and 10 typed student-generated concept maps, typed maps produced significantly better option homogeneity ($p<.001$), with no significant differences between concept map format in any other characteristic.

Conclusions
An engineered ChatGPT prompt is able to consistently generate higher-order, NBME-style MCQs from validated and student-generated concept maps. Future studies will assess learner outcomes and psychometric performance on concept map-based AI-generated questions. Beyond their established pedagogical value, concept maps may serve as structured, reusable references for AI-assisted development of medical assessments.

Poster Session II
Abstract 74

John M. Stevens



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Mentor
Jacob Bailey, MS

5 Year Minimum Follow-Up of Closed Reduction for Developmental Dysplasia of the Hip in Children Older Than 18 Months at Time of Treatment

Background/Purpose
Debate exists regarding the optimal primary treatment method for late presenting developmental dysplasia of the hip in children older than 18 months. Closed reduction of the hip may be achievable but is associated with high rates of secondary surgery for residual dysplasia, leading some to pursue alternative treatment methods such as open reduction and/or pelvic osteotomy. The goal of this review was to evaluate medium-term outcomes after initial closed reduction and spica casting in children aged 18 months or older.

Methods
A retrospective review was performed across 14 institutions. Inclusion criteria were age ³18 months at the time of treatment, closed reduction and spica casting as the primary intervention, and a minimum 5-year follow-up or earlier secondary surgery for residual dysplasia. Chart review captured demographics, details of the index intervention, and secondary interventions performed following the initial closed reduction.

Results
Forty-two patients (38 female and 4 male) with 51 involved hips met inclusion criteria. The mean age at initial closed reduction was 21.9 ± 5.3 months (range, 18-44). Two hips were excluded from closed-reduction outcome analysis because they could not tolerate casting for six weeks. Mean casting duration was 3.4_±_1.0 months with an average of 2.4_±_0.8 casts. Two hips redislocated following index cast removal, leaving 47 hips in the follow up cohort. Of these, 36 hips (76.6%) required at least one secondary procedure, while 11 hips (23.4%) did not undergo additional surgery during the follow up period. Secondary procedures included open reduction (21.3%), pelvic osteotomy (74.5%), and femoral osteotomy (19.1%). The mean time from closed reduction to open reduction, pelvic osteotomy, and femoral osteotomy was 192_±_106, 719_±_442, and 358_±_314 days, respectively.

Conclusions
Closed reduction in children older than 18 months demonstrated a high rate of residual dysplasia and substantial need for secondary surgical intervention. Reliable acetabular remodeling is uncommon when closed reduction is performed after 18 months of age, making consistent follow up essential to identify residual dysplasia before irreversible deformity develops. Surgeons may consider alternative initial strategies - such as combining closed reduction with pelvic osteotomy - because acetabular correction is unpredictable and often insufficient in older children.

Poster Session I
Abstract 32

Eliza Stojkov



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Treatment Engagement in the Magdalene Clinic: A Retrospective Review of Pregnant Individuals with Substance Use Disorders

Background/Purpose
Substance use disorders (SUD), including opioid use disorder (OUD), among pregnant individuals represent a significant public health concern in the United States. Over the past two decades, the prevalence of SUD/OUD during pregnancy has increased substantially. Despite strong evidence supporting the benefits of treatment during pregnancy, the lack of treatment received amongst pregnant individuals with SUD may be traced back to various barriers that prevented individuals from accessing or engaging in care.

The Magdalene Clinic is a specialized prenatal care program that provides a safe, supportive, and multidisciplinary approach to caring for pregnant individuals with SUD. This study aimed to describe the demographic, social, and clinical characteristics associated with the patients participating in the Magdalene Clinic program to better understand the population served and inform future efforts to optimize specialized prenatal care.

Methods
We conducted a retrospective chart review of pregnant individuals who were eligible for intensive care management through the Magdalene Clinic between 2017 to the present. Participants were identified through electronic medical records to identify eligible cases for data abstraction and analysis.

Results
During the study period, 555 pregnancy episodes with Magdalene Clinic participation were identified and included in the retrospective chart review. Most participants were white (85.2%), single (66.8%), and covered by Medicaid (84.4%). Fewer than half of participants (43.8%) had a urine drug screening on their delivery date, and 11.4% had a positive result. Almost half of participants (47.6%) completed a postpartum visit within 12 months of delivery, and 42.5% had at least one all-cause ED visit within 12 months after delivery.

Conclusions
This study provides a descriptive profile of individuals receiving care through the Magdalene Clinic. The differences in demographic, social, and clinical characteristics can help identify barriers to treatment and improve access to specialized prenatal care for pregnant individuals with SUD.

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Poster Session I
Abstract 55

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Mentor
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Weight-Based Versus Non-Weight-Based Diltiazem Dosing for Atrial Fibrillation with Rapid Ventricular Response: A Meta-Analysis

Background/Purpose
Atrial fibrillation is the most common sustained cardiac arrhythmia, and intravenous diltiazem is a widely accepted treatment to achieve acute rate control for atrial fibrillation, with guidelines recommending a weight-based 0.25 mg/kg bolus. Clinicians frequently administer lower, non-weight-based doses out of concern for hypotension, particularly in obese patients, but the mixed findings of prior studies have not been systematically summarized. We therefore conducted a meta-analysis comparing weight-based versus non-weight-based dosing of diltiazem for the treatment of atrial fibrillation with rapid ventricular response. This research project aimed to conduct a meta-analysis to quantitatively summarize real world studies evaluating the impact of weight-based versus non-weight-based dosing of intravenous diltiazem in the setting of atrial fibrillation.

Methods
We conducted a systematic review and meta-analysis of observational studies comparing weight-based versus non-weight-based intravenous diltiazem dosing in adults with atrial fibrillation with rapid ventricular response. The databases PubMed, Scopus, and Embase were searched with two independent reviewers screening studies and extracting data, with discrepancies resolved by consensus. The primary outcome was failure to achieve rate control with a secondary outcome of hypotension. Meta-analysis was performed using the random effects model to account for variability among studies. Heterogeneity was assessed using the I_ statistic. Statistical analyses were conducted via R.

Results
Twelve studies were included for the primary outcome (NWB n = 1,992; WB n = 922) and eight studies were included for the secondary outcome of hypotension (NWB n = 1,724; WB n = 763). Non-weight-based dosing was associated with a significantly higher risk of failing to achieve rate control compared with weight-based dosing (RR 1.36, 95% CI 1.24-1.48; I_ = 0.0%). There was no statistically significant difference in hypotension between groups (RR 0.86, 95% CI 0.69-1.07; I_ = 0.0%).

Conclusions
In this meta-analysis, weight-based diltiazem dosing achieved rate control significantly more often than non-weight-based dosing, without a significant difference in hypotension. These findings support adherence to weight-based dosing for atrial fibrillation with rapid ventricular response.

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Poster Session I
Abstract 64

Eva T. Sundquist, MS



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Mentor
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Tusi and Other Pink Psychoactive Powders: A Scoping Review of Toxicological Compositions, Use Patterns, Polysubstance Use, and Clinical Effects

Background/Purpose
Tusi is a psychoactive polydrug that frequently appears as a pink, sweet smelling powder containing ketamine, MDMA, and various other drugs. Tusi originated in South America and has now spread throughout North America, Europe, Asia, and Australia. Other names include 2C and 'pink cocaine', despite 2C series drugs and cocaine rarely being included. In addition to several names, tusi drug formulation varies widely, impeding the understanding of physiological and pharmacological effects and increasing unpredictability of synergistic clinical effects in polydrug use.

Methods
Covidence software was used by two independent reviewers in screening peer reviewed literature and media reports. Pre-text screenings ensured that search results were not disqualified based on exclusion criteria. Full text review included location, study design, population, sample size, administration, setting, co-occurring substances, and evidence type. This scoping review aims to synthesize clinical effects, toxicological compositions, use patterns, and polysubstance use of tusi.

Results
Preliminary results showed significant discrepancies in the naming of tusi. Tusi, tusibi, and pink cocaine often refer to pink, polydrug mixtures without 2C-B, whereas 2C-B typically references specific 2C-X series drugs. These terms are frequently used interchangeably, causing confusion on what is being ingested. Additionally, tusi composition varies widely across several different countries. One study reported that of 33 pink powder samples sold as pink cocaine, 16 different combinations were identified, (Meert et al., 2026). A case series in Miami-Dade County reviewed eight deaths associated with tusi'. It found that the appearance of the drug also varied, and no 2C-B was identified in the samples (Moore et al., 2025).

Conclusions
The highly variable nature of tusi and frequent misclassification with 2C-B likely contributes to adverse outcomes. Changing drug concentrations between uses and unfamiliarity with the nature and nomenclature of the mixture make clinical outcomes very difficult to predict. This coupled with limited data, both in scientific literature and media, makes treatment and harm reduction significantly harder. Ensuring that users, medical providers, toxicologists, and public health officials are aware of these complexities may help promote a more thorough understanding of tusi to assist in future research and inform harm mitigation strategies and policy initiatives.

Poster Session II
Abstract 97

Eva T. Sundquist, MS



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Mentor
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Evaluation of Multilevel Surgery Outcomes in Children with GMFCS Level III Cerebral Palsy

Background/Purpose
Multilevel surgery (MLS) offers potential correction of skeletal alignment and muscle length issues in ambulatory children with cerebral palsy (CP), increasing gait efficiency. Children with Gross Motor Functional Classification (GMFCS) III have wide ranges of strength, spasticity, selective control, and contractures; surgical outcomes can be quite variable. This study sought to evaluate the impact of MLS in this population.

Methods
Data was retrospectively collected from our system's motion analysis center (MAC) across 4 sites. Children with GMFCS III CP who had undergone MLS with pre and postoperative MAC data within 9 months to 3 years of surgery were included, compared to a control cohort with pre and post-MAC data but no intervening surgery. MAC data included temporospatial variables, spasticity via modified Ashworth Scale, contractures, key kinematics variables, Gait Deviation Index (GDI).

Results
187 children were identified in the MLS surgery cohort and compared to 65 children in a control cohort. The surgery cohort demonstrated statistically significant improvements in hamstring and hip adductor spasticity, ankle dorsiflexion, maximum knee extension, single limb support and initial contact knee flexion, knee kinematic range, and hip stance to swing range. However, cadence and speed decreased with worsening pelvic and trunk tilt. Conversely, the control cohort showed no change in spasticity, no improvement in contractures, and worse initial contact and single limb support knee flexion , stance to swing hip motion, and knee motion. Surgery cohort extensor lag remained unchanged whereas the control group experienced decline.

Conclusions
Compared to a control cohort, children with GMFCS III CP showed improvement in MLS in knee and ankle contractures, knee extension at initial contact and single limb support, overall knee dynamic range on kinematics, stance to swing hip motion. The control cohort showed worsening initial contact knee flexion and single limb support, overall knee range, and stance to swing hip motion. The MLS group had stable extensor lag compared to decline in the control group. However, the MLS group did worse cadence and speed postoperatively. Significant contracture and kinematic improvements can be seen with MLS in children with GMFCS III CP, though it potentially comes at the cost of slower speed and cadence.

Poster Session I
Abstract 86

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Mentor
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A Pediatric Adaptation of the Function in Sitting Test for Children with Cerebral Palsy

Background/Purpose
Cerebral palsy frequently impairs seated postural control, yet few standardized tools quantify functional sitting ability in children. The Function in Sitting Test (FIST) is a valid and reliable measure of seated balance in adults1. This study aimed to adapt the FIST for pediatric use (pediFIST) and evaluate its validity in children with cerebral palsy.

Methods
The pediFIST was developed by modifying the adult FIST and administered to patients evaluated in an institutional cerebral palsy tone clinic between 2014-2025. The IRB determined the study to be exempt under 45 CFR 46.104(d)(4) and granted a HIPAA Full Waiver of Authorization. PediFIST scores were compared with established pediatric functional measures: (gross motor function measure (GMFM), gross motor function classification system (GMFCS), manual ability classification system (MACS), eating and drinking ability classification system (EADCS), communication function classification system (CFCS)).

Results
Seventy one children (31 female, 40 male; mean age 11.3_±_3.5_years) completed the pediFIST. GMFCS distribution was: II_=_8, III_=_12, IV_=_35, V_=_16. Clinical phenotypes included diplegia (19%), quadriplegia (74%), and triplegia (7%). Pearson correlations demonstrated strong associations between the pediFIST and established measures. The pediFIST showed a very strong positive correlation with GMFM (r_=_0.903, p_<_0.0001). GMFCS level was strongly negatively correlated with both GMFM (r_=__0.864) and pediFIST (r_=__0.792). MACS, EADCS, and CFCS levels were moderately to strongly negatively correlated with GMFM (r_=__0.495 to _0.745) and pediFIST (r_=__0.546 to _0.761). Functional classification systems were positively inter correlated (r_=_0.523-0.679), indicating coexisting impairments across motor, manual, communication, and feeding domains.

Conclusions
The pediFIST aligns closely with established measures of motor, manual, communication, and feeding function, supporting its validity. Its non linear associations suggest that the pediFIST measures a unique functional domain - sitting ability - providing clinicians with a targeted tool for evaluating postural control in children with cerebral palsy.

Oral Session II
Abstract 66

Elizabeth Tamura



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Mentor
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Thulio Versus Moses 2.0: A Single-Institution Comparison of Perioperative Outcomes in Endoscopic Enucleation of the Prostate

Background/Purpose
Laser enucleation of the prostate treats benign prostatic hyperplasia using platforms including pulsed thulium:YAG laser enucleation (p-ThuLEP; Thulio, Dornier MedTech) and holmium:YAG laser enucleation with Moses 2.0 pulse modulation (M-HoLEP; Boston Scientific), but comparative perioperative data remain limited. We compared operative efficiency and postoperative outcomes between patients undergoing p-ThuLEP and M-HoLEP.

Methods
We retrospectively analyzed 606 patients (515 p-ThuLEP, 91 M-HoLEP). Continuous variables were compared using t tests or Mann-Whitney U tests, and categorical variables using Fisher's exact tests. Multivariable linear regression models for operative times were adjusted for wet tissue weight, preoperative catheterization, surgeon, and fellow involvement; models for postoperative outcomes were also adjusted for preoperative urinary tract infection and baseline incontinence. Firth penalized logistic regression was used for 30-day return to the operating room (sparse events) and readmission (complete separation by surgeon).

Results
Groups differed in surgeon distribution, preoperative urinary tract infectionseline incontinence, and particularly fellow involvement (M-HoLEP 38.5% vs p-ThuLEP 0.4%). On unadjusted analysis, M-HoLEP was associated with longer median hemostasis time (9.5 vs 7 min, P<0.001), lower enucleation speed (1.31 vs 1.76 g/min, P=0.002), and lower specimen weight (56 vs 67 g, P=0.034), with no significant differences in postoperative outcomes. After multivariable adjustment, there were no significant differences in enucleation time (_=_3.00 min, 95% CI _6.91 to 0.90; P=0.131), hemostasis time (_=0.20 min, 95% CI _3.07 to 3.46; P=0.906), morcellation time, or length of stay. M-HoLEP was associated with higher odds of same-day discharge (aOR 2.35, 95% CI 1.16-4.75; P=0.017) but not with 30-day return to the operating room (Firth aOR 0.18, 95% CI 0.003-10.48; P=0.408), readmission (Firth aOR 0.61, 95% CI 0.13-2.81; P=0.527), or complications (aOR 0.61, 95% CI 0.23-1.62; P=0.324).

Conclusions
After adjustment, operative times did not differ significantly between platforms. The longer unadjusted hemostasis time with M-HoLEP did not persist after adjustment, suggesting that differences in patient and operative characteristics may contribute to the unadjusted association. M-HoLEP was associated with higher adjusted odds of same-day discharge, without statistically significant differences in 30-day postoperative outcomes. Given the small M-HoLEP cohort and its overlap with fellow-involved cases, these findings warrant confirmation in larger studies.

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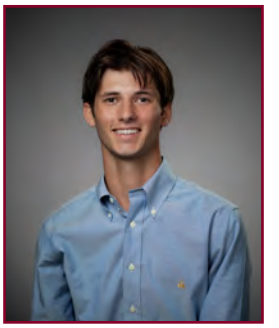
Zachary Theodossiou
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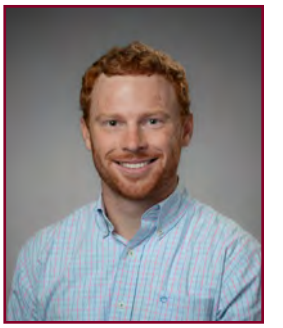
Poster Session I
Abstract 43

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Alcohol Control Policies Across Major North American Sports Stadiums: A Cross-Sectional Analysis

Background/Purpose
Alcohol sales cutoff times are a common policy tool used by professional sports stadiums to reduce fan Blood Alcohol Concentration (BAC) before leaving the sports stadium, but it is unclear whether these times are set consistently across leagues and are scientifically grounded in how long it takes the average person to metabolize alcohol. To evaluate whether alcohol control policies across the five major North American professional sports leagues (NFL, NBA, MLB, NHL, MLS) are consistent and examine their association with BAC.

Methods
Alcohol service policies were collected for all teams across the NFL, NBA, MLB, NHL, and MLS from each team's official website or from fansdontletfansdrivedrunk.org. For each team, we calculated (1) the time remaining between the alcohol cutoff and the estimated end of the event, and (2) the time elapsed between the start of the event and the alcohol cutoff. Median times and interquartile ranges (IQR) were calculated overall and stratified by league, venue type (single-sport vs. multi-sport/shared), country (U.S. vs. Canada), region (Northeast, South, Midwest, West), and state/province alcohol control status (control vs. license). Theoretical BACs were estimated based on population data and various policy scenarios.

Results
Across 149 teams, the median time remaining after the alcohol cutoff was 32.5 minutes (IQR 22-40), and the median time from event start to cutoff was 122 minutes (IQR 102.5-141). Variation for time remaining after cutoff was observed by league: it ranged from 20 minutes (IQR 20-25) in MLS to 45 minutes (IQR 45-45) in the NFL, with the NBA (median=32.5 minutes), NHL (median=40 minutes), and MLB (median=36 minutes) falling in between. No meaningful differences were observed by venue type, country, region, or alcohol control/license state status. Pharmacokinetic estimates demonstrated minimum BACs ranging from 0.045 g/dL to 0.11 g/dL for a 1-hour departure time following the last drink.

Conclusions
Alcohol cutoff policies vary substantially by league but not by geography, venue type, or state alcohol regulatory status, suggesting that cutoff times are driven by sport-specific structural factors (e.g., game format, length, and stoppages) rather than by regional norms or an explicit standard tied to alcohol metabolism.

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Fallon Tomlin

Poster Session II
Abstract 73



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Mentor
Jennifer Grier, PhD

Assessing Healthcare Needs and Barriers to Care in Upstate South Carolina

Background/Purpose
Root Cause is a community health initiative serving the Upstate of South Carolina through monthly health fairs that provide education, resources, and essential products. This study characterized community health needs among attendees to inform future outreach and evidence-based interventions.

Methods
Attendees at Root Cause health fairs were invited to complete an optional survey assessing health prioritiesrriers to healthcare, and community connectedness. Survey data from 457 participants collected from 2019-2026 were coded and analyzed. Descriptive statistics were calculated, and composite indices of healthcare access, convenience, and barriers to care were developed (Cronbach's _ = .70-.87). Differences across demographic groups were examined using Mann-Whitney U and Kruskal-Wallis tests.

Results
Eighty-four percent of participants reported receiving care at the same location, but only 73% usually saw the same physician. Most knew whom to contact for medical care (82%) and where to seek care (90%). Although 68% identified a physician's office as their usual source of care, approximately 22% identified the emergency department. More than 16% reported rarely or never obtaining appointments as soon as needed, and 11% had difficulty obtaining appointments at convenient times. Cost was a substantial barrier; nearly 35% often or always delayed care because of expense, while nearly 17% delayed care because of transportation challenges. Healthcare convenience scores differed significantly by preferred survey language, race, and event location. Black respondents reported higher convenience scores than White and Latino respondents, and scores were higher among participants in Berea and Dunean than at the Remote Area Medical clinic.

Conclusions
Community-driven needs assessments can guide targeted outreach, resource allocation, and interventions to reduce health disparities. Despite high awareness of where to obtain medical care, important gaps in continuity and healthcare utilization remained, including inconsistent use of the same physician and reliance on the emergency department. These findings highlight a disconnect between awareness of available resources and consistent access to primary care, with cost and convenience potentially affecting healthcare use. These findings will inform future Root Cause programming; providing support for expanding education on continuity of care, promoting appropriate use of primary care services, and increasing transportation resources at community health fairs.

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Poster Session I
Abstract 44

Preston Tuttle



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Distribution of Lifestyle Psychiatry Education Across Psychiatry Learning Phases: A Scoping Review

Background/Purpose
Research has shown that the 6 pillars of lifestyle medicine (nutrition, stress management, physical activity, social connectedness, restful sleep, and avoiding risky substances) can be adapted for prevention and treatment of psychiatric disorders. The emerging field of lifestyle psychiatry shows substantial promise for advancing patient care through lifestyle interventions. However, the extent to which lifestyle psychiatry is taught throughout the phases of psychiatry education has been left unexplored. To fill this gap, we conducted a scoping review seeking to examine the available literature on psychiatric lifestyle medicine education including the pillars of lifestyle medicine and evaluated the distribution of such curricula across the phases of psychiatric education (medical school, residency, fellowship, continuing medical education).

Methods
The literature search resulted in 5,984 abstracts over the past 20 years. Each abstract was screened in Covidence independently by two researchers using pre-defined criteria to include articles that addressed education on the pillars of lifestyle psychiatry. Full text review was also conducted by two reviewers, followed by data extraction.

Results
Of the initial 5,984 abstracts 1,760 were identified as duplicates. Of the 4,224 remaining 4,146 were deemed irrelevant during the abstract screening process. Of the 78 studies selected for full text review, 58 met inclusion criteria. Preliminary data extraction suggests psychiatry residency training (n=45) was the most frequent educational level, followed by medical students (n=11). A few published manuscripts included lifestyle medicine psychiatry related training for practicing physicians (n=7) and fellows (n=6). Additionally, when the manuscripts were screened for the specific curricula stage of education presented the majority were for General psychiatry curricula (n=44), followed by other (n=10), psychiatry clerkship (n=9), fellowship (n=5), preclerkship (n=2), addiction psychiatry residency (n=2), child/adolescent psychiatry residency (n=2), and a psychiatry elective in the medical school setting (n=1).

Conclusions
While overall comprehensive lifestyle psychiatry curricula are not yet widely integrated into psychiatry education, some training is included in psychiatry education, most prominently during general psychiatry residency. Further study should be done to assess the availability or usefulness of lifestyle medicine psychiatry curriculum in pre clerkship or other medical learning phase settings.

Poster Session II
Abstract 100

Cady van Venrooy



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Diagnostic Approaches in Early Rapidly Progressive Dementia: A Scoping Review of Anti-LGI1 Encephalitis, Anti-NMDA Receptor Encephalitis, and Sporadic Creutzfeldt-Jakob Disease

Background/Purpose
Rapidly progressive dementia (RPD) is a heterogeneous group of neurological disorders characterized by rapid cognitive decline over weeks to months. The RPD syndromes of particular interest in this review are sporadic Creutzfeldt-Jakob disease (sCJD) and two prototypical types of autoimmune encephalitis (AIE), anti-leucine-rich glioma-inactivated 1 (anti-LGI1) encephalitis and anti-N-methyl-D-aspartate receptor (anti-NMDA receptor) encephalitis. Despite their differing underlying pathophysiology, these disorders often present with overlapping, non-specific, clinical features during the early stages of disease, including mild cognitive impairment, behavioral changes, psychiatric symptoms, seizures, and subtle neurological deficits, making timely diagnosis challenging. Early differentiation is critical because autoimmune encephalitis is often reversible with prompt immunotherapy intervention, whereas sCJD is a rapidly progressive and ultimately fatal neurodegenerative disease. The goal of this scoping review is to map the available evidence to identify what diagnostic tests and approaches have been utilized to confirm rapidly progressive dementia syndromes such as anti-LGI1, anti-NMDA receptor, and sporadic CJD in early stages of disease, when mild cognitive impairment is evident, or only mild stages of dementia.

Methods
Our SNIRP team of medical and undergraduate students began our initial literature review investigating the current use of laboratory testing and neuroimaging as tools to support differential diagnosis of CJD and AIE. This preliminary literature review helped inform the keywords used to begin our formal scoping review with the assistance of the Prisma Health library. Our research team has followed the PRISMA-SrR framework to progress through each stage of search and screening. We have utilized Covidence with two independent reviewers to remove duplicates and screen by title and abstract based on predetermined PCC exclusion and inclusion criteria.

Results
By continuing our scoping review, we expect to map current evidence, help identify knowledge gaps, and highlight promising diagnostic and digital modalities, and define priorities for future research.

Conclusions
This investigation is particularly impactful on informing our research team's next steps towards developing an algorithmic approach to rapidly identify these prototypical RPD subtypes within the broader dementia and rapidly progressive dementia populations of South Carolina.

Student research funding was provided by
Scholars Fellowship Award, School of Medicine Greenville

Poster Session I
Abstract 28

Eli Verdin



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The Role of Gender in tPA Exclusion Among Acute Ischemic Stroke Patients on Antihypertensive Medication

Background/Purpose
Acute ischemic stroke (AIS) is the most common type of stroke worldwide, and intravenous plasminogen activator (tPA) is the current standard treatment for AIS. Although numerous studies have identified factors associated with tPA administration, the factors for AIS patients taking antihypertensive medication remain largely unexplored. Our study aimed to identify the factors associated with tPA administration in AIS patients on antihypertensive medication and determine whether these factors differ by gender.

Methods
We conducted a retrospective cross-sectional study using a PRISMA Health stroke registry. The study population was restricted to AIS patients already taking antihypertensive medication. Demographic, clinical, laboratory, and medication information were compared between patients who did and did not receive tPA, and this information was analyzed using Pearson's chi-square and Student's t-tests. Variables with a univariate p-value < 0.3 were used in multivariable logistic regression models for AIS patients on antihypertensive medication and male and female subgroups. Adjusted odds ratios and 95% confidence intervals were calculated for each variable.

Results
For AIS patients on antihypertensive medication, we found that hypertension (OR=1.857), obesity (OR=1.492), cholesterol-reducing medication (OR=1.279), male sex (OR=1.246), and higher heart rate (OR = 1.007) were positively associated with tPA administration, while carotid artery stenosis (OR = 0.524), previous stroke (OR = 0.772), increasing serum creatinine (OR = 0.823), increasing INR (OR = 0.132), and increasing lipid levels (OR = 0.882) were negatively associated. Specifically in males, we found that heart failure (OR = 1.499) and use of cholesterol-reducing medication (OR = 1.452) were positively associated with tPA administration, whereas increasing serum creatinine (OR = 0.823) was negatively associated. In females, we found that hypertension (OR = 2.234) and increasing heart rate (OR = 1.008) were positively associated with tPA administration, while carotid artery stenosis (OR = 0.381) was negatively associated.

Conclusions
We found several risk factors associated with tPA administration in AIS patients on antihypertensive medication that differed based on gender. These findings improve the understanding of factors associated with tPA administration in this population and may guide future research investigating gender-specific differences in thrombolytic treatment.

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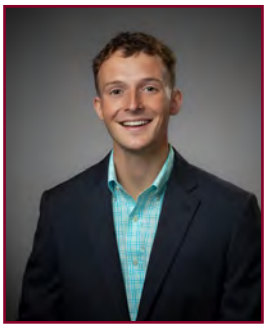
Zack Verdin
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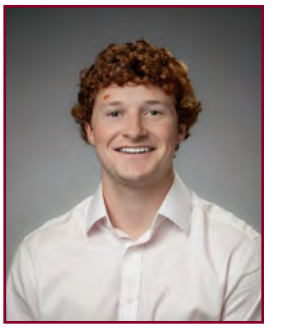
Poster Session I
Abstract 29

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Mentor
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Cost-Effectiveness of GLP1-Based Therapy in Patients with Psoriatic Arthritis and Obesity

Background/Purpose
Psoriatic arthritis (PsA) is_associated with_an increased burden of_cardiometabolic disease,_including_higher cardiovascular morbidity_and_increased rates of hypertension, diabetes, obesity, and_liver disease._Obesity_in PsA patients is associated with poorer disease control. Similarly,_GLP-1-based therapy has been demonstrated to improve disease control in this population._However, the_cost-effectiveness of GLP-1 therapy in patients with PsA_ has not been investigated. We_sought_to estimate the cost-effectiveness of GLP-1-based therapy in patients with PsA treated with biologics who were overweight with at least one related comorbidity or had obesity._

Methods
A Markov model was constructed with a base case consisting of a hypothetical cohort of 55-year-old patients with active_PsA treated with biologics who were overweight with at least one related comorbidity or had obesity._The model_utilized_a US payer_perspective, a lifetime horizon, and a_3-month_cycle-length. Our model used_transition probabilities,_rates of events, utilities, event costs, and treatment costs from landmark clinical trials, published medical and economic_literature, and healthcare databases._Outcomes included average total lifetime treatment costs,_quality-adjusted life-years (QALYs), and_incremental cost-effectiveness ratios (ICERs).

Results
In the base-case analysis,_GLP-1-based therapy was associated with higher costs_($348,848_vs_$309,608)_but also generated more QALYs_(10.249_vs_9.982)_compared_with biologic therapy alone. The corresponding ICER was_ approximately $146,652_per QALY gained._The probabilistic sensitivity analysis_indicated_that the likelihood of GLP-1-based therapy being cost-effective ranged from 36.8% at the lowest willingness-to-pay (WTP) threshold examined (i.e., 50,000/QALY) to 51.2% at the highest threshold (i.e., 150,000/QALY).

Conclusions
Among patients with PsA receiving biologic therapy who had obesity, GLP-1-based therapy was cost-effective at a willingness-to-pay (WTP) threshold of $150,000/QALY. However, it would not be considered cost-effective at lower commonly cited WTP thresholds of $50,000/QALY or $100,000/QALY.

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Poster Session II
Abstract 11

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Mentor
Richard Moon, MD

Effects of Caffeine on Ventilatory Response and Arterial PaCO During Hyperbaric Exercise Following Sleep Deprivation

Background/Purpose
Central nervous system (CNS) oxygen toxicity is a significant risk during hyperbaric oxygen exposure and may cause seizures that can be fatal in divers due to loss of airway control underwater. Elevated arterial carbon dioxide (PaCO_) increases susceptibility to CNS oxygen toxicity by causing cerebral vasodilation and increasing brain oxygen delivery, thereby lowering seizure threshold. Exercise, routinely performed during military dives, increases carbon dioxide production and compounds this risk. Military divers also often experience sleep deprivation, which reduces ventilatory drive and may impair carbon dioxide clearance. This study aims to determine whether pre-dive caffeine, compared with no stimulant, reduces arterial PaCO_ during exercise and susceptibility to CNS oxygen toxicity in sleep-deprived healthy military divers.

Methods
This study was conducted at the Duke Hyperbaric Medicine Clinic using a paired experimental design. Healthy participants (n = 27 for PaCO_; n = 9 for HCVR) underwent overnight sleep deprivation and completed standardized exercise trials at sea level and 98 feet of seawater under hyperoxic conditions following caffeine administration. Arterial blood samples measured PaCO_, and hypercapnic ventilatory response (HCVR) was measured before and after caffeine. Data were analyzed using two-tailed paired-sample t-tests, with significance set at $p < 0.05$.

Results
Arterial PaCO_ was significantly higher at depth (Mean = 41.33 mmHg) than at the surface (Mean = 34.59 mmHg), paired t-test, $t(26) = -9.25$, $p < 0.001$ (two-tailed), demonstrating significant carbon dioxide retention during hyperbaric exercise. HCVR increased from a mean of 1.33 pre-caffeine to 1.59 post-caffeine but was not statistically significant, $t(8) = -1.84$, $p = 0.103$. This increase suggests a potential physiologic effect of caffeine, with the lack of significance possibly reflecting the small sample size and limited statistical power.

Conclusions
Pre-dive caffeine may represent a practical strategy to reduce hypercapnia and susceptibility to CNS oxygen toxicity in sleep-deprived individuals performing exertional tasks under hyperbaric conditions. Caffeine increased HCVR, suggesting improved ventilatory drive and a potential mechanism for enhanced CO_ elimination. Although not statistically significant, this may reflect the small sample size and limited statistical power. Further research with larger cohorts is needed.

Poster Session II
Abstract 27

Polina Vertegel



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Mentor
Christine Schammel, PhD

Grade 2 Meningiomas: Insights From an Institutional Cohort and the Current Literature

Background/Purpose
WHO Grade 2 meningiomas are heterogeneous tumors with reported recurrence rates of 29-52% within five years after gross total resection. Although the 2021 WHO classification incorporates molecular features, histology alone remains an imperfect predictor of recurrence. Ki-67 has been associated with recurrence risk, but clinically standardized thresholds and surveillance protocols remain limited.

Methods
We performed a retrospective single-institution review of meningioma patients identified from September 2001 through December 2016, with subsequent evaluation of a more recent cohort (January 2022-July 2026) and extended follow-up. Demographic, clinical, radiographic, operative, pathologic, immunohistochemical, treatment, and outcome data were collected. Grade 2 tumors were analyzed by Ki-67 category (0-5%, 6-10%, 11-15%, and 16-20%+) to assess associations with recurrence.

Results
Among the evaluated grade 2 meningioma cohort, recurrence occurred in 42.4% of patients and overall survival was 69.7%. Tumors were most commonly frontal in location, and the cohort had a median mitotic rate of 4 per 10 high-power fields. Gross total resection was achieved in 50% of patients, while 71.4% received radiation therapy. Recurrence was concentrated among tumors with Ki-67 values greater than or equal to 5%, with no observed recurrences in the 0-5% group. Higher Ki-67 categories demonstrated progressively more recurrent disease, including recurrence in 38% of patients with Ki-67 6-10%, 33% with Ki-67 11-15%, and 50% with Ki-67 16-20%. Applying the observed Ki-67 pattern to newer cases similarly identified increasing predicted recurrence risk above the 5% threshold. Ki-67 appeared to be a stronger recurrence predictor than gross total resection in this cohort.

Conclusions
Ki-67 may provide clinically useful risk stratification for WHO Grade 2 meningiomas despite not being formally included in current surveillance guidelines. A Ki-67 level greater than or equal to 5-10% may support closer postoperative MRI surveillance, earlier multidisciplinary review, and consideration of adjuvant radiotherapy. Larger-scale studies are needed to validate thresholds and establish standardized Ki-67-guided management strategies.

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Poster Session II
Abstract 23

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Disparities in Health-Risk Behaviors and Adverse Childhood Experiences Among Cancer Survivors

Background/Purpose
Adults who have experienced Adverse Childhood Experiences (ACEs) are at a higher risk of engaging in health-risk behaviors. While previous studies have examined the connection between ACEs and health-risk behaviors in the general population, there is a scarcity of research specifically addressing cancer survivors. This study investigates the association between ACEs and health-risk behaviors among cancer survivors.

Methods
We used data from the 2020 Behavioral Risk Factor Surveillance System among cancer survivors aged 18 and older (n=7896). Exposure variables included three ACEs: having a family member with a mental illness, experiencing physical abuse, and experiencing sexual abuse before the age of 18 (yes/no). Outcome measures were smoking status (current, former, or never), cannabis use (yes/no), and binge drinking (yes/no). Weighted multivariable binary logistic regression models assessed the association between ACEs and cannabis use, and ACEs and binge drinking. Ordinal logistic regression models assessed the association between ACEs and smoking status, adjusting for sociodemographic, healthcare and behavioral factors.

Results
15.5%, 23.6%, and 6.3% of respondents reported experiencing ACEs: mental illness in family members, physical abuse, and sexual abuse, respectively. Approximately 15.0% of survivors were current smokers, 6.1% reported cannabis use, and 7.8% reported binge drinking. In the adjusted models, cancer survivors with a history of mental illness in family had higher odds of being cigarette smokers (aOR: 1.92, 95% CI: 1.47-2.51) or cannabis use (aOR:2.37, 95% CI: 1.57-3.55) compared to those who did not experience mental illness in the family. Similarly, those who experienced physical abuse had increased odds of being cigarette smokers (aOR: 1.87, 95% CI: 1.53-3.22) or cannabis use (aOR: 1.74, 95% CI: 1.21-2.51) compared to those who did not experience physical abuse. Compared to those who did not experience sexual abuse, those who did had higher odds of being cigarette smokers (aOR: 3.04, 95% CI: 2.07-4.45). No significant difference was observed for binge drinking associated with ACEs.

Conclusions
ACEs are independent predictors of cigarette smoking and cannabis use in adulthood. Cancer survivors with a history of ACEs may constitute a critical target group for preventive interventions aimed at reducing health-risk behaviors.

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Poster Session I
Abstract 48

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Mentor
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Breaking Barriers to Thrombolysis: tPA Decision-Making in Acute Ischemic Stroke Patients with Coronary Artery Disease

Background/Purpose
Intravenous thrombolysis (tPA) is the mainstay of treatment for acute ischemic stroke (AIS), a leading cause of morbidity and mortality worldwide, yet it is often withheld due to strict eligibility criteria and guidelines. Despite the known association between AIS and coronary artery disease (CAD), few studies have investigated the impact of CAD on therapeutical decisions in the setting of AIS. This study seeks to determine clinical factors which are associated with tPA exclusion or administration among acute ischemic stroke patients with CAD.

Methods
This study is a retrospective analysis of data from patients treated in a major stroke center between January 2010 and December 2016. Univariate and binary logistic multivariate analyses were used to calculate odds ratios and 95% confidence intervals which predict risk factors that are associated with tPA administration or exclusion in acute ischemic stroke patients with and without coronary artery disease.

Results
Of the 5,469 patients identified in the acute ischemic stroke population, 1,327 received tPA (24.3%) while 4,142 did not receive tPA (75.8%). The presence of coronary artery disease (CAD) was not associated with an increased likelihood for tPA exclusion. In the AIS population with CAD, patients were more likely to receive tPA if they had a higher initial NIHSS score or were taking dual antiplatelet therapy (DAPT) prior to admission. Risk factors such as advanced age, carotid artery stenosis, previous stroke, chronic kidney disease, high blood glucose, and elevated INR values were associated with tPA exclusion in the AIS-CAD population.

Conclusions
While coronary artery disease itself is not a barrier to tPA administration, our findings suggest the factors influencing clinical decisions differed among AIS patients based on their CAD status. Further analysis is warranted to determine if these patterns of tPA exclusion are clinically justified or if they represent inappropriate exclusion from guideline-directed therapy.

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Poster Session I
Abstract 53

Sarah Walker



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Mentor
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Factors Associated with Ischemic Stroke Severity Among Patients with Depression

Background/Purpose
Depression, particularly post-stroke depression is associated with poorer outcomes following a stroke. Stroke severity, commonly measured using the National Institutes of Health Stroke Scale (NIHSS), is a strong predictor of neurological outcomes and guides treatment decisions, including thrombolytic therapy. Patients with NIHSS scores >7 are more likely to experience worse neurological outcomes. These patients are candidates for tissue plasminogen activator (tPA) which is a widely used forms of thrombolytic therapy. Thrombolytic therapy remains the gold standard therapy for acute ischemic stroke. This study compared predictors of stroke severity among AIS patients with and without comorbid depression to identify factors associated with severe stroke presentation.

Methods
We conducted a retrospective analysis of patients with AIS from a regional stroke registry. Stroke severity was categorized as NIHSS <7 and NIHSS>7. Separate multivariable logistic regression analyses were conducted in patients with and without comorbid depression to identify factors independently associated with severe stroke presentation.

Results
Predictors of stroke severity differed according to depression status. Among patients with depression, increasing age, and use of drugs and alcohol were associated with greater odds of severe stroke, while dyslipidemia was associated with lower odds of a severe stroke. In patients without depression, treatment with an antihypertensive prior to admission and ambulatory statuses at admission were associated a severe stroke, those without prior care for stroke was associated with a less severe stroke presentation in those without depression. In both groups, prior tPA treatment was associated with greater odds of having a severe stroke.

Conclusions
Patients with depression demonstrated a distinct profile of factors associated with acute ischemic stroke severity compared with those without depression. Demographic characteristics, substance use, medications, and metabolic factors differed by depression status. These findings reveal risk factors that can be managed to improve the care of stroke patients with comorbid depression and provide a foundation for future studies investigating the mechanisms linking depression to stroke severity.

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Scholars Fellowship Award, School of Medicine Greenville

Poster Session II
Abstract 113

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Mentor
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Time to Surgical Repair and Postoperative Infection in Isolated Open Mandibular Fractures: Background and Study Protocol

Background/Purpose
Mandibular fractures are common facial injuries that frequently require operative repair. Although early fixation has traditionally been favored because of concern that treatment delay may increase postoperative infection, the optimal timing of surgical repair remains unclear. Prior studies have demonstrated inconsistent associations between treatment delay and infectious complications, and postoperative infection may be influenced by patient and injury characteristics rather than timing alone. The purpose of this study is to evaluate whether surgical repair ³72 hours after injury is associated with an increased risk of postoperative surgical site infection (SSI) among patients undergoing operative treatment of mandibular fractures.

Methods
We conducted a retrospective cohort study of patients aged ³16 years who underwent surgical repair of an acute mandibular fracture at Prisma Health-Upstate between 2016 and 2025. Of 550 charts reviewed, 230 patients were excluded, leaving 320 patients for analysis. Patients with evidence of mandibular fracture infection at presentation, systemic infection, nonisolated fractures, or incomplete data required for analysis were excluded. Demographic, clinical, fracture, perioperative, and postoperative data were obtained through manual electronic medical record review and managed using REDCap. The primary exposure was time from injury to surgical repair, categorized as <72 hours or ³72 hours. The primary outcome was postoperative SSI. Descriptive statistics will characterize the cohort and compare patients undergoing repair <72 hours versus ³72 hours after injury. Multivariable regression will evaluate whether surgical delay ³72 hours is independently associated with postoperative SSI after adjustment for injury severity, fracture characteristics, and other relevant covariates.

Results
Data collection and statistical analysis are ongoing. Results will compare the frequency of postoperative SSI between patients undergoing surgical repair <72 hours and ³72 hours after injury and evaluate the independent association between delayed repair and postoperative infection.

Conclusions
This study will help clarify whether surgical delay ³72 hours independently contributes to postoperative infection following operative mandibular fracture repair. Better defining the relationship between treatment timing and infectious complications may inform decisions regarding the urgency of operative management, particularly when immediate fixation is not feasible because of concomitant injuries or the need for medical optimization.

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2025 HIGHLIGHTS