



Poster Presentations

Poster 1

Evaluating the Benefit of Routine Immediate Fasciotomies following IVC or Iliac Vein Ligation in Traumatic Settings

Presenter: Abdul Hafiz Al Tannir MD

Abdul Hafiz Al Tannir MD, Brittney Lemon MD, Elise A. Biesboer MD, Amanda Hambrecht MD, Thomas Easterday MD, Dina Filiberto MD FACS, Mae Lindner MD, Jonathan Bean MD, Jacob Peschman MD FACS, Patrick B. Murphy MD FACS, Daniel Holena MD FACS, Thomas W. Carver MD FACS, Marc A. de Moya MD FACS, Saskya Byerly MD FACS, Morgan Schellenberg MD FACS, Rachel S. Morris MD FACS

Background: Ligation of the inferior vena cava (IVC) and/or iliac vein is used as a definitive treatment to control life-threatening venous bleeding in hemodynamically unstable patients. Prior research questioned the benefit of prophylactic fasciotomies in preventing lower extremity compartment syndrome (CS) in patients undergoing IVC or iliac vein ligation. We aimed to assess the safety of omitted prophylactic fasciotomies in trauma patients with IVC or iliac vein ligation at the time of initial operation.

Methods: We performed a multi-center retrospective review from 2012-2022 of trauma patients with IVC and/or iliac vein ligation admitted to four Level I trauma centers. Exclusion criteria were <18 years of age, IVC or iliac vein repair, non-traumatic etiology of IVC and/or iliac vein injury, and death within 48 hours of admission. The initial analysis consisted primarily of comparing baseline characteristics and hospital outcomes among patients who underwent immediate fasciotomy to those who were initially observed. The second analysis

focused on comparing outcomes across patients who were successfully observed and did not require prophylactic fasciotomies to those who failed initial observation and required a delayed therapeutic fasciotomy. Lastly, the third analysis compared baseline characteristics and hospital outcomes among those who developed CS and underwent delayed therapeutic fasciotomy to those who underwent immediate prophylactic fasciotomy.

Results: A total of 77 patients met the inclusion criteria, of whom 21 patients underwent immediate prophylactic fasciotomy and 56 patients were initially observed. The median age was 29 years, majority were males (84%) and suffered a penetrating injury (91%). Of the patients who were initially observed, a total of fifteen patients (27%) developed CS and underwent a four-compartment fasciotomy during a subsequent operation. Compared to patients who did not develop CS, those who developed CS and required late fasciotomy had a higher in-hospital mortality rate (27% vs 5%, $p=0.02$). Compared to patients who underwent immediate fasciotomy, those who developed CS and required delayed fasciotomy had higher rates of acute kidney injury (60% vs 24%; $p=0.028$) and venous thromboembolism (40% vs 10%; $p=0.03$).

Conclusion: In a well-monitored setting, not performing prophylactic fasciotomies in patients with IVC and/or iliac vein ligation was successful in 73% of cases. However, observation failure requiring delayed therapeutic fasciotomy was associated with a higher morbidity and mortality rates.

Poster 2

Evaluating the Benefit of Routine Immediate Fasciotomies following IVC or Iliac Vein



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Ligation in Traumatic Settings

Presenter: Abdul Hafiz Al Tannir MD

Collis Bousliman; Abdul Hafiz Al Tannir, MD; C. Danielle Hopkins, MD; Sonlee West, MD; Richard Miskimins, MD; Erin C. Howell, MD

Background: Emergency General Surgery (EGS) patients experience higher morbidity and mortality rates than elective cases, and a colectomy performed in this setting is an inherently complex procedure with additional risks. The Predictive OpTimal Trees in Emergency Surgery Risk (POTTER) calculator is an artificial intelligence-based tool validated for predicting mortality and complication rates in EGS patients. We hypothesized that implementing the POTTER risk calculator in the pre-operative setting reduces unfavorable outcomes in EGS colectomy patients.

Methods: A retrospective chart review was conducted at a single academic institution for patients ≥ 18 years who underwent a colectomy by the EGS service from March 1, 2024, to February 28, 2025. We excluded patients if they had elective or trauma colectomies. Two cohorts were defined: pre-implementation of POTTER risk calculator (March 1–August 31, 2024) and post-implementation (September 1, 2024–February 28, 2025). Demographics, comorbidities, operative interventions, and outcomes were recorded for all included patients. POTTER scores were calculated retrospectively for all patients. Outcomes measured were in-hospital mortality, overall complications, length of stay, and discharge disposition. An unpaired T-test was utilized for continuous variables and Chi-square for binary outcomes. A p-value < 0.05 was considered statistically significant.

Results: Fifty-two patients met the inclusion

criteria, with 25 in the post-implementation cohort (48.1%). Demographics and comorbidities were comparable between cohorts. Average POTTER scores for predicted mortality in the pre- and post-implementation cohorts were similar (14.2% versus 7.7%, $p=0.151$) as well as any complication (48.0% versus 41.0%, $p=0.328$). In-hospital mortality for patients undergoing colectomy on the EGS service was 22.2% in the pre-implementation cohort and 16.0% in the post-implementation cohort ($p=0.828$). The average length of stay was 18.0 ± 17.6 days pre-implementation versus 15.9 ± 12.4 days post-implementation ($p=0.621$). Discharge disposition was similar, with 50.0% of pre-implementation patients versus 56.0% of post-implementation patients discharged home ($p=0.818$). A complication occurred in 63.0% of pre-implementation patients compared to 36.0% in the post-implementation cohort ($p=0.096$).

Conclusion: Implementation of the POTTER risk calculator did not yield statistically significant changes in mortality, morbidity, length of stay, or discharge disposition for EGS colectomy patients. Although modest decreases in mortality, length of stay, complication rates, and POTTER scores were observed in the post-implementation cohort, statistical significance was limited by the sample size. Future investigations with a longer study window and an evaluation of POTTER's role among non-operative patients are warranted to better characterize its **impact on EGS care**.

Poster 3

Female Gender and Racial Minority Status is Associated with Poor Clinical Outcomes and Higher Healthcare Resource Utilization in Necrotizing Fasciitis: Analysis of a Nationwide



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Database in the United States

Presenter: Arlin A. Bustillos

Samia Aziz Sulaiman, Mohamed A. Quazi, Amir Humza Sohail, Abdullah Khan, Hamza Hanif, Sulaiman Sultan, D'andrea K. Joseph, Abu Baker Sheikh, Arlin A. Bustillos

Introduction: Necrotizing fasciitis is a rapidly progressive infection associated with high mortality and morbidity that is a subset of Necrotizing Soft Tissue Infection (NSTI) and that involves subcutaneous tissue and fascia. There is paucity of high-quality data on disparities in clinical outcomes of necrotizing fasciitis. Our study aims to identify gender and racial disparities in necrotizing fasciitis outcomes.

Methods: We used data from the Nationwide Inpatient Sample database from 2016-2020. Chi Square test and t-test were used to test for associations between categorical and continuous variables, as appropriate. Multivariate logistic regression models, adjusted for key confounders, were used to obtain odds ratio for in-hospital mortality and various complications. Similarly, for continuous outcome variables, multivariate linear regression models were created.

Results: Among 118,775 patients with necrotizing fasciitis, women (adjusted odds ratio [aOR] 1.18, 95% confidence interval [CI]: 1.07-1.30, $p = 0.001$), and Asian (aOR 1.49 (95% CI: 1.10-2.02, $p = 0.01$) and Hispanic (aOR: 1.16; 95% CI: 1.0-1.35; $p = 0.045$) patients had a significantly higher in-hospital mortality as compared to White patients.

In comparison with men, women were more likely to require invasive mechanical ventilation and blood transfusions and develop ARDS.

They are less likely to develop AKI, acute myocardial infarction, venous thromboembolism and require non-invasive mechanical ventilation ($p < 0.05$ for all comparisons). Similarly, certain racial minority groups were also at a heightened risk for complications, such as AKI requiring hemodialysis, ARDS, venous thromboembolism, sudden cardiac arrest, and need for blood transfusion ($p < 0.05$ for all comparisons).

As compared to white patients, patients identified as African American (1.7 days longer, $p < 0.001$), Asian (4.3 days longer, $p < 0.001$), and Hispanic (0.6 days longer, $p = 0.048$) patients had a significantly longer

length of hospital stay. Asian, African American, and Hispanic patients also had significantly higher hospitalization costs, amounting to an additional \$17,596.07 ($p < 0.001$), \$5,899.60 ($p < 0.001$), and \$4,356.55 ($p < 0.01$), respectively, versus White patients. Native American patients did not have any significant difference in cost of hospitalization as compared to White patients.

Conclusion: Females and racial minorities are at increased risk of mortality and higher healthcare resource utilization in necrotizing fasciitis. There is a need for development of equitable management strategies and health policy interventions to effectively address these disparities.

Poster 4

Are We Picking the Right Drugs? Empiric Antibiotic Choice for Management of Post-Traumatic Empyema

Presenter: Deanna Gonzalez, MD

Deanna Gonzalez, MD; Erin Howell, MD; Morgan Sellers, MD



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Background: Development of post-traumatic empyema has been attributed to contamination of the pleural space via thoracostomy tube placement or the injury itself, seeding of retained hemothorax, hematogenous spread of remote infections, and parapneumonic processes. Appropriate antibiotic selection is an essential component of management. The objective of this study was to evaluate effectiveness of empiric antibiotic selection in a series of post-traumatic empyema patients.

Methods: A retrospective chart review during a one-year period (1/1/2023 – 12/31/2023) of all trauma patients who were diagnosed with empyema at a single Level 1 trauma center were included in the study. Empyema was defined as CT findings describing empyema with positive pleural cultures or pleural/tissue culture obtained intraoperatively with microbe growth. Data was collected regarding demographics, thoracic injuries, ventilator duration, thoracostomy tube number and duration, operative interventions, pleural and tissue cultures, antibiotic management, and length of hospital stay. Descriptive statistics were used to summarize the data.

Results: A total of 16 patients met study inclusion criteria. Patients were predominantly male (88%) with a median age of 38 years. Blunt mechanisms were more common (56%). Patients had a median chest abbreviated injury scale of 3 (IQR 3-4) and injury severity score of 16 (IQR 17-27). All patients had thoracostomy tubes placed (with a median of five chest tubes during hospitalization) for a median duration of five days. Initial operative management occurred on median hospital day 7 (IQR 2-20). At the time of index procedure, 12 patients underwent thoracotomy, one patient underwent video-assisted thoracoscopic

surgery (VATS), and two patients underwent VATS converted to thoracotomy. One patient did not undergo any surgery. Seven patients required subsequent thoracic operations for decortication or debridement. Two of these patients underwent pneumonectomy. Fourteen patients required mechanical ventilation outside of the operating room, for a median of 11 days (IQR 4-34). Seven patients required prolonged ventilation and subsequent tracheostomy placement. The median length of stay was 37 days (IQR 31-49). There was one mortality, which resulted from respiratory failure after pneumonectomy for necrotic lung.

Thirteen patients received cefazolin within the first 48 hours of admission. Broad spectrum antibiotics for clinically suspected empyema were started on 14 patients at a median hospital day 10 (IQR 6-17). Of the two patients not started on empiric antibiotics for empyema, one patient was started on broad spectrum antibiotics for necrotizing pneumonia. This subsequently developed into an empyema requiring surgical treatment. One other patient underwent surgical intervention for retained hemothorax without clinical evidence of empyema. Intraoperative cultures resulted positive 16 days later for propionibacterium. The most common empiric regimen was vancomycin with piperacillin-tazobactam (n=8, 50%). Four total patients had cultures positive for methicillin resistant staphylococcus aureus. All of these patients were started on vancomycin empirically. Two patients had cultures positive for vancomycin resistant enterococcus, and one patient was positive for Candida albicans. None of these cultures were from index operations.

Conclusions: Broad spectrum antibiotics were



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appropriately started in our population. Patients who required repeat interventions were at high risk of resistant organisms. Obtaining intraoperative cultures is useful in guiding appropriate antibiotic management.

Poster 5

CENTRAL VENOUS CATHETER INCREASES MORTALITY AND MORBIDITY IN PATIENTS WITH UPPER EXTREMITY DEEP VEIN THROMBOSIS

Presenter: Sage Templeton BS

SE Templeton, CP Jose MD, M Quazi MA, MD, CJ Bonnafox, JM Langsfeld, MR Smallwood, M Langsfeld MD

Introduction: Upper extremity deep vein thrombosis (UEDVT) is local coagulation and clotting of blood in the deep veins of the upper extremity most commonly in the subclavian, axillary, and brachial veins. UEDVT is differentiated based on primary or secondary with primary being a rare presentation in young, physically active patients typically due to anatomical variant or genetic hypercoagulability. Secondary UEDVT has the highest incidence, representing 80-90% of cases, and central venous catheter (CVC) use is associated with a 14-fold higher risk of UEDVT. CVCs have been shown to reduce blood flow, increase endothelial damage and inflammation, and increased fibrin deposition resulting in smooth muscle and endothelial cell growth on the catheter surface. These mechanisms increase thrombus risk. Previous literature in CVC associated UEDVT complications have been primarily vascular, investigating pulmonary embolism risk, recurrent venous thromboembolism, major bleeding, and all-cause mortality and

survivability. In our current study, we extend the analysis beyond vascular comorbidities and characterize a spectrum of complications in CVC related UEDVT.

Methods: The National Inpatient Sample (NIS) database was used to obtain data from 2018-2021. The study included adult patients with a principal diagnosis of UEDVT. This group was divided into group with CVC compared to group without CVC. Data analyzed include patient characteristics, mortality, and major comorbidities. We also conducted propensity matched analysis for our comparison groups to control for differences in sample size.

Results: For patients with CVC, there was a higher rate of mortality (OR 1.23, CI 1.14-1.32, $p < 0.001$), and significant morbidity including vasopressor use (OR 2.82, CI 2.54-3.13, $p < 0.001$), invasive mechanical ventilation (OR 2.34, CI 2.21-2.48, $p < 0.001$), and need for red blood cell transfusion (OR 2.09, CI 1.95-2.24, $p < 0.001$) among other morbidities measured. Adjusted mean inflation-adjusted cost was \$134,066 higher for CVC group compared to group without CVC ($p < 0.001$). Average length of stay was 8.22 days higher for CVC group ($p < 0.001$). Adjusted variables included age, hospital bedsize, race, gender, hospital location, hospital teaching status, hospital region, median household income, insurance status, and Elixhauser comorbidities.

Conclusions: In our sample, patients with CVC and UEDVT had increased morbidity and mortality compared to patients with UEDVT without CVC. This supports previous literature indicating increased vascular complications and survivability. Our study also showed the increased burden on patients with CVC associated UEDVT through higher number of



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hospital days and higher costs. Further prospective studies and randomized trials are necessary to better confirm our findings from this retrospective study.

Poster 6

Taking the pulse: analysis of vascular trauma evaluation in patients with lower extremity gunshot wounds

Presenter: Sage Templeton BS

Sage Templeton BS, V. Alejandra Moran Olivas BA, Morgan M. Sellers MD, Erin C. Howell MD

Introduction: Gunshot wounds to the extremities can lead to devastating consequences including loss of life or the affected limb(s). A normal physical exam and ankle brachial index (ABI) ≥ 0.9 have high sensitivity and specificity in ruling out extremity vascular injury. Computed tomographic angiography (CTA) has become widely used in the evaluation of extremity vascular trauma, including patients with reported normal physical exam and ABIs. This study aims to assess the current practice patterns of work up for extremity vascular trauma secondary to gunshot wounds at our institution with a particular focus on physical exam documentation, ABI measurements, and current knowledge of ABIs among general surgery residents.

Methods: From April 1, 2024 to September 30, 2024, patients with lower extremity gunshot wounds were screened for study inclusion. Exclusion criteria included patients taken directly to the operating room due to hard signs of vascular injury, death prior to ABIs or surgical intervention, non-gunshot wound mechanism of injury, or inability to place blood pressure cuff due to injury. Charts were

reviewed to assess physical exam documentation including presence of hard/soft signs per Western Trauma Association criteria, pulse exam, Doppler exam, and ABIs. Additional work up including CTA acquisition was noted. ABI accuracy in calculations and correlation with CTA was queried. Outcomes included delayed diagnosis, unplanned operation, limb loss, and mortality. General surgery residents were surveyed in June 2024 and February 2025 on the ability to correctly calculate ABIs.

Results: During the study period, 44 patients met inclusion criteria. Only 23 (52.3%) of ABIs were verified to be calculated correctly. 31 patients (70.5%) also received a CTA, and 22 (71.0%) of CTA findings correlated with ABI values < 0.9 . Documentation omitted mention of hard signs (n=1, 2.3%), soft signs (n=15, 34.1%), pulse exam (n=6, 13.6%), and Doppler signals (n=42, 95.4%). Of the 13 patients (30.0%) that did not receive an immediate CTA, one patient was observed due to concerns for possible compartment syndrome. This patient had a delayed CTA due to increasing pain with findings of a missed vascular injury and need for unplanned operation. Of the patients who were discharged without a CTA, no patients returned with vascular complications. Overall, no patients had limb loss, and one patient died from complications unrelated to vascular trauma.

Among the General Surgery residents in June 2024 (n=24), eight residents (33.3%) calculated ABIs correctly, which increased to 15 residents (57.7%, n=26) in February of 2025. Residents who could accurately calculate ABIs were evenly distributed among all post graduate training years. Of residents that took the survey



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in both June and February, 4/6 calculated ABIs correctly (66.7%).

Conclusions: Significant variability existed in practice patterns evaluating for vascular trauma. Despite strong literature supporting the use of ABIs with a normal physical exam to exclude vascular injury, detailed documentation of the normal physical exam often omitted key clinical criteria and a notable number of ABIs were calculated incorrectly. Further targeted education is needed to illustrate the nuances of the vascular exam in trauma and improve the accuracy of ABIs in this high-risk population.

Poster 7

Surgeon Reasoning for Ordering CT Scans in Patients with Abdominal Gunshot Wounds: An Overview of Preliminary Data

Presenter: Carlos J Bonnafox MS

Carlos Jacob Bonnafox, MS; Leah Lucero, MD; Calista Weiss, MS; Jasmeet Paul, MD

Introduction: Historically, abdominal gunshot wounds (AGSW) have been addressed with operative intervention with minimal preoperative imaging. However, over the past several decades, computed tomographic (CT) scanning has been increasingly used in stable patients to evaluate for nonoperative management (NOM) candidacy or even as a “roadmap” to detect injuries in patients for whom laparotomy is already planned¹⁻³. While many studies have evaluated the role of CT scanning in such patients, no studies exist that have specifically documented surgeons’ reasoning for ordering CT scans in patients with AGSW.

Methods: Our study is a mixed methods study including both a surgeon survey and a

prospective case series of patients who present to the University of New Mexico emergency department with AGSW. Surgeons complete an online survey to document their decision-making for obtaining CT scan for patients with AGSW. All patients are being followed during the course of their hospitalization to assess medical and surgical interventions as well as outcomes. The study is ongoing and was started August 2024.

Results: 32 patients have been included in the study thus far and have had a range of 1 to 6 abdominal gunshot wounds. 26 out of 32 of these patients were male (81.3%), and the majority of patients were between the ages of 20 and 40 (78.1%). Mean hospital length of stay was 10.23 days (STD 12.13). No patients died from their injuries.

Preliminary results demonstrate that of 32 patients, 23 underwent abdominal CT scan as part of their initial workup. Of these 23 patients, 13 went on to operative intervention. 9 patients went straight to operative intervention without preoperative imaging.

While 5 of surgeon surveys cited using CT scans for injury assessment in a patient who was already planned for laparotomy, 13 responses stated that CT scan was utilized in order to evaluate patients for nonoperative management. The decision to forego laparotomy based on CT scan findings was made for 9 patients. 17 of the survey responses said that CT scan impacted their decision to take patient to the operating room.

Discussion/Conclusion: Our preliminary results have been both informative interesting. Over two-thirds of patients in the study underwent CT scan in the Emergency Department, which is more than previous literature has described.

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Additionally, of the 23 patients who underwent CT scan, 9 did not proceed to the operating room and 2 underwent diagnostic laparoscopy rather than exploratory laparotomy, supporting known evidence that CT scans play an important role in decreasing the number of negative exploratory laparotomies in patients who suffer AGSWs. Although no conclusions can yet be drawn from our preliminary results, our mixed methods study design provides a unique analysis of data that we expect will provide further insight into optimal patient selection for CT scans after AGSWs.

Poster 8

Trends in Fatal Homicides Among Children and Adolescents (0-19 Years) in the United States: A 20-Year Analysis Using CDC WISQARS Data

Presenter: Daniella Rodriguez

Muhammad Ahmad Nadeem, Abdul Rafeh Awan, Abdullah Ahmad, Ali Raza Khan, Amir Humza Sohail, Daniella Rodriguez, D'andrea K Joseph

Background: Homicide remains a significant cause of mortality among children and adolescents in the United States. This study evaluates racial and demographic trends in fatal homicides among individuals aged 0-19 years from 2001 to 2020 using data from the CDC WISQARS database.

Methods: Data on fatal homicides were extracted for individuals aged 0-19 years from 2001-2020. Age-adjusted mortality rates (AAMR) were calculated, and statistical comparisons were conducted using Mann-Kendall tests for trend analysis and ANOVA for multi-group comparisons.

Results: The overall AAMR for the study

population was 3.43 per 100,000, with males having a significantly higher AAMR (5.11) than females (1.66) ($p < 0.001$). Homicide rates declined in females ($\text{tau} = -0.475$, $p = 0.004$), but not in males ($\text{tau} = -0.253$, $p = 0.119$). Rates were higher in metropolitan areas (3.62) than in non-metropolitan areas (2.36) ($p < 0.001$), with a significant decline in metropolitan areas ($\text{tau} = -0.334$, $p = 0.041$). Age-specific mortality was highest in the 15-19 age group (8.83). Significant declines were noted in White non-Hispanic ($\text{tau} = -0.324$, $p = 0.047$), Asian/Pacific Islander ($\text{tau} = -0.501$, $p = 0.002$), and Hispanic ($\text{tau} = -0.621$, $p < 0.001$) populations. Mechanisms showed declines in homicide by cut/pierce ($\text{tau} = -0.768$, $p < 0.001$), drowning ($\text{tau} = -0.631$, $p < 0.001$), fire/flame ($\text{tau} = -0.505$, $p < 0.001$), suffocation ($\text{tau} = -0.696$, $p < 0.001$), while drug poisoning increased ($\text{tau} = 0.456$, $p = 0.011$). Firearm-related homicides showed no changes in trends ($\text{tau} = -0.032$, $p = 0.845$).

Conclusions: Despite an overall decline in homicide rate among certain subgroups, disparities persist based on sex, location, and race. Firearm-related homicide remains a critical concern, showing no significant decline. Further research and targeted interventions are needed to address demographic disparities and prevent youth homicide.

Poster 9

Addressing the Mentorship Divide: A Call for Structured Faculty Mentorship in Academics

Presenter: Calista Weiss

Calista Weiss MS3, Alejandro Bustamante MS3, Baila Maqbool MD

Introduction: Faculty mentorship is a cornerstone of academic success, fostering career advancement, research productivity, and



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professional well-being. However, in high-pressure specialties such as Surgery, unstructured mentorship remains prevalent, often leading to inconsistent support and unmet developmental needs. The objective of this study was to assess the current state of faculty mentorship, identify gaps and challenges, and use these insights to develop a structured mentorship framework. By evaluating faculty experiences through a needs assessment survey, this study aimed to inform the creation of a standardized mentorship program that enhances faculty development and engagement.

Methods: A voluntary pre-program needs assessment survey was distributed to faculty members who had expressed interest in participating as either mentors or mentees. Nine mentees and nine mentors were invited to participate, with response rates of 33% (n = 3) and 78% (n = 7), respectively. The survey collected demographic information, current mentorship status, meeting frequency, structure of mentorship, topics discussed, mentor/mentee attributes, and overall quality ratings. Quantitative responses were analyzed using descriptive statistics, while qualitative feedback was reviewed for thematic analysis.

Results: Survey results revealed substantial variability in mentorship experiences. Among mentees, 67% had an existing mentor, though meeting frequency ranged from monthly to annually. Mentorship structures were inconsistent, with mentees evenly split between structured, unstructured, and combined approaches. Career guidance and goal setting were the most commonly discussed topics, while scholarly work, clinical practice, and leadership development were less frequently addressed. While mentors prioritized scholarly

work (80%) and leadership development (100%), mentees emphasized unmet needs in work-life integration (66.7%) and interpersonal conflict resolution (33.3%).

Over half of mentees (55.6%) and mentors (60%) identified time limitations as a primary barrier. Only 33.3% of mentees reported regular progress reviews, despite 60% of mentors emphasizing mentee proactivity as critical to success. Mentors rated relationships more favorably, with 60% describing them as “Excellent,” whereas only 33.3% of mentees shared this view. Notably, 33.3% of mentees rated their mentorship as “Poor,” citing infrequent feedback and lack of progress monitoring. Open-ended responses revealed mentee frustrations, such as “projects stalled due to inconsistent follow-up,” contrasting with mentor concerns about “balancing clinical duties with mentorship.”

Conclusion: This study underscores systemic gaps in faculty mentorship quality, including inconsistent engagement, misaligned priorities, and insufficient accountability. The disconnect between mentor and mentee perceptions highlights the need for standardized frameworks that fosters consistency, accountability, and targeted professional development. Informed by these findings, the IMPACT Faculty Mentorship Program was designed to address these gaps through quarterly structured meetings, goal-setting modules (e.g., 5-year “flight plans”), and progress-tracking tools. By integrating resources such as time management strategies and promotion planning guides, the program aims to enhance mentorship consistency, align priorities, and foster career satisfaction. Future steps include evaluating



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post-implementation outcomes, including scholarly productivity, promotion rates, and faculty retention.

Poster 10

Expression of Glial Cell-Derived Neurotrophic Factor Receptors Within Nucleus Ambiguus During Rat Development

Presenter: Quinton Blount MD

Quinton Blount, MD, Ignacio Hernandez-Morato, PhD, Yalda Moayedi, PhD, Michael J Pitman, MD

Objective: The nucleus ambiguus (NAmb) is a column of neurons in the medulla oblongata, involved in bulbar functions. Expression of Glial Cell-Derived Neurotrophic Factor (GDNF) and its receptors (GDNFR) is observed within the cell bodies during reinnervation following recurrent laryngeal nerve (RLN) injury. Little is known regarding GDNFR expression in the formation of the NAmb and the laryngeal innervation during embryogenesis. Understanding the timing and pattern of GDNFR expression in embryogenesis versus after RLN injury may provide insights into therapeutic targets for regeneration after RLN injury.

Study design: Laboratory experiment.

Methods: Rat brainstems at E14.5/E16.5/E18.5/E20.5/adult were stained for GDNFR: GFR α -1/GFR α -2/GFR α -3/Ret. Islet1 and choline acetyltransferase were used as cell body markers. Sections were observed using fluorescent microscopy and quantified through manual cell counting.

Results: Expression of GFR α -1, GFR α -3, and Ret was identified within the NAmb, hypoglossal, and facial nuclei of the adult medulla. During development, GFR α -1 immunoreactivity was

seen at E20.5. GFR α -2 expression was not observed at any timepoint. GFR α -3 expression began at E16.5. Ret expression within nerve fibers in the NAmb were observed beginning at E14.5, but never in the cell bodies.

Conclusion: Embryonic GDNFR expression in the NAmb differs from that of the adult after RLN injury. The developing brainstem experienced upregulation at discrete timepoints with signaling sustained through adulthood. In contrast, adult RLN-transected rats experienced patterns of up and down regulation. GFR α -1 may contribute to muscle targeting and neuromuscular junction maturation, GFR α -3 may contribute to both, as well as axon guidance. It is likely that GDNF is functioning via a Ret-independent pathway.

Poster 11

Treatment of Chylous Fistula after Neck Surgery with Negative Pressure Wound Therapy

Presenter: Frederick Hansen

Introduction: Chylous fistula, also referred to as 'chyle leak', is a rare complication of head and neck surgery that can be difficult to manage with current traditional treatment modalities alone. The University of New Mexico Hospital (UNMH) Otolaryngology team began implementing negative pressure wound therapy (NPWT) as an adjunct treatment for chylous fistula of the neck along with traditional conservative therapies in 2017. The negative pressure wound therapy protocol has been optimized over time and its implementation has become routine in the management of chylous fistula at UNMH. To date NPWT for chylous fistula of the neck has been implemented in twenty-six patients at UNMH.

Methods: In this study, we performed a chart



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review of the patients who underwent neck surgery and subsequently received NPWT for treatment of chylous fistula and compared them to a control group treated with traditional modalities alone prior to the implementation of the NPWT protocol. The treatment group was split into two groups representing the original NPWT protocol (protocol 1) and the optimized current protocol (protocol 2). Groups were compared by metrics of hospital length of stay, octreotide treatment duration, altered diet duration, and length of placement of any type of drain.

Results: Ten patients were identified as being treated under protocol 1, sixteen under protocol 2, and eleven patients were identified as controls treated with traditional treatment modalities before the implementation of NPWT. Protocol 2 was found to have a significantly reduced length of stay (Protocol 2 5.69 ± 1.70 days vs Control 11.64 ± 5.89 days $p=.0001$), length of altered diet duration (Protocol 2 5.00 ± 7.87 days vs Control 6.73 ± 2.24 days $p=.0078$), octreotide treatment duration (Protocol 2 1.75 ± 2.41 days vs Control 4.82 ± 3.43 days $p=.0231$), and length of placement of any drain (Protocol 2 7.38 ± 2.66 vs Control 10.45 ± 3.59 $p=.0245$) compared to the control group. No instances of great vessel desiccation or injury were observed in this study.

Conclusions: NPWT for the treatment of chylous fistula after neck surgery is a novel and efficacious treatment that can be used in conjunction with traditional treatment modalities.

Poster 12

Microplastics in Tonsils

Presenter: Maya Herzig MD

Maya Herzig MD, Elaine El Hayek PhD, Matthew Campen PhD, Duncan Meiklejohn MD

Microplastics are a now ubiquitous feature of our environment and our understanding of their role in human health is rapidly evolving. Microplastics have been measured in the human brain, placenta, vasculature, and blood. This study aimed to identify and quantify microplastics in surgical specimens from adult and pediatric tonsillectomy. Seventy-one (71) samples were received after pathologic evaluation and processed using Pyrolysis gas chromatography-mass spectrometry (Py-GC/MS) to identify and quantify 12 distinct microplastic polymers. Polyethylene was the most abundant polymer isolated, but quantities varied across the samples. Future studies are needed to correlate to microplastic presence and concentration to disease burden or inflammation.

Poster 13

Localized Laryngeal Amyloidosis Without Evidence of Systemic Disease: A Case Report and Approach to Treatment

Presenter: Juliet Velhagen

Juliet Velhagen, Pearl M Huynh, Jordan Lee, Michael F Spafford, MD, Tim Petersen, PhD, Codruta Soneru, MD

Introduction: Amyloidosis is a rare condition caused by the extracellular deposition of insoluble fibrils called amyloid proteins in various body tissues and organ systems [1]. Although amyloid often deposits systemically in organs such as the heart, liver, spleen, and kidney, the disease may also be localized [2]. We present a case report of localized amyloidosis of the larynx.



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Case Report: A 59-year-old female presented with over two years of voice hoarseness, nighttime drooling, dysphagia, and vocal fatigue. Direct laryngoscopy demonstrated multiple vocal cord nodules, for which she underwent endolaryngeal microsurgery with a biopsy of the laryngeal and pharyngeal masses that were reported as benign inflammatory nodules. After this biopsy, she underwent surgical removal of the nodules, which further demonstrated prominent AL (kappa)-type amyloidosis as evidenced by apple-green birefringence when stained with Congo red. A thorough workup of amyloidosis by hematology revealed no evidence of systemic disease. She was treated with another subsequent debulking followed by 20Gy in 10 fractions of Intensity Modulated Radiation Therapy/Image-Guided Radiation Therapy to the supraglottic larynx for her localized amyloidosis. After two debulking procedures and radiation therapy, she had significant improvement in her symptoms, as well as diminished evidence of disease on direct laryngoscopy.

Discussion: This patient presents a unique case of amyloidosis. Amyloidosis, an already rare diagnosis, was found to be isolated to the nasopharynx, oropharynx, and supraglottic larynx, making this an even more unusual presentation. Given the rarity of isolated laryngeal amyloidosis, there is limited research on the best treatment for these patients. Various case reports described the use of external beam radiation therapy [3,4], superficial radiation therapy [5-7], surgical resection [5,8], endoscopic or bronchoscopic debulking [4,6], and carbon dioxide laser excision [9-14].

Another important consideration in the care of

these patients is airway maintenance. Due to the risk of airway obstruction, providers should use caution to prevent airway emergencies. Some case reports have reported the use of cannula cricothyroidotomy [15] or tracheotomy [9,14] in emergency airways.

Finally, this case reinforces the importance of a multidisciplinary approach to disease treatment. This patient received coordinated care from primary care, ENT, anesthesia, hematology, and oncology. Because amyloidosis can be a systemic, hematologic disease, often leading to multi-organ failure, careful follow-up with hematology is required. In this patient, close ENT follow-up was also necessary, given her initial presentation and the location of the amyloid deposits. Intraoperative airway management with both ENT and anesthesia was vital to this case, as well.

Conclusion: A multidisciplinary approach is necessary for the diagnosis and treatment of patients with laryngeal amyloidosis. There are multiple possible treatment routes for these patients, including, but not limited to, surgery and radiation.

Poster 14

Trends and Disparities in Place of Death Among Leukemia Decedents in the United States, 2008-2020: A Population-Based Analysis

Presenter: Ahmed Sami Raihane

Ahmed Sami Raihane BS, Arlin A Bustillos BS, Muhammad Ahmad Nadeem MD, Abdul Rafeh Awan MD, Marjan Khan MD, Abu Baker Sheikh MD, Asad Ullah MD, Amir Humza Sohail MD MSc

Introduction: Leukemia, a clonal malignancy of bone marrow stem cells, is divided into four primary subtypes: acute myelogenous leukemia



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(AML), acute lymphoblastic leukemia (ALL), chronic lymphocytic leukemia (CLL), and chronic myelogenous leukemia (CML). While end-of-life care trends are well documented in solid tumors, limited research has focused on leukemia decedents (Fig 1). This study aimed to evaluate national trends and disparities in place of death among leukemia decedents in the United States from 2008 to 2020.

Methods: A retrospective analysis was conducted using the National Center for Health Statistics (NCHS) Multiple Cause of Death data from 2008 to 2020. We identified adult leukemia decedents (≥ 20 years) with leukemia listed as the underlying cause of death. Place of death was categorized as: inpatient facility, outpatient/emergency room (ER), home, hospice facility, and nursing home/long-term care. Temporal trends were assessed, and multivariable logistic regression was used to examine associations between place of death and socio-demographic factors, including age, sex, race/ethnicity, marital status, education, and rural-urban residence.

Results: A total of 295,057 leukemia-related deaths occurred from 2008 to 2020. Inpatient deaths decreased from 51% in 2008 to 37% in 2020, while home deaths increased from 26% to 40%, and hospice facility deaths doubled from 5% to 9%. Older adults (≥ 65 years) were twice as likely to die at home (OR 2.02, $p < 0.001$), while younger adults (20–34 years) had the highest odds of inpatient death (74%). Female decedents had higher odds of dying in hospice (OR 1.07, $p < 0.001$) or nursing homes (OR 1.09, $p < 0.001$) compared to males. Non-Hispanic Black, Asian, and Hispanic decedents had significantly higher odds of inpatient death and lower odds of home or

hospice death compared to Non-Hispanic Whites. Higher educational attainment was associated with increased hospice utilization. Across subtypes, AML accounted for the largest proportion of deaths, with inpatient facilities being the most common place of death across all leukemia subtypes.

Conclusions: Between 2008 and 2020, place of death for leukemia patients shifted toward home and hospice settings, aligning with broader shifts in end-of-life care preferences. However, stark disparities persist by age, sex, race/ethnicity, and education level. Addressing these inequities will require culturally sensitive hospice outreach, improved access to home-based care, and targeted health literacy initiatives to ensure equitable, patient-centered end-of-life care for all leukemia patients.

Poster 15

Retrospective chart review: laparoscopic vs open hepatectomy operative status and long term follow up

Presenter: Andrea Howard

Objective: Hepatectomy can provide durable control of many hepatic primary and secondary cancers. We aimed to review indications, outcomes, and survival at a tertiary referral center serving the state of New Mexico.

Methods: Data regarding demographics, intraoperative and postoperative results of 109 patients undergoing hepatectomy between May 2021 and July 2024 were retrieved from the medical record and compared by disease type and surgical approach. Outcomes were open vs. laparoscopic operations with insight on demographics, type of hepatectomy, indication of hepatectomy, operative duration, operative blood loss, perioperative changes,



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postoperative complications, length of hospital stay, postoperative tumor recurrence, and death.

Results: Between May 2021 and July 2024, there were 99 open and 10 laparoscopic assisted hepatectomies. There were 55, 55.6% female and 44, 44.4% male patients. The most common diagnoses were 38, 38.4% colon adenocarcinoma, 24, 24.2% hepatocellular carcinoma, 6, 6.1% hepatic adenoma, and 6, 6.1% cholangiocarcinoma. The overall median tumor size was 4.83cm. Between open and laparoscopic hepatectomies, respectively, there were significant differences in BMI ($p=0.0062$), indication of hepatectomy ($p=0.0418$), type of hepatectomy ($p=0.0174$), operation duration (236.51 min vs. 302.8 min, $p=0.0355$), operation changes ($p=0.00032$). There were no significant differences in age, sex, race, ethnicity, tumor size, operative blood loss, length of hospital stay, intrahospital complications, tumor recurrence, time to tumor recurrence, another resection, and death. There was a total of 8 complications with DVT, 25% being the most common. The median hospital duration of stay was 4 [1-26] days. 0.09% of patients required postoperative transfusion. Recurrence occurred in 18.3% of patients.

Conclusion: Our findings indicate that in a busy tertiary referral center serving the state of New Mexico, there was an association of higher BMI, indication for hepatectomy between open and robotic approaches, type of hepatectomy, operation duration, and operation changes. Minimally invasive approaches can be utilized safely and require careful patient selection and specific training. The recurrence free survival and overall survivals are reflective of improving multidisciplinary care for several tumor types. Further long term analyses are required to

better understand hepatectomy in unique patient populations.

Poster 16

A Decade in Review of PALS: Surgical Oncologic Consultations and Patient Dispositions from 2014 to 2024

Presenter: Henry Sorto

Henry Sorto, Andrea Howard, Arlin Bustillos, Anita Novak, Lynn Saavedra, Itzhak Nir, MD, Matthew Hernandez, MD

Introduction: This study aims to quantify and differentiate Physician Access Line Service (PALS) surgical oncology consults that the University of New Mexico Hospital receives and their dispositions.

Methods: Retrospective chart review of 1306 patient consults. Data was collected on provider, facility, referring provider, diagnosis, time to decision, and patient disposition. Univariate analyses were performed. A review of patient-specific data was conducted to determine subsequent interventions.

Results: Between 2014 and 2024, there was a gradual year-over-year increase in the number of PALS consultations, apart from 2019, which was impacted by the COVID-19 pandemic's effect on the healthcare system. Additionally, there was considerable variation among facilities requesting consults across the state, exemplified by a decrease in internal UNM Hospital consults from 79% in 2014 to 4% in 2024. Lastly, there was a steady rise in the number of consults accepted by UNMH as patients transferred to the hospital, from 12% of consults accepted in 2014 to 25% accepted in 2024. The most common reason for PALS to be called was for "Consult Only", comprising

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36.98% of consult calls, with a specific diagnosis not specified. When diagnosis was determined, the most common diagnoses included Post-op Complication (4.75%), Cancer (3.14%), Mass (2.6%), Pancreatitis (2.53%), Cancer – Pancreatic (2.37%), Small Bowel Obstruction (1.91%), Cancer – Colon (1.84%), Pancreatic head mass (1.76%), Necrotizing Pancreatitis (1.76%), Abnormal Exam (1.68%), and Bile Duct Injury (1.61%).

Conclusions: In conclusion, UNM Hospital's role as a safety net hospital is gradually increasing in this space despite facing the significant challenge of the COVID-19 pandemic, inevitable financial and staffing constraints, and serving a population whose social determinants of health place them at high risk for chronic and/or more advanced disease.

Poster 17

Racial and Gender Disparities in Outcomes of Necrotizing Pancreatitis: A National Inpatient Sample Analysis

Presenter: Ahmed Sami Raihane

Introduction: Necrotizing pancreatitis (NP), a severe form of pancreatitis, carries high morbidity and mortality, with outcomes influenced by patient demographics. While prior research highlights disparities in gastrointestinal diseases, the impact of race and gender on NP outcomes remains underexplored. This study evaluates the influence of these demographic factors on in-hospital mortality, complications, length of stay (LOS), and hospitalization costs.

Methods: A retrospective cohort study was conducted using the National Inpatient Sample database (2018–2021) to identify adult patients with NP via ICD-10 codes. Multivariate linear

and logistic regression analyses were used to assess in-hospital outcomes, including mortality, complications, LOS, and costs. Variables included demographic characteristics (e.g., race, gender), comorbidities, and illness severity. The primary outcome was in-hospital mortality, and secondary outcomes included complications and quality measures.

Results: Among 118,580 NP patients, males (64.8%) had higher in-hospital mortality (adjusted odds ratio [aOR] 1.14; 95% CI 1.01–1.30; $p = 0.04$) and increased risks for acute kidney injury (aOR 1.45; $p < 0.001$), mechanical ventilation, and surgical necrosectomy. Females were more likely to be discharged to skilled care facilities. Black patients demonstrated lower mortality (aOR 0.78; $p = 0.02$) but higher risks for acute kidney injury and blood transfusions compared to Caucasians, with fewer invasive interventions like necrosectomy.

Conclusions: This study reveals significant racial and gender disparities in NP outcomes, with males and Black patients experiencing distinct risks and care patterns. Addressing these disparities requires systemic reforms, including gender- and race-specific interventions, equitable healthcare access, and enhanced cultural competency in clinical practice. Further research is needed to elucidate mechanisms driving these inequities and inform targeted care strategies.

Poster 18

A Novel Technique for Thoracic Cavity Irrigation in Traumatic Hemothorax: The CLR Medical Irrigator Device

Presenter: Abdul Hafiz Al Tannir MD

Background: As of recent, thoracic cavity



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irrigation has been adopted in the management of traumatic hemothorax (HTX) at the time of tube thoracostomy placement. In December 2021, our level I trauma center adopted the CLR device as the primary technique for thoracic cavity irrigation in patients presenting with traumatic HTX. The aim of the present study is to evaluate the efficacy and safety of the novel CLR device in reducing rates of retained HTX and associated secondary interventions compared to the conventional manual irrigation technique using the Toomey syringe. An additional aim is to prospectively survey trauma surgery and emergency medicine faculty, residents, and fellows to evaluate the usability and feasibility of the CLR device at time of TT placement.

Methods: This is a single-center retrospective review (2017-2022) of adult trauma patients admitted to a level I trauma center with a traumatic HTX. Exclusion criteria were absence of thoracic cavity irrigation, TT placement at an outside hospital, no TT within 24 hours of admission, thoracotomy or VATS prior to or immediately after TT placement, absence of initial output after TT placement, VATS for rib fixation or diaphragmatic repair, and death within 96 hours of admission. The study population was stratified into three groups: CLR irrigation, conventional irrigation, and no irrigation. The primary outcome of interest was retained HTX requiring secondary intervention. A device usability survey was administered to general surgery residents during the experimental phase and to trauma surgery and emergency medicine medical staff during the clinical implementation phase of the CLR device.

Results: A total of 318 patients met the inclusion

criteria of whom 60 (19%) underwent irrigation using the CLR device, 113 (36%) underwent irrigation using the Toomey syringe, while 145 (46%) underwent no irrigation. No significant differences in admission or baseline characteristics were noted across all cohorts. Compared to the no irrigation, the CLR and conventional irrigation had a statistically significant lower rates of retained HTX ($p < 0.001$) and VATS ($p < 0.001$), and TT duration ($p < 0.001$). No significant differences in rates of retained HTX ($p = 0.22$) or need for VATS ($p = 0.31$), TPA ($p = 0.14$), or an additional TT placement ($p = 0.51$) was observed across both irrigation cohorts.

During the experimental phase, the CLR medical irrigator device was associated with a statistically significant shorter irrigation duration (1.53 vs 4.12 minutes; $p < 0.001$). During the clinical implementation phase, 86% of respondents strongly agreed with the usability of the CLR device for thoracic irrigation at time of TT placement.

Conclusion: The novel CLR device is non-inferior to the conventional manual irrigation technique in reducing rates of rHTXs requiring secondary intervention. Additionally, the CLR device is associated with a shorter thoracic cavity irrigation duration and is preferred by trauma surgery and emergency medicine staff.

Poster 19

Evaluating The Effects Of Smoking On Post-Operative Outcomes Of Ventral Hernia Repair

Presenter: Luke Chao

Luke Chao, MS3, Justin Davis, MS3, Colton Miller, MS4, Tram Le, MD, Jay Zhu, MD



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Introduction: Multiple studies have indicated that active tobacco smoking is a significant risk factor that negatively impacts ventral hernia repair outcomes. Smoking contributes to vascular disease and poor wound healing, potentially increasing risk of hernia recurrence and wound complications. However, with increasing utilization of minimally invasive techniques in hernia surgery, some of these risks may be mitigated. In this study, we aim to evaluate the effects of tobacco and nicotine use on elective ventral hernia repairs at an academic tertiary care center.

Methods: We performed retrospective analysis of all elective ventral hernia repairs performed by three minimally invasive surgeons at our institution in 2022. Patients who underwent parastomal hernia repair or primary repair of a ventral hernia in at the time of a separate procedure were excluded. Data was collected regarding operative approach, active tobacco use at time of surgery, and post-operative wound complications, which were defined as hernia recurrence, surgical site infections, seroma or hematoma requiring intervention, dehiscence, or fistula formation. A Chi-square test of independence was used to evaluate the association between smoking status and wound complications.

Results: Of 111 patients that underwent elective ventral hernia repair during the study period, 13 were actively smoking. 48 cases were done with an open approach, including 4 with active tobacco use, while 63 cases were done laparoscopically or robotically, including 9 with active tobacco use. In the active smoking group, 1 patient had a wound complication (7.7%), while in the non-smoking group (n=98), 6 had a wound complication (6.1%). There was no significant association between smoking and

wound complications (X²0.048, p= 0.9973).

Conclusions: Our preliminary data suggests that there is no significant relationship between smoking and post-operative ventral hernia repair wound complications in a patient population that primarily underwent minimally invasive approaches to ventral hernia repair. Further investigation in a larger population will need to be conducted to verify whether smoking has any impact on minimally invasive hernia repair outcomes.

Poster 20

Impact of Perioperative Obesity and Glycemic Control on Wound Complications Following Elective Ventral Hernia Repair

Presenter: Justin Davis

Justin Davis, MS3, Luke Chao, MS3, Colton Miller, MS4, Tram Le, MD, Jay Zhu, MD

Introduction: Class II obesity and hemoglobin A1c levels above 7.5% have been shown to be risk factors for complications following ventral hernia repair. Obesity raises intra-abdominal pressure and impairs healing, while hyperglycemia disrupts collagen synthesis and prolongs inflammation.^{1,2} Suboptimal glycemic control and obesity are linked to higher rates of surgical site infections (SSI), seroma formation, wound dehiscence, and hernia recurrence³. Minimally invasive surgical techniques may mitigate some adverse effects of obesity and poor glycemic control. This study aims to evaluate the association between class II obesity and elevated A1c levels with postoperative wound complications in elective ventral hernia repairs at an academic tertiary care center.

Methods: A retrospective analysis was



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conducted on all patients who underwent elective ventral hernia repair at the University of New Mexico Hospital in 2022. Patients who underwent parastomal hernia repair or primary repair of a ventral hernia in combination with a separate procedure were excluded. Perioperative BMI and A1c were collected, along with outcomes including recurrence, SSI, seroma, and dehiscence. The associations between obesity (BMI ≥ 35) and wound complications, as well as A1c $\geq 7.5\%$ and wound complications were evaluated using a chi-square test.

Results: 111 patients underwent elective ventral hernia repair during the study period. Of these, 90 had a BMI < 35 (81.1%). The remaining 21 had a BMI ≥ 35 (18.9%). Wound complications were observed in 7 cases (6.3%), with 4 complications in patients with a BMI < 35 and 3 complications in patients with a BMI ≥ 35 . There was no significant association between BMI and wound complications ($\chi^2 = 2.791$, $p = 0.425$).

Preoperative A1c data were available for 56 patients. Of these, 48 had an A1c < 7.5 (85.7%). The remaining 8 had an A1c ≥ 7.5 (14.3%). Wound complications occurred in 5 cases (8.9%), all with A1c $< 7.5\%$. There was no significant association between elevated A1c and wound complications ($\chi^2 = 0.915$, $p = 0.822$).

Conclusions: Preliminary results from an ongoing larger data collection study indicate that neither class II obesity nor poorly controlled diabetes as defined by A1c $> 7.5\%$ significantly influence wound complications in patients undergoing elective ventral hernia repair. The sample size of patients is small, as were wound complication rates. Further investigation is needed to better understand

why our results contradict previous recommendations regarding optimizing patients for elective hernia surgery.

Poster 21

Initial results and short-term outcomes after robotic extended totally extraperitoneal repairs for ventral hernias: a single institution experience

Presenter: Aleezay Haider, MD

Aleezay Haider MD, Tram Q Le MD, Justin R Davis, Jay Zhu MD

Introduction: In recent years, the robotic repair of ventral hernias via extraperitoneal retro-muscular mesh placement has been established as a feasible technique that results in durable repair. At present, there is insufficient evidence regarding the choice of hybrid polytetrafluoroethylene (PTFE) versus macroporous polypropylene mesh, which are both popular choices. Additionally, controversy exists regarding the need for posterior sheath (PS) closure, and use of drains in the retro-muscular space. The aim of this retrospective study is to report the short-term outcomes of performing robotic extended totally extraperitoneal (eTEP) repairs for ventral hernias at a single tertiary care center and examining the effects of mesh choice, posterior sheath closure, and drain placement.

Methods: A retrospective analysis of all patients who underwent a robotic ventral hernia repair using a totally extraperitoneal technique between February 2022 and October 2024 at a single institution was performed. Demographic data including age, sex, body mass index (BMI) and medical comorbidities were collected. Perioperative details including wound class, use of component separation and



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use of drains were also recorded along with post-operative outcomes including 30-day emergency room (ER) visit rates. The relationship of drain status with seroma formation and ER visits was investigated by chi-square at the significance level of 0.05.

Results: A total of 41 patients underwent a robotic eTEP retromuscular mesh repair during the study period. The median age was 61 years (34 -78) and 53% of the patients were female (n = 22). The mean BMI was 32 kg/m² (25-38) and the mean hernia width was 9 cm (2-24). There were 22 patients who underwent posterior sheath approximation and 19 patients who did not. Similarly, 22 patients underwent repair using a hybrid mesh and 19 patients underwent repair using a synthetic mesh. There were no recurrences in either group. The median length of stay was 1 day and there were no intra-operative complications in both groups. Of the patients who did not undergo PS approximation, none required a concomitant transversus abdominis release whereas 18% of patients (n = 4) in the PS closure group required a unilateral release. Lastly, 21 patients had drains placed intraoperatively. The rate of seroma formation in the group without drains was 10% (n = 2) and 14% (n = 3) in the group with drains (p = 0.66). The 30-day emergency room visit rate was 10% (n = 2) in patients without a drain and 24% (n = 5) in those with a drain (p = 0.24).

Conclusions: The robotic eTEP technique for ventral hernia repair continues to be a safe and durable technique with no reported rates of recurrence from a single institution's experience. Preliminary data suggests that PS approximation may not be necessary for successful repair and that surgical drain placement does not change the likelihood of

developing a post-operative seroma.

Poster 24

From Preliminary to Categorical: A Supportive Curriculum for General Surgery Residency Re-application

Presenter: Alyssa V.S. Justus, MD

Alyssa V.S. Justus, MD, Baila Maqbool, MD, FACS

Introduction: With increasing competitiveness in residency applications, 18% of applicants across all specialties went unmatched in 2023. For general surgery applicants, particularly those in preliminary positions, securing a categorical role remains a significant challenge. Current research on mentorship specific to general surgery preliminary residents aiming for categorical re-application is limited. Preliminary residents often rely on informal mentorship rather than structured guidance, which may impact their re-application success and confidence.

Methods: Development of Curriculum

We conducted a survey among general surgery preliminary residents at our institution over the past five years, achieving a 41% response rate (7/17). Results indicated a reluctance to disclose mentorship experiences; only one resident rated official mentorship on re-application as above average. Respondents reported independently seeking guidance from past preliminary residents rather than established faculty mentors. To address these issues, we developed a structured curriculum led by former preliminary residents, covering:

- Curriculum Topics: CV and personal statement writing, obtaining letters of recommendation, dual application



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strategies, program selection, interview skills, mock interviews, and SOAP process preparation.

- Session Design: Group sessions aligned with the ERAS timeline and integrated with existing faculty mentorship schedules to support focused, one-on-one mentorship interactions.

Results: Preliminary results indicate that participants gained valuable insights and planned to adjust their application strategies based on the curriculum. Faculty mentors also noted that residents appeared more prepared and engaged in mentorship sessions than in prior years, suggesting an increase in self-confidence and application readiness.

Conclusion: This targeted curriculum for general surgery preliminary residents offers a structured, peer-led framework to strengthen re-application skills, foster professional development, and potentially improve match outcomes. Ongoing evaluation will further assess its long-term impact on categorical match success.

Poster 25

MRSA Mesh Salvage Case Report

Presenter: Tram Le, MD

Tram Le, MD, Colton Miller, Jay Zhu, MD FACS

Introduction: Prosthetic mesh infections are a rare but known complication in open ventral hernia repairs and are often challenging to treat, frequently requiring extended hospital stays, multiple operations, and explantation if treatment fails. *Staphylococcus aureus* is the most common causal organism of ventral hernia mesh infections, and while the incidence of methicillin-resistant *staphylococcus* (MRSA)

mesh infections is not well characterized in the literature, some case series report MRSA involvement in over 50% of mesh infections. MRSA-infected meshes pose significant challenges in treatment, as they have historically been associated with lower rates of mesh salvage, and mesh excision is generally recommended. Here we describe successful salvage of a large, complex, recurrent open ventral incisional hernia repair complicated by MRSA infection in a 48-year-old morbidly obese male with insulin-dependent type 2 diabetes.

Methods: The patient was referred to our clinic with a 12 x 21cm recurrent incisional hernia with chronically incarcerated bowel following prior failed retromuscular mesh repair. He had numerous admissions for acute pain and small bowel obstruction. He underwent an open repair with bilateral transversus abdominis release and placement of a retromuscular, 30.5cm x 30.5cm macroporous polypropylene mesh. At 3 weeks post-operatively, he developed a deep surgical site infection with an abscess overlying the anterior rectus sheath that communicated with a central portion of the mesh where the anterior rectus sheath had dehiscence. Over the course of a 52-day inpatient stay, mesh salvage was achieved with wound debridement and irrigation, intravenous antibiotics, use of vancomycin-impregnated calcium sulfate antibiotic beads, negative pressure wound therapy (NPWT) with vancomycin and rifampin instillations, and regular dressing changes with sodium hypochlorous solution.

Results: The patient experienced complete wound closure via secondary intention after 4 months and remained on suppressive oral doxycycline and amoxicillin for 12 months. He



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has had no recurrent infection and no recurrent hernia at the time of his last follow-up at 18 months.

Conclusions: At least four other instances of successful salvage of MRSA-infected hernia mesh have been documented in the literature with some overlap in treatment approaches, namely the use of systemic antibiotics, intrawound antibiotic irrigations, and use of NPWT, vacuum-assisted closure, or surgical drains. The present case contributes further evidence that antibiotic-resistant bacterial mesh infections in complicated or contaminated ventral hernia repairs may be successfully salvaged with a combination of antibiotic and wound care therapies.

Poster 26

One Size Does Not Fit All: BMI Versus Abdominal Circumference as a Proxy Measurement for Visceral Fat Volume

Presenter: Tram Le, MD

Tram Q. Le, MD, Payton Sandoval-Eddy, MD, Ariana Gutierrez, Dua Hussain, Avalon Abrums, Lauren E. McClain, MD

Introduction: Ventral hernia repairs are among the most common procedures in general surgery; despite advances in surgical technique, recurrence rates after repair remain as high as 18.8%. Several patient-related risk factors for recurrence have been well established in the literature, including body mass index (BMI) and visceral fat volume (VFV). Moreover, VFV has been found to have a significantly positive correlation with both recurrence and post-operative complications. However, determining VFV currently requires sophisticated software and time-consuming calculations that are not readily available to

providers.

In this prospective cohort study, we evaluate abdominal circumference (AC) in patients with hernias to determine if this measurement, as compared to BMI, is a more accurate predictor of VFV.

Methods: We included patients over the age of 18 with a hernia demonstrated on computed tomography (CT) imaging, from September 2023 to December 2024. Each patient's VFV was calculated using the OsiriX imaging processing software in the axial view. Measurements of visceral fat volume were taken at the level of the second lumbar vertebra. Abdominal circumference was measured at the level of the umbilicus, and BMIs were recorded.

The data was analyzed using linear regression models with correlation coefficients created in Microsoft Excel to assess correlations between VFV and both BMI and abdominal circumference, respectively.

Results: A total of 132 patients were included in the study; 49 (37.1%) were female, and 83 (62.9%) were male. Of these patients, 60 (45.5%) identified as Hispanic or LatinX.

In the male patient population, we observed a strong positive correlation between AC and VFV (0.65) as well as BMI and VFV (0.67), with the strongest correlation between AC and VFV in the Hispanic cohort (0.71). In the female population, we observed a weak positive correlation between AC and VFV (0.32) as well as BMI and VFV (0.30); however, when stratified by ethnicity, non-Hispanic female patients were found to have a stronger correlation between both AC and VFV (0.71) and BMI and VFV (0.71).



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Conclusions: In this preliminary analysis of our cohort study, the emerging data demonstrates strong positive correlations between AC, BMI, and VFV in the general male patient population, with slightly stronger correlations for male Hispanic patients. For female patients, there is a strong positive correlation in the non-Hispanic cohort, and a weakly positive correlation between AC, BMI, and VFV in the Hispanic cohort. This indicates that, for female patients especially of Hispanic ethnicity undergoing evaluation for elective hernia repair, providers may need to be more selective when considering a patient's BMI or AC as a risk factor for recurrence. Furthermore, pre-operative optimization may need to shift the focus from targeting a goal BMI to perhaps targeting a goal VFV. While more patients need to be included in the study to yield higher-power results, our early data suggests that BMI and AC may be utilized as relatively accurate proxy measurements for VFV in certain patient populations, and further investigation is warranted to determine whether either measurement is better correlated with VFV.

Poster 27

The Intersection of Housing Insecurity and Trauma- Defining an Indefinable Population

Presenter: Erin Risotto-Urbanowicz, MD, MPH

Erin Risotto-Urbanowicz, MD, MPH; Tiffany Emery, MD; C. Danielle Hopkins, MD; Abdul Hafiz Al Tannir, MD; Richard J. Miskimins, MD, FACS; Sarah A. Moore, MD, FACS

Background: As previously studied, trauma has significant impact on vulnerable communities in the United States. In New Mexico, approximately 1% of the population is houseless

with 15,000-20,000 experiencing this status every year. The state of houseless populations and their intersection with trauma is largely unknown given the transient nature of these patients and barriers to data collection.

Aim: The primary aim was to determine prevalence of houseless patients among trauma admissions, their discharge destinations, and to determine the types of homelessness faced by our population. The secondary aim was to compare length of stay, ICU length of stay, and mechanism of trauma of houseless patients compared to their housed counterparts.

Methods: Data was initially collected via two mechanisms. First, ICD-10 codes Z5900, Z5901, Z5902, Z5910, Z59812, Z59819 that encompass housing insecurity and houselessness were used for data request for all trauma discharges from January 2024 through July 2024 at the only level one trauma center in New Mexico. To ensure that these were adequate, trauma providers performed prospective screening for houseless patients admitted to the trauma service for 3 months to ensure agreement. In addition, all trauma admissions during this time period underwent retrospective chart review to ensure no additional unhoused patients were found. Houselessness was defined as unsheltered and sheltered using Center for Medicaid and Medicare Services guidelines. Exclusion criteria were patients <18 years of age and patients not meeting inclusion in the trauma registry. Analysis was completed using chi-square and t-tests when indicated.

Results: The overall prevalence of houseless status among trauma patients was 17% with a majority of patients being unsheltered (n=191, 81.6%). 234 houseless patients and 1350 housed patients were identified. Penetrating trauma



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was more prevalent in houseless patients (25%) with gunshot wounds as the leading injury pattern at 13.5% (n=27). The leading cause of blunt injury was pedestrian versus auto at 26.5% (n=53). Blunt trauma was more prevalent in housed patients (83.4%) with ground level falls (28.7%) and MVC (22.6%) as the most common mechanisms. Most housed patients returned home after discharge (53.3%) whereas many unhoused patients were discharged to prior living arrangements on the street, shelter, or eloped (35%). When comparing groups, unhoused patients were more likely to be younger, male, have more penetrating injuries, more pedestrian incidents, and have longer lengths of stay ($p < .001$). There was no difference in ICU length of stay among groups. On secondary analysis when controlling for age, sex, and mechanism; housing status was independently associated with an increased length of stay.

Conclusion: The prevalence of trauma within houseless patients is markedly increased compared to the community in New Mexico. This vulnerable population experiences increased rates of violence through penetrating injuries and pedestrian incidents leading to a continuation of inequity and health disparities. Interventions to increase public safety and community efforts with housing pathways will be essential in decreasing the rates of trauma.

Poster 28

Resurrecting the Perineum: A Robotic Redemption After a Failed Perineal Hernia Repair

Presenter: Daniella Rodriguez

Daniella Rodriguez, MS3, Michael Sjoquist, MD PGY-1, Lara McKean-Basté, MD, Jay Zhu, MD

Introduction: Perineal hernias can be a rare complication of abdominoperineal resection (APR) and other abdominopelvic surgeries. Perineal hernias cause symptoms such as pain, difficulty sitting, urogenital dysfunction, and small bowel obstruction. Repair of post-operative perineal hernias can be technically challenging and both transabdominal and perineal approaches have been described, utilizing primary closure, mesh repair, and/or flap reconstruction. More recently, there has been increasing interest in laparoscopic and robotic approaches. In this case report, we describe the first robotic-assisted perineal hernia repair at our institution in a patient with presenting with a recurrent perineal hernia following a prior failed onlay mesh repair.

Case Description: The patient is a 66-year-old male who underwent an open APR for rectal adenocarcinoma (T3N2M0) and subsequent perineal hernia repair using an open onlay perineal approach with PTFE mesh. A year after this initial perineal hernia repair, the patient began experiencing recurrent symptoms of a painful bulge protruding from below the coccyx, exacerbated by sitting and lying down. The patient presented to our minimally invasive surgery clinic 3 years after his initial perineal hernia repair with large 15 cm recurrent perineal bulge. CT imaging revealed a 5x7 cm pelvic floor defect with bowel herniation beyond the coccyx and ischial tuberosities with prior mesh appearing to have detached from the coccyx posteriorly, and from the levator ani muscles laterally. The patient was specifically interested in minimally invasive repair options, and shared decision was made to proceed with the first robotic transabdominal perineal hernia repair at our institution. Extensive adhesiolysis was



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required to mobilize the small bowel out of the pelvis and away from the previous mesh implant. An anterior peritoneal flap was mobilized to expose Cooper's ligament and this flap was then secured posteriorly to the sacrum to posteriorize the bladder and provide visceral coverage of the pelvic floor defect. Finally, a 20x20 cm coated PTFE mesh was secured intraabdominally to the pelvic floor against the peritoneal flap, and secured to Cooper's ligament anteriorly, and the sacrum posteriorly. Following this second repair, the patient was discharged on POD1 and has had no recurrence of symptoms or complications at 6 month follow-up.

Discussion: Due to the rarity of and complexity of perineal hernias, there is no consensus approach to surgical repair. Data regarding outcomes for recurrent perineal hernia repair are even more limited. Thus, decisions for surgery are generally based on patient presentation and surgeon experience. While some studies indicate that mesh repairs are associated with lower rates of recurrence when compared with primary repair, pelvic floor anatomy presents unique challenges to placing and securing mesh. Additionally, published reports describing minimally invasive mesh repairs of perineal hernias are limited to case series describing various techniques, including the peritoneal flap mobilization utilized in this case. Our successful robotic-assisted repair of a recurrent perineal hernia repair adds to the growing literature supporting the feasibility and safety of minimally invasive approaches for a rare and challenging problem.

Poster 29

Assessing Outcomes in Patients with Cardiac Tamponade Who Underwent Resuscitative

Thoracotomy

Presenter: Matthew Smallwood BS

Matthew Smallwood, BS; Clement Jose, MD, MS; Mohammed Quazi, PhD, MS; Carlos Bonnafoux, BS; Jeremiah Langfield, BS; Sage Templeton, BS; Mark Langfield, MD

Introduction: Cardiac tamponade occurs when pericardial fluid accumulation compresses the heart, impairing cardiac output and leading to hemodynamic instability. In trauma patients, rapid recognition and intervention with resuscitative thoracotomy (RT) are critical, though survival rates remain low. Mortality rates for RT vary based on injury mechanism, with survival reported as 9.8% for penetrating trauma and 5.2% for blunt trauma. Despite the low survival, RT remains lifesaving in select cases. However, the role of pericardial tamponade in patient outcomes is poorly characterized. This study analyzes national data to assess the impact of pericardial tamponade on outcomes in resuscitative thoracotomy, aiming to clarify its association with mortality and morbidity.

Methods: The National Inpatient Sample (NIS) database from 2018-2021 was used to identify adult patients who underwent RT. Patients were divided into those with and without a diagnosis of cardiac tamponade. Data analyzed included patient characteristics, mortality rates, and major comorbidities. Propensity-matched analysis adjusted for confounders and sample size differences. The primary outcome was mortality in patients undergoing RT with and without cardiac tamponade. Secondary outcomes included vasopressor use, invasive mechanical ventilation, and organ failure. Exclusion criteria included patients under 18 and missing data regarding key outcome



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variables. Additionally, hospital location, trauma designation, and teaching status were included as covariates to account for potential care differences.

Results: Patients undergoing RT with cardiac tamponade had a significantly higher mortality rate (odds ratio [OR] 5.39, confidence interval [CI] 2.14-13.54, $p < 0.001$). However, after propensity matching, the association was no longer significant (OR 2.02, CI 0.62-6.55, $p = 0.241$). Patients with tamponade had increased vasopressor use (OR 4.22, CI 1.56-11.43, $p = 0.005$), invasive mechanical ventilation (OR 3.28, CI 1.36-7.88, $p = 0.008$), and liver failure (OR 4.93, CI 1.31-18.59, $p = 0.018$). Despite these trends, propensity-matched analysis showed no significant morbidity differences. Additionally, median hospital costs were significantly higher in patients with tamponade, reflecting increased resource utilization and complexity of care.

Conclusions: While initial analysis suggested higher mortality for RT patients with cardiac tamponade, propensity-matched analysis showed no significant difference in mortality or morbidity. This may be attributed to sample size limitations and reliance on ICD-10 coding in administrative databases. Patients undergoing RT for tamponade had higher vasopressor use and mechanical ventilation rates, suggesting tamponade contributes to profound hemodynamic instability requiring aggressive resuscitation. The financial burden was significant, with adjusted hospital costs notably higher in tamponade patients. The increased need for critical care interventions highlights the necessity for further investigation into optimal management strategies. Further prospective studies are needed to evaluate the true association between cardiac tamponade

and RT outcomes. Improved documentation and standardized trauma registries may provide better insight into tamponade's impact. Future research should focus on identifying patient subgroups most likely to benefit from RT and refining triage criteria for its use in emergency settings.

Poster 30

A Unique Case on Endoluminal Vacuum Therapy for Salvage of Large Esophagojejunal Anastomotic Dehiscence

Presenter: Matthew Smallwood BS

Matthew Smallwood, BS; Roxanne Lerma, MD; Jay Zhu, MD

Introduction: Total gastrectomy for gastric volvulus is rare and associated with high morbidity and mortality. Esophageal anastomotic leaks following gastrectomy pose a significant challenge, requiring rapid identification, resuscitation, and intervention. Endoluminal vacuum therapy (EVT) has emerged as a promising alternative to surgical repair, facilitating controlled anastomotic healing while reducing the need for reoperation. This case highlights the successful application of EVT in managing a large, septic esophagojejunal (EJ) anastomotic dehiscence.

Methods: A 56-year-old male with hypertension and GERD presented with abdominal pain and emesis. Imaging revealed a paraesophageal hernia with acute ischemic gastric volvulus. Due to gastric necrosis, emergent total gastrectomy was performed, followed by a Roux-en-Y esophagojejunostomy with a jejunostomy feeding tube. Three weeks postoperatively, he was discharged to a long-term care facility but was readmitted with sepsis. Imaging revealed a complex 15x10 cm



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intraabdominal and mediastinal abscess, suggesting an EJ anastomotic leak. A percutaneous transabdominal mediastinal drain was placed, and esophagogastroduodenoscopy confirmed partial dehiscence of 50% of the left lateral anastomotic circumference. EVT was initiated by suturing a granulofoam sponge to a 12 Fr nasogastric tube, which was advanced endoscopically to occlude the dehiscence. Biweekly EVT sponge exchanges were performed. Throughout treatment, the EVT sponges were sequentially downsized to promote granulation and tissue remodeling. The patient was closely monitored with serial CT imaging and EGD to assess treatment response and identify any new complications. Broad-spectrum antibiotics were continued throughout therapy to prevent secondary infections. Nutritional optimization was achieved through jejunal tube feeds, preventing further malnutrition and aiding tissue healing. Despite the chronic inflammatory state of the mediastinal cavity, EVT allowed for effective source control and avoided the morbidity of a major surgical reoperation.

Results: After 15 weeks of EVT, serial imaging demonstrated progressive resolution of the mediastinal abscess and closure of the anastomotic dehiscence, leaving a residual 3x3 cm chronic mediastinal cavity. Two over-the-scope clips were later placed to close the remaining fistula. Follow-up CT with oral contrast confirmed complete resolution of the leak. The patient was advanced to a post-gastrectomy diet, which he tolerated, and was discharged 140 days after the initial presentation. At 1.5 years post-discharge, he remains stable, tolerating a post-gastrectomy diet and having returned to work.

Conclusions: This case represents one of the

largest thoracoabdominal abscesses successfully managed with EVT, underscoring its efficacy as a salvage therapy for large anastomotic dehiscence in critically ill patients. EVT not only facilitated closure of the leak but also allowed for continued nutritional optimization and infection control without requiring reoperation in a chronically inflamed field for a malnourished and deconditioned patient. The success of EVT outcomes depends on patient selection, including anatomic, hemodynamic, and nutritional factors. This case highlights the potential for EVT to be integrated into treatment algorithms for complex esophageal leaks, reducing morbidity in high-risk patients.

Poster 31

Analysis of Surgical Efficiency and Hospital Resource Utilization Comparing Robotic and Laparoscopic Cholecystectomy

Presenter: Trevar Caldwell, MS

Trevar Caldwell, MS, Melissa Torbey, MHA, Yazmin I. Irazoqui Ruiz, MD., & Jay Zhu, MD

Introduction: Robotic surgery has grown rapidly over the past decade. Current literature comparing the safety and efficiency of robotic versus laparoscopic procedures consistently show similar patient outcomes and trends toward higher costs associated with robotic surgery. This study compares time in the operating room and recovery for patients undergoing elective laparoscopic and robotic cholecystectomies to evaluate how transitioning to robotic surgery may impact operating efficiency.

Methods: We retrospectively reviewed 39 elective cholecystectomies (laparoscopic: n=20, robotic: n=19) performed by a single surgeon at



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our outpatient surgery center. Total operating room (OR) time and post-anesthesia care unit length of stay (PACU LOS) were compared between the laparoscopic and robotic groups. Wilcoxon Rank Sum tests with Hodges-Lehman comparisons were used to evaluate for statistical significance.

Results: OR times in minutes were comparable between laparoscopic (142.8 ± 74.6) and robotic (115.7 ± 29.7) groups ($p=0.2982$). PACU LOS were also similar between the laparoscopic (152.2 ± 74.4) and robotic (138.2 ± 89.0) groups ($p=.4735$). A post hoc analysis combining OR and PACU times for each procedure showed a non-significant trend towards longer total length of stay LOS for patients undergoing laparoscopic cholecystectomy (294.9 ± 105.1) when compared to robotic cholecystectomy (253.9 ± 105.0) ($p=.1685$).

Conclusion: This preliminary analysis reveals that robotic cholecystectomies are associated with similar operative and PACU times, with a non-significant trend toward longer total LOS for the laparoscopic cholecystectomy group. Further investigating these trends in a larger sample size with continuing data collection may help enhance efficiency and cost-effectiveness with elective cholecystectomies performed at our outpatient surgery center.

Poster 32

Efficacy and Safety of Antibiotic Prophylaxis in Post-Liver Transplant Patients Undergoing Endoscopic Retrograde Cholangiopancreatography: A Systematic Review and Meta-Analysis

Presenter: Anna Willingham, BS

Nadeem Muhammad Ahmad, MD, Willingham

Anna, BS, Hamza Sohail Abdul Malik Amir, MD

Introduction: Endoscopic retrograde cholangiopancreatography (ERCP) is a critical procedure for managing biliary conditions, particularly in liver transplant recipients. However, post-procedural infections remain a significant complication and are among the leading causes of mortality following ERCP. While prophylactic antibiotics are commonly employed to mitigate this risk, their efficacy in reducing infection rates remains uncertain.

Methods: This systematic review and meta-analysis evaluated the effectiveness of antibiotic prophylaxis in post-liver transplant patients undergoing ERCP. A comprehensive search of PubMed, Embase, Scopus, and Cochrane Central was conducted from database inception to September 2024 to identify relevant studies. When feasible, a meta-analysis was performed to calculate overall event rates.

Results: Seventeen studies, including 1,115 participants undergoing more than 3,000 ERCPs, met the inclusion criteria. Antibiotic regimens varied, with the most commonly reported piperacillin/tazobactam, vancomycin, ciprofloxacin, and cephalosporins. Bile and blood cultures predominantly revealed gram-positive bacteria, with *Enterococcus* species and alpha- and beta-hemolytic streptococci being the most common isolates. Meta-analysis revealed an infection event rate of 15.3% (95% CI: 12.6%–18.4%, $p<0.0001$) among patients receiving prophylactic antibiotics. Despite prophylaxis, severe infections such as cholangitis, sepsis, and pancreatitis were reported. Mortality among antibiotic users was 2.6% (95% CI: 1.2%–5.5%, $p<0.0001$). Patients receiving antibiotics

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experienced shorter hospital stays and lower rates of positive blood cultures. However, recurrent cholangitis was more frequent in patients on long-course antibiotics compared to those on short-course regimens.

Conclusion: While antibiotic prophylaxis is associated with reduced infection rates and improved outcomes such as shorter hospital stays, variability in study quality and inconsistent reporting underline the necessity for high-quality randomized controlled trials to confirm these findings and inform clinical practice.

Poster 33

Temporal Trends in Incidence, Mortality, and Prevalence of Gallbladder and Biliary Diseases in High-Income Countries Compared to the USA, 1990-2021

Presenter: Anna Willingham, BS

Muhammad Ahmad Nadeem, MD, Anna Willingham BS, Fatima Ashfaq MD, Mudasar Nisar MD, Hamza Ashraf MD, Rabia Javed MD, Abdul Rafeh Awan MD, Abdullah Ahmad MD, Ahmad Zain MD, Asad Ullah MD, Abu Baker Sheikh MD, Amir Humza Sohail MD

Introduction: Gallbladder and biliary diseases, ranging from simple gallstones to complex malignancies, are important contributors to the global health burden. This study examines long-term gender-related trends in gallbladder and biliary disorders in high-income countries (high SDI) and compares them with those in the United States between 1990 and 2021.

Method: An update and extension of GBD 2019, GBD 2021 is a systematic evaluation that covers 204 nations and territories. It uses 100,983 data sources from 1990 to 2021 to offer information

on the incidence, prevalence, mortality, and disability-adjusted life-years for 371 diseases and injuries, along with 88 risk variables. Age-adjusted mortality, prevalence, and incidence rates were calculated for gallbladder and biliary diseases. Using the Jointpoint software, the annual percentage changes (APCs) for age-standardized incidence (ASIR), prevalence (ASPR), and mortality (ASMR) were computed in the jointpoint regression analysis for 95% confidence interval

Result: Between 1990 and 2019, the global incidence of gallbladder disease and biliary disease have a significant rise. In the USA, the prevalence of gallbladder disease is rising, with over 20 million adults being affected, according to the estimation provided by the National Health and Nutrition Examination Survey III.

In the countries with high SDI, there was a significant decline in age-standardized mortality rate (ASMR) and age-standardized prevalence rate (ASPR) for gallbladder and biliary diseases among both males and females from 1990 to 2021, while age-standardized incidence rate (ASIR) showed a slight decline or remained stable. In males, ASMR declined from 2.03 to 1.67 per 100,000, ASPR from 3210.07 to 2962.47 per 100,000, and ASIR from 987.46 to 932.09 per 100,000. In females, ASMR decreased from 1.80 to 1.35 per 100,000, ASPR from 5141.81 to 4352.35 per 100,000, and ASIR from 1912.07 to 1706.76 per 100,000.

Similarly, in the USA, ASMR and ASPR in both sexes have declined significantly, while ASIR remained stable. Among males, ASMR decreased from 1.57 to 1.29 per 100,000, ASPR from 2495.76 to 2278.26 per 100,000, and ASIR slightly decreased from 757.57 to 706.48 per 100,000. Among females, the ASMR decreased



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from 1.18 to 0.97 per 100,000, the ASPR from 4921.67 to 3796.54 per 100,000, and the ASIR from 1856.58 to 1534.00 per 100,000.

Discussion: The observed trends in this study for gallbladder and biliary disease highlight important disparities and similarities between high SDI countries and the US over the past three decades. Both high SDI countries and the US have experienced a significant decline in ASMR and ASPR for gallbladder and biliary disease, with more pronounced improvements among females. However, ASIR in both regions showed a relatively stable or slight decline, indicating the overall burden of new cases remains a concern.

Poster 34

A Comparative Analysis of Rural and Urban Disparities in Alcoholic Hepatitis Outcomes: Insights from the National Inpatient Sample Database

Presenter: Alejandro Bustamante, MS

Niloy Ghosh, MD, Mohammed Quazi, PhD, Amir Sohail, MD, Sage Templeton, MS3, Abu Baker Sheikh, MBBS

Introduction: Alcoholic hepatitis (AH) is a severe inflammatory liver condition with high mortality, especially in severe cases. While the pathophysiology and management of AH have been studied extensively, rural-urban disparities in outcomes remain underexplored. Rural populations often face challenges such as delays in diagnosis and limited access to specialized care. This study examines rural-urban differences in outcomes of AH, including mortality, acute kidney injury (AKI), mechanical ventilation needs, length of stay (LOS), and hospitalization costs.

Methods: This retrospective cohort study utilized the National Inpatient Sample (NIS) database from 2016 to 2021, analyzing 145,770 adult patients diagnosed with AH, stratified by rural (n=17,790) and urban (n=127,980) residence. Propensity score matching was performed to create a balanced subset (n=35,580). Multivariable logistic and linear regression models adjusted for demographic, clinical, and hospital-level variables were employed to evaluate in-hospital outcomes, including mortality, complications (AKI, mechanical ventilation), LOS, and costs.

Results: Rural patients exhibited significantly higher in-hospital mortality (2.81% vs. 2.39%; aOR 1.47, 95% CI 1.05–2.04, p=0.023) and complications such as AKI (18.27% vs. 11.78%; aOR 2.04, p<0.001) and mechanical ventilation (3.15% vs. 2.53%; aOR 1.67, p=0.001). Rural patients also experienced longer LOS (5.72 vs. 5.19 days, p<0.001) and higher adjusted hospitalization costs (mean \$10,548 more, p<0.001).

Conclusions: Rural populations with AH face significantly worse outcomes compared to their urban counterparts, underscoring systemic inequities in healthcare access and delivery. Interventions such as telemedicine, enhanced rural healthcare infrastructure, and targeted policy reforms are essential to bridge these gaps and promote equitable care for patients with AH.

Poster 35

Effects of Limited English Proficiency on Outcomes Following Burn Injury

Presenter: Andrea Rosmery Iturralde Carrillo, MD

Andrea Rosmery Iturralde Carrillo, MD; Larissa



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Epstein, MD; Carina Franco, MD; Jennie Caluya, MD; Alexandra Coward, MD; Jason Heard, MD; Soman Sen, MD, FACS; Tina Palmieri, MD, FACS, MCCM, FABA; Kathleen S. Romanowski, MD, FACS, FCCM, FABA

Introduction: Studies show that surgical patients with limited English proficiency (LEP) experience longer hospital stays and higher rates of emergency department (ED) re-presentation. Burn care involves complex inpatient and outpatient coordination, irrespective of language preference. This study hypothesized that burn patients with LEP would have longer hospital stays, fewer follow-up visits, and more ED visits.

Methods: Following IRB approval, a retrospective chart review was conducted for burn patients admitted between January 2018 and December 2019. Data collected included demographics, burn characteristics, outcomes, preferred language, and follow-up care. Statistical analysis was performed using SAS software (version 9.4) with Chi-square, Fisher Exact, Spearman Correlation, Wilcoxon 2-sample, and Kruskal-Wallis tests.

Results: A total of 760 patients (median age 46 years, IQR 26) were analyzed, with 555 (73%) male and a median total body surface area burn (TBSA) of 6.5% (IQR 12). Of these, 15% had inhalation injuries, and 5% died. Sixty-one patients (8%) identified a preferred language other than English. LEP patients and English speakers showed no differences in burn size (5.5% vs. 6.6%, $p=0.32$), mortality (3.3% vs. 4.7%, $p=1$), length of stay (8 vs. 9 days, $p=0.43$), inhalation injury (13.1% vs. 14.9%, $p=0.87$), or discharge to home (86.9% vs. 75.9%, $p=0.44$). However, LEP patients were more likely to have follow-up scheduled at discharge (93.4% vs.

80.2%, $p=0.04$), attend follow-up (78.7% vs. 50.7%, $p=0.0005$), and visit the ED after discharge (19.7% vs. 10.5%, $p=0.03$).

Conclusions: While LEP patients had similar traditional outcomes, they demonstrated increased healthcare utilization, highlighting the need for tailored care strategies. Managing a burn injury is complex and requires coordinated efforts from physicians and patients. Providing post-discharge education in patients' preferred languages is crucial. We must ensure that LEP patients receive care in their preferred language through interpreter services to overcome language barriers. Although efforts are already in place, further initiatives are needed to enhance effective communication and strengthen patient relationships.

Poster 36

Comparison of maternal morbidity in peripartum hysterectomies performed for placenta accreta spectrum versus other indications

Presenter: Farah Alqawasmi

Farah Alqawasmi, Christopher T Cox, MD, Trevor Quiner, MD, MSc

Introduction: With rising rates of primary and repeat cesarean sections and advanced maternal age pregnancies, the incidence of unplanned cesarean hysterectomies has risen. Evidence suggests that multidisciplinary planning improves outcomes in these cases. Significant differences in surgical complexity and complication rates exist between cesarean sections for invasive placenta pathology and those for other reasons, making it essential to understand these differences for effective counseling and surgical planning. Our objective



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is to highlight complexity and morbidity associated with cesarean hysterectomy performed for Placenta Accreta Spectrum versus other indications.

Methods: In this study, we analyzed birth log data from the University of New Mexico hospital for ICD-10 and CPT codes related to PAS and cesarean or peripartum hysterectomy from 2018 to 2024. We reviewed patient charts for demographic information and entered outcome data into the RedCap database. Categorical outcomes were analyzed using χ^2 tests, and continuous outcomes with T-tests, with a significance level set at $p < 0.05$.

Results: We identified 65 cases of cesarean hysterectomy, of which 3 were excluded. Of the remaining, 37 were due to PAS and 25 were due to non-PAS indications. White patients were more likely to undergo cesarean hysterectomy for non-PAS reasons compared to non-White patients ($P = 0.046$). PAS patients had more abnormal ultrasound findings, MRI scans, care conferences, antepartum bleeding, placenta previa, and suspected accreta. Non-PAS patients experienced higher rates of uterine atony ($P = 0.007$), DIC ($P = 0.029$), ICU admission ($P = 0.038$), more transfusions ($P = 0.002$), and greater blood loss ($P = 0.00043$). Composite morbidity excluding hemorrhage was higher for non-PAS patients ($P = 0.30$).

Conclusions: Our findings align with established literature, indicating better outcomes and lower morbidity for planned cesarean hysterectomies, likely due to the presence of multidisciplinary care teams for PAS cases. This underscores the importance of preparedness and counseling in improving surgical outcomes.

Poster 37

The Sinister Surgeon-Evaluating the Impact of Handedness on Surgical Trainees

Presenter: C. Kenzie Corbin, MD

C. Kenzie Corbin, MD, Cassandra Shafike, BS, Miriam McQuade, MD, MPH, Eve Espey, MD, MPH

Introduction: Left-handed medical students can feel disempowered from pursuing surgical specialties due to perceptions that left-hand dominance is disadvantageous. The purpose of this pilot study was to evaluate the feasibility and impact of a left-handed specific surgical skills workshop on medical trainees' self-efficacy and self-confidence in basic surgical skills.

Methods: This study invited medical students at the University of New Mexico (UNM) School of Medicine to participate in a left-handed surgical skills workshop taught by UNM OBGYNs. The workshop consisted of three different left-handed components including suturing, single-hand knot tying, and two-hand knot tying. At the conclusion of the workshop, participants received a 29-item survey to assess their self-confidence and self-efficacy in left-handed surgical skills before and after completion of the teaching intervention.

Results: Figure 1.A total of 32 students participated in the workshop; 17 students completed the survey, yielding a response rate of 53%. Two students identified as left-handed, fourteen students as right-handed, and one student as ambidextrous. The majority (53%) disagreed/strongly disagreed that being left-handed was advantageous. Most (88%) participants were "not confident at all" in left-handed one- and two-handed knot-tying prior to the workshop; afterwards, all



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participants were at least “somewhat confident” in those skills. In this pilot, the two left-handed students responded similarly to the group. The degree of improvement in self-efficacy for surgical skills was greater for pre-clinical students (M1-M2) than clinical students (M3-M4). All participants rated the workshop as beneficial, regardless of hand dominance.

Conclusions: These findings suggest a prevailing perception among medical students regarding the potential disadvantages associated with being left-handed. Furthermore, there is overwhelming consensus regarding the necessity for formal laterality-specific training that addresses these concerns, especially for incoming medical students. Overall, this study highlights a critical opportunity for curriculum development and educational initiatives within the medical education community. Future directions for this project include creating free and accessible left-handed specific surgical training videos that can be accessed easily on social media for learners of all handedness.

Poster 38

Long term evaluation of microfragmented adipose tissue and intra-articular corticosteroid injections for symptomatic knee osteoarthritis: a randomized, placebo controlled trial

Presenter: Joshua Harrison, MD

Joshua Harrison, MD, Dustin Richter, MD, Anil Shetty, MD, Leorrie Watson, Jordan Buttner, Jeremiah Langsfeld, Robert Schenck, MD

Introduction: Knee osteoarthritis (OA) is a debilitating joint disorder affecting tens of millions of people worldwide. Nonoperative

treatment options have variable efficacy and do not stop or reverse the progression of OA. The goal of this study was to evaluate pain relief and functional improvement after knee OA treatment with microfragmented autologous adipose tissue (MFAT) transfer, in comparison to saline placebo (P) and corticosteroid (CS) injections.

Methods: Seventy-five patients were randomized to one of three treatment groups: MFAT, CS, or P injection. The VAS pain scale, Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), and the Knee Injury and Osteoarthritis Outcome score scale (KOOS) were recorded pre-procedure and at 7 time points over 3 years.

Results: MFAT transfer for knee OA demonstrated a consistently positive, statistically and clinically significant improvement across all primary outcome measures for joint pain and functionality compared to P and CS groups at 1 and 3 years. For MFAT, there was an increasingly significant trend over placebo at each follow-up. For CS, the median KOOS pain score reached a maximum at week 2, only to level not statistically different from baseline, at 1 year. The median changes for P hovered around 6-11 points over baseline indicating a placebo effect. Similar trends were seen for the WOMAC Pain score and VAS Pain score.

Conclusion: Nonoperative knee OA treatment options are limited with variable efficacy. In this study, the MFAT group demonstrated a clinically significant improvement in outcome scores compared with the P and CS groups. This finding indicates that MFAT may be a viable alternative treatment for patients with knee OA that fall into the orthopaedic



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treatment gap.

Poster 39

A Comparison of Outcomes between Obese and Non-Obese patients receiving Knee Arthroplasty

Presenter: Jeremiah Langsfeld BS

Jeremiah Langsfeld BS, Clement Jose, MD, Matthew Smallwood, BS, Carlos Bonnafoux, BS, Sage Templeton, BS, Mark Langsfeld MD

Introduction: Between 2021-2023, 40% of U.S adults were obese, a significant risk factor for knee osteoarthritis due to excessive joint loading and mechanical changes that lead to tissue damage. Furthermore, the increased adipose tissue in obese patients leads to degradation and inflammation of articular cartilage via adipokine release. Many patients undergo knee arthroplasty to improve functionality and relieve chronic pain. It is anticipated that the number of total knee arthroplasties will continue to rise, both due to growing rates of obesity and the aging population. This study examines specific outcomes for obese and non-obese patients receiving inpatient care for knee arthroplasty.

Methods: The National Inpatient Sample (NIS) database was used to obtain data from 2018-2022. The study included adult patients with a principal diagnosis of knee arthroplasty. This group was divided into obese and non-obese groups. Data analyzed include patient characteristics, mortality, and major co-morbidities.

Results: Approximately 33% of patients receiving knee arthroplasties were obese, 65% female. Mean age was 66 years for the obese group and 58 years for the non-obese group.

Notably, 63% of knee arthroplasty patients were between 50-69 years old. Common comorbidities for the obese group included hypertension (70%), diabetes (30%), smoking (32%), hypothyroidism (19%), COPD (20%), and depression (19%).

Patients who were obese had higher risk for major bleed (OR 1.18, CI 1.07-1.29, $p=0.001$), Acute Kidney Injury (OR 1.59, CI 1.53-1.66, $p<0.001$), increased adjusted mean inflated cost of roughly \$2,315 ($p<0.001$), and increased adjusted length of hospital stay (0.15 more days, $p<0.001$). The obese group had lower need for packed red blood cell transfusion (OR 0.92, CI 0.87-0.97, $p=0.003$).

Conclusion: Total numbers of knee arthroplasties have been increasing substantially over the last few decades, in part due to increasing prevalence of obesity. Obese patients receiving knee arthroplasty are at greater risk for major bleed and acute kidney injury. Furthermore, their increased length of stay in the hospital leads to increased healthcare burden. Physicians should be aware of these factors when considering treatment for obese patients. Furthermore, prior to performing knee arthroplasty, consideration should be given for more aggressive weight loss management.

Poster 40

Significance of Clavicle Morphology in Acute Clavicle Fractures

Presenter: Rhiana Rivas

Introduction: Surgical management for clavicle fractures has gained more momentum in the past two decades due to emerging data demonstrating lower non-union rates amongst patients who are managed surgically compared



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to those who are managed conservatively. As a result of this phenomenon, there is a renewed interest in understanding clavicular morphology. We hypothesize that most fractures occur around a specific point of inflection point that is defined by the transition point between the lateral and medial arc of the clavicle. By further specifying the clavicle's point of weakness or propensity to fracture, the orthopedic surgeon's fixation approach may be optimized, and the design of pre-contoured clavicle plates may be refined.

Methods: 115 patients with confirmed unilateral clavicle fractures on computed tomography (CT) were identified at UNMH. A retrospective chart review was conducted to discern fracture location, laterality, mechanism of injury, age and gender. The corresponding patient CT Chest was modeled in three-dimensional software and underwent subsequent image processing to derive the corresponding 4th-degree polynomial equation from the clavicular center line. Key morphometric variables were then derived from the corresponding equation of each clavicle and analyzed. The fracture distance was also analyzed and compared.

Results: Group I (midshaft) fractures were the most common fractures with a prevalence of 78.26%. Clavicular fractures were more prevalent in males than females, and males also tended to have longer clavicles on average. There was no significant difference in radius of curvature or medial or lateral angles between males and females. The point at which the medial arc transitioned to the lateral arc was on average 61% of the total clavicular length when measured from the medial border. When fracture distance was measured, the average distance from the medial border corresponded to 62% of the total clavicular length.

Conclusions: Most fractures are midshaft fractures and occur at a location that is 62% of the total clavicular length when measured from the medial border. This location correlates significantly to the anatomical inflection as derived mathematically from morphometric analysis. The inflection point of the clavicle can be defined anatomically. Surgeons should utilize this knowledge in clavicle fracture fixation, particularly with respect to midshaft fractures.