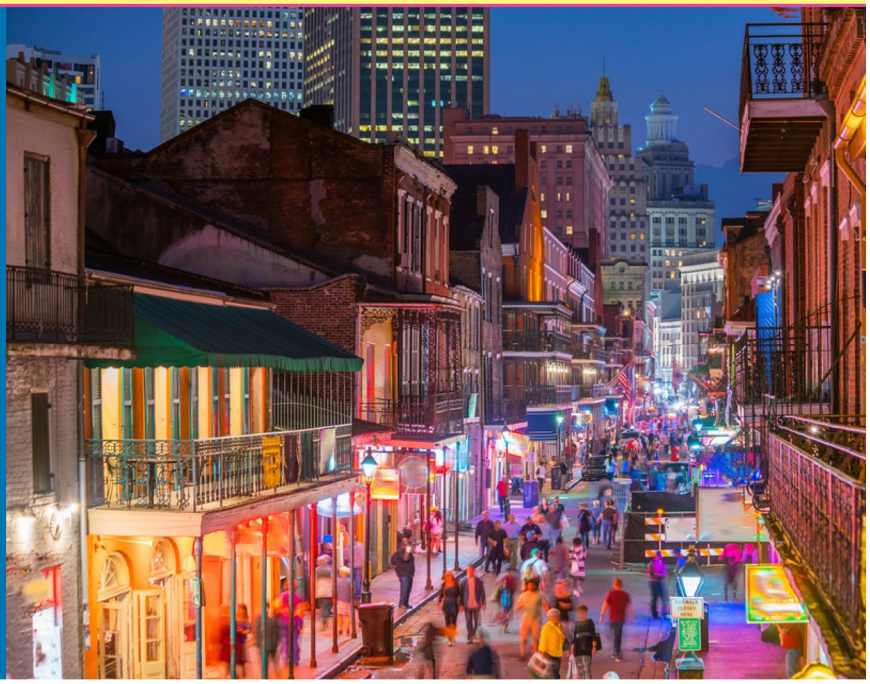
LOUISIANA CHAPTER
2023 ACS ANNUAL MEETING

APRIL 5-7



RENAISSANCE NEW ORLEANS ARTS HOTEL WAREHOUSE DISTRICT

PODIUM ABSTRACTS

PRESIDENT SESSION

Abstract | General Surgery

REPAIR OF COMMON BILE DUCT INJURIES DURING CHOLECYSTECTOMY: THE SOONER THE BETTER

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Introduction: The timing of surgery to manage common bile duct (CBD) injuries during cholecystectomy is controversial. A delayed repair is favored by some to allow for resolution of inflammation resulting from biliary peritonitis which should facilitate biliary reconstruction. Immediate repair avoids exacerbating anxiety for patients and referring surgeons waiting for operative resolution of this dreaded complication. Our department's approach has been to perform early repair of iatrogenic CBD injuries. The purpose of this retrospective observational study was to evaluate our group's outcomes that favor early repair of CBD injuries during cholecystectomy.

Methods: We conducted a retrospective review of patients that underwent repair of an iatrogenic injury to the CBD during cholecystectomy in our healthcare system from January 2012 - January 2023. Bile duct injuries resulting from other procedures were excluded. All patients were evaluated and taken for Roux Y hepaticojejunostomy as soon as possible after referral. Patient demographics, indications for cholecystectomy, presentation of injury, timing of repair, preoperative risk assessment, preoperative laboratory values, and postoperative outcomes and complications were gathered. The primary endpoint was intervention success and secondary endpoints were hospital length of stay, 30-day mortality, and complications (strictures, bile leak). We compared patients repaired within three days to those repaired after three days of common bile duct injury. The records of our legal department, a review of the Westlaw database, and requests for release of information were reviewed to identify all cases that resulted in a lawsuit against the referring surgeon or one of the hospitals in our healthcare system.

Results: A total of 54 patients with operative repair of CBD injuries were included in the study. There was no significant difference in demographics, laboratory, or perioperative risk between patients operated on within three days of injury compared to patients operated after three days. A comparison between other outcomes is included in the table below. 53 of 54 patients (98.1%) had excellent results with five requiring a combination of interventional radiology and endoscopic management of strictures and five requiring percutaneous drainage of biliary leaks that were self-limited. Of note, only three of 54 patients filed a lawsuit as a result of their CBD injury during cholecystectomy.

Conclusion: The results of our study demonstrate that early repair of CBD injuries achieves excellent results. We believe that early repair of CBD injuries reduces anxiety and may explain the low rate of malpractice lawsuits filed by patients in this study.

Outcomes of Study Population

Parameters	Early Repair <3 days (n = 23)	Late Repair >3 days (n = 31)	p
Median time from diagnosis to repair (days)	0.00	10.00	<0.001
Length of Hospital Stay (days)	9.30	12.00	0.149
Injury recognized at index operation	23/23 (100%)	16/31 (51.6%)	<0.001
Stricture	0/23 (0.0%)	5/31 (16.1%)	0.023
Bile Leak	1/23 (4.3%)	4/31 (12.9%)	0.26
Lawsuit	2/23 (8.7%)	1/31 (3.2%)	0.428

PRESIDENT SESSION

Abstract | Endocrine

Prognostic Role of RAS Mutations in Thyroid Cancer: A Human Genome Epidemiology Study

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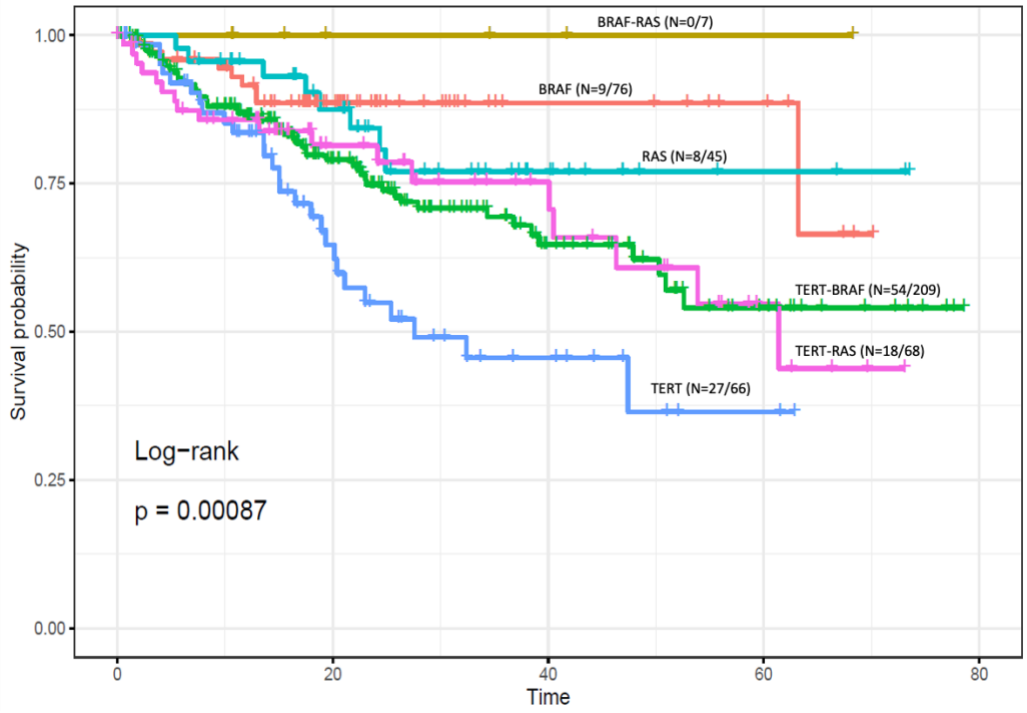
Introduction: RAS mutations are common in thyroid cancer (TC) but their prognostic significance remains unclear. We aimed to delineate the implications of RAS mutations through integrated genomic and clinical analysis.

Methods: NRAS, KRAS, and HRAS codon 12, 13, and 61 mutations were examined in 38,545 malignant thyroid nodules from genomic databases (COSMIC, cBioPortal, AACR) and 470 institutional TC cases. Mutation prevalence, clinicopathological associations, and survival outcomes were assessed.

Results: NRAS Q61 mutations predominated in poorly differentiated TC (p=0.001) and black patients (p=0.007). NRAS mutations associated with less nodal (p<0.001) and extrathyroidal extension (p=0.006). However, NRAS Q61 mutations increased distant metastasis risk in poorly-differentiated TC (p=0.033). Concurrent RAS mutation mitigated poor outcomes of TERT and BRAF mutations versus isolated mutations (p<0.05).

Conclusion: Our HuGE analysis clarifies the nuanced prognostic role of RAS mutations in TC. NRAS Q61 mutation associates with aggressive disease features, especially in poorly-differentiated TC, contrasting with NRAS mutations overall correlating with less advanced presentation. Concurrent RAS mutations appear to counterbalance poor outcomes of TERT and BRAF mutations. These results delineate specific high-risk RAS mutations to optimize prognostication and personalized TC management.



PRESIDENT SESSION

Abstract | Trauma/Burn/Critical Care

Implementation of Antibiotic Stewardship Program Improves Compliance and Length of Stay After Trauma

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Introduction: In the setting of open fractures following trauma, the role of timely prophylactic antibiotic administration has been shown to mitigate the risk of life-threating infections. Antibiotic stewardship programs (ASP) aim to improve patient safety and outcomes via guidelines directed at improving and measuring patient-tailored antibiotic administration. An ASP, in sync with core elements of the trauma quality improvement initiatives (TQIP), was developed at our Level I trauma center to guide antibiotic administration for open fractures following trauma. In this study, we compared compliance with timely antibiotic administration before and after implementation of the ASP and its effect on hospital length of stay (HOS).

Methods: An ASP was developed at our Level I Trauma Center in 2019 based upon collaborative recommendations from a multi-disciplinary group of physicians and pharmacists. Using our institutional trauma registry, all adults presenting with open fractures following traumatic injury between 01/2018 and 12/2021 were identified. Time to antibiotic administration, gender, Injury Severity Score (ISS), and total hospital LOS were recorded. Outcomes measured included the proportion of patients who received antibiotics within one hour of arrival, time to antibiotic administration, and hospital LOS. A multivariable regression model was used to compare these outcomes before and after ASP implementation.

Results: 1760 trauma patients with a mean ISS of 14.85 were included in data analysis. Of these, 74.9% were men [n=1319]. ASP implementation led to a significant increase in patients receiving timely prophylactic antibiotics [13% pre-ASP versus 83% post-ASP, $p<0.001$]. Median time to antibiotic administration reduced significantly from 211 minutes pre-ASP to 56 minutes post-ASP implementation [$p<0.001$]. Subgroup analysis noted a sequential reduction in the median antibiotic administration time with subsequent years post-ASP implementation: 112 minutes (2019), 65.3 minutes (2020), and 20 minutes (2021). Despite no significant difference in the median ISS [$p=0.087$], patients admitted post-ASP implementation had shorter hospital LOS [5.28 vs 8.71 days; $p=0.012$]. In a multivariable regression analysis adjusted for age, gender, and ISS, TQIP-implementation expanding ASP led to a significant decrease in LOS [-5.5 hours; $p=0.009$].

Conclusion: Our findings highlight the importance of the TQIP-led initiative in expanding ASP in trauma patients by demonstrating increased antibiotic coverage and decreased hospital LOS following its implementation. These findings provide framework for future investigations on exploring appropriate timing to coverage and guideline recommendations for antibiotic prophylaxis in trauma patients.

PRESIDENT SESSION

Abstract | Ethics

Lost in Translation: Exploring the Exposome Link between Linguistic Isolation and Cancer Risk in the United States

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Introduction: Clear communication is integral to cancer treatment as it involves complex diagnoses and long-term patient-physician interactive care. Previous research has shown improved cancer screening in cases of patient navigator assistance to limited English proficient patients, but no research has analyzed the relationship between language isolation and cancer incidence rates in the US. This study aims to investigate the relationship between language isolation and cancer incidence rates in the US.

Methods: Using state-level data from the US Census Bureau and the National Cancer Institute, we analyzed the correlations between language isolation and cancer incidence rates across different cancer types. Data was analyzed using SPSS, Spearman's correlational analysis, and correlation and matrix regression plots.

Results: Our findings demonstrate a complex relationship between language isolation and cancer incidence rates. Overall, positive correlations were observed between language isolation and ovarian ($r=0.45$, $p<0.01$) and stomach ($r=0.37$, $p<0.05$) cancers, while negative correlations were found with lung ($r=-0.32$, $p<0.05$), kidney ($r=-0.29$, $p<0.05$), melanoma ($r=-0.42$, $p<0.01$), and colorectal ($r=-0.34$, $p<0.05$) cancers.

Conclusion: The study highlights the importance of addressing language barriers and other social determinants of health in cancer prevention. Language barriers and isolation contribute to disparities in cancer risk, necessitating a comprehensive approach to address communication barriers and reduce the cancer burden in linguistically diverse populations. Further research is needed to better understand the role of language barriers, cultural factors, and other social determinants of health in shaping cancer risk among language-isolated populations, ultimately informing the development of targeted interventions to reduce cancer disparities.

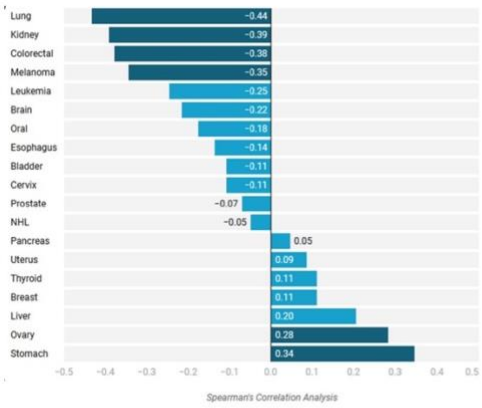

Figure 1: Relationship between prevalence of non-English language households and incidence rate of various cancer types in the US

PRESIDENT SESSION

Abstract | Hepatobiliary and Pancreas

Surgical Ampullectomy: A Viable but Underutilized Option for Ampullary Masses

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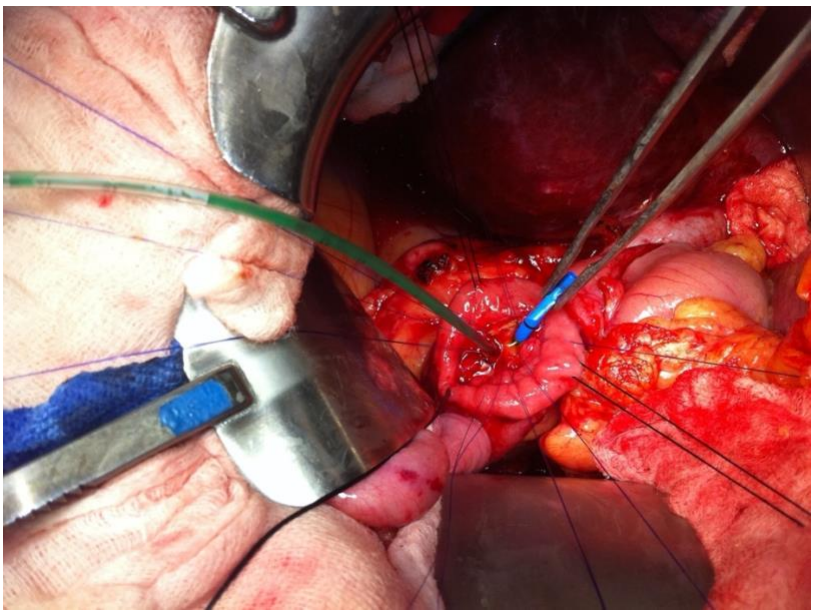
Introduction: Ampullary mass management remains complex. Current treatments include endoscopic resection, surgical ampullectomy, and pancreaticoduodenectomy. Our primary objective was to quantify the outcomes of ampullectomies as it may prove to be a less morbid yet equally effective surgical resection option in selected patients.

Methods: Retrospective data at our center found 36 ampullectomy cases; 20 benign and 16 malignant. Postoperative outcomes and complications were obtained.

Results: The malignant group had five cases of disease recurrence, four with positive lymph nodes, one with positive margins, one converted to a pancreaticoduodenectomy intraoperatively, and two were converted postoperatively after discussion at our multidisciplinary conference. Cases mortalities at 90 days, 1-, 3-, and 5-years were found to be 0, 1, 2, and 0.

The benign group had complications of one enterocutaneous fistula, and two gastric outlet obstructions. Case mortalities at 90 days, 1-, 3-, and 5-years were found to be 1, 1, 0, and 0. Recent data of ampullary adenocarcinoma after a pancreaticoduodenectomy had a 54% 5-year survival rate and 45% recurrence rate. Our data, after ampullectomy for ampullary adenocarcinoma had a 78.6% 5-year survival rate and 35.7% recurrence rate.
Our complication rate was found to be 11.1%, when compared to the outcomes of a metanalysis of ampullectomies, which had an operative complication rate of 28.3%.

Conclusion: In selected patients with ampullary masses, the surgical ampullectomy may be considered as a reasonable alternative to a pancreaticoduodenectomy. However, surgeons should be prepared to proceed with a pancreaticoduodenectomy if there is evidence of positive margins and/or positive nodes.



PEDIATRIC SURGERY SESSION

Abstract | Pediatric Surgery

COST EFFECTIVENESS OF DIFFERENT SCREENING MODALITIES FOR PEDIATRIC BLUNT CEREBROVASCULAR INJURY: A Decision Tree Analysis

Alexandra Campbell
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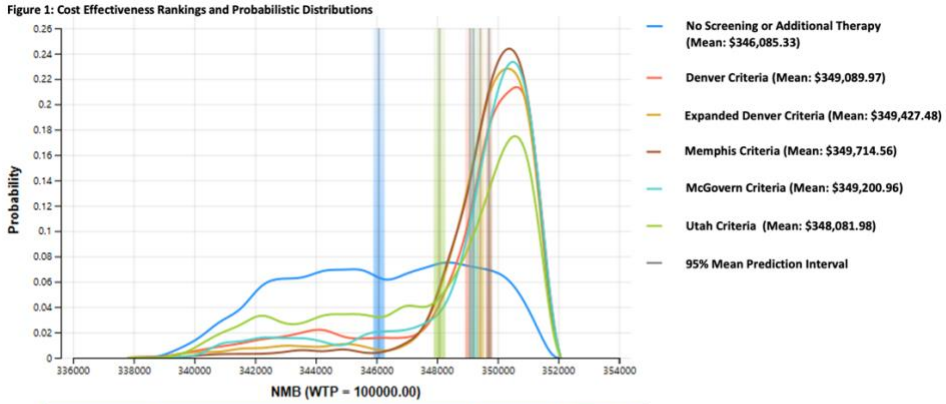
Introduction: Early identification of blunt cerebrovascular injury in the pediatric (< 16 years) population (pBCVI) is essential to minimize stroke. However, the most cost-effective screening strategy for pBCVI is unknown, and there is high variability in practice nationwide. We sought to identify the most cost-effective screening strategy for identifying pBCVI, positing that McGovern criteria (MG) would be the most cost-effective.

Methods: Utilizing a Decision Tree analysis, we evaluated six screening strategies: no screening (NS), Denver criteria (DC), Expanded Denver criteria (eDC), Memphis criteria (MC), McGovern criteria (MG), and Utah criteria (UC). This analysis modeled the cost and utility over a five-year period for pediatric patients, with the assumption that detected BCVI would be managed with antithrombotic therapy to lessen stroke and mortality risks.

Results: MC was the cost-dominant testing modality, followed by eDC and MG. MC resulted in the lowest amount of stroke, mortality, and cost across patients and generated the greatest net monetary benefit. Compared to the next closest screening criteria, MC was $250.35 cheaper. MC added the most QALY (3.547), followed by eDC (3.545), MG (3.541), DC (3.541), and UC (3.530). Compared to NS, MC was $2,165.36 cheaper and generated 0.03 more QALYs per average patient. When comparing eDC to MC, test specificity was the primary driver of cost-effectiveness.

Conclusion: MC demonstrated superior cost-effectiveness compared to other screening modalities for pBCVI. Implementing MC could lead to reduced healthcare costs, improved patient outcomes, and increased net monetary benefit. Further research is needed to confirm these findings and guide clinical decision-making in pBCVI screening.

Figure 1: Cost Effectiveness Rankings and Probabilistic Distributions



Testing Modality	NMB (95% CI Lower, 95% CI Upper)	Total Cost	NHB	ICER (vs No Screen)
Memphis	$350,490.90 ($349,612.24, $349,816.88)	$4,210.84	-$154,031.05	-$62,769.48
Expanded Denver	$350,077.99 ($349,296.59, $349,558.37)	$4,461.21	-$10,392.29	-$58,256.86
McGovern	$349,559.60 (349,047.61, $349,354.31)	$4,510.01	#DIV/0!	-$66,234.29
Denver	$349,537.14 ($348,929.66, $349,250.28)	$4,532.47	-$61,922.18	-$65,437.11
Utah	$347,760.89 ($347,889.18, $348,274.78)	$5,211.74	-$67,678.08	-$67,678.08
No Screening	$344,875.83 ($345,900.26, $346,270.41)	$6,376.20	Baseline	Baseline

PEDIATRIC SURGERY SESSION

Abstract | Pediatric Surgery

Multi-Disciplinary Concussion Clinic Helps Decrease Socioeconomic Barriers for Behavioral and Psychological Diagnosis after Sports-Related Concussions

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Introduction: The lasting neurocognitive effects following concussions have been well documented in the pediatric population, with evidence demonstrating significant impacts on both the social and academic lives of patients. In addition, research has shown that patients' insurance status is associated with initial presentation to a tertiary concussion clinic versus an emergency department. In light of this discrepancy, our study aimed to evaluate the relationship between patients' insurance status and the development of ADHD or psychiatric diagnoses following sports-related concussions (SRC).

Methods: We performed a retrospective review to assess patients

Results: 225 patients were included in the analysis for having either pre-existing diagnoses of ADHD/psychiatric illnesses or having developed new diagnoses post-concussion. Medicaid patients were more likely to be younger (13.36±2.59 vs 14.47±2.03 years, p=0.003), male (p=0.0123), and non-white (p=0.0001). Despite having Medicaid/no insurance, patients did not have a difference in post-concussion diagnoses, number of clinic appointments (p=0.42) or loss to follow up (p=0.3756). Average time to diagnosis was 12.16±12.55 vs 14.32±11.71 months (p=0.226).

Conclusion: A multidisciplinary approach to concussion care decreases disparities in post-concussion behavioral and psychiatric care by providing access to behavioral and learning disability testing and follow up. However, the average length of time until diagnoses was over a year. Therefore, it is imperative that clinicians and parents continue to monitor patients' behavioral and emotional changes following SRC to make earlier diagnoses and help patients seek earlier treatment.

Behavioral and psychological diagnoses pre- and post-sports related concussions

	Medicaid/None (128)	Private (97)	P-value
Pre-concussion learning disability	78	59	1.0
Post-concussion new/worsening learning disability	7	6	1.0
Pre-concussion psychiatric diagnosis	46	41	0.3378
Post-concussion new/worsening psychiatric diagnosis	32	15	0.1418

PEDIATRIC SURGERY SESSION

Abstract | Pediatric Surgery

Medical Rights of Children under Law Enforcement Custody Vary by State

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Introduction: In the U.S., approximately 60,000 children are incarcerated. Children treated in the hospital while under law enforcement (LE) custody are a doubly vulnerable population. The provision of health care is complicated by ignorance about the legal rights of these children, including who can consent to their medical care, whether contacting a child's parent(s) is appropriate, if medical status can be disclosed to LE, and whether LE officers may interrogate a child without parent or attorney. Many children who present to the hospital under LE custody are evaluated for traumatic injury; thus, pediatric surgeons need to understand the law surrounding their rights, which vary by state. We sought to assess the variability of state laws.

Methods: Federal/State statutes and state case law surrounding rights of minors for consent, privacy of health information, and questioning by LE were reviewed by a medical and legal interdisciplinary team.

Results: Children can consent under the following circumstances: reaching legal age (18 states), financial independence (15), married, pregnant, or parent (26), or emancipated (12). Care for mental health, STI's, and substance use allows the minor to consent in 20 states. In 3 states, incarceration allows a minor to consent. Although children have Miranda rights, in 24 states LE may question a minor without the presence of a parent or legal representative.

Conclusion: Legal rights of children vary by state, including the right to consent to treatment and the right to have a parent present during interrogation. Understanding rights for children in LE custody enhances their care and minimizes liability.

PEDIATRIC SURGERY SESSION

Abstract | Pediatric Surgery

NOVEL INTESTINAL EXPANSION SLEEVE (IES): PROMOTING DISTRACTION ENTEROGENESIS IN A LIVE ANIMAL MODEL (ROUX-EN-Y)

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LSU Health - Shreveport

Introduction: Short bowel syndrome (SBS) is characterized by insufficient intestinal length leading to malabsorption and malnutrition. Bowel adaptation occurs through intestinal dilation and slowed gastric emptying, but still often requires long term parenteral nutrition. Surgical options to lengthen the bowel pose significant risks and often provide limited expansion. Distraction enterogenesis is a proposed technique to induce in vivo intestinal lengthening for SBS. The intestinal expansion sleeve (IES) developed in our lab has not been previously deployed in vivo. We hypothesize that deployment of the IES device will result in significant intestinal lengthening in vivo.

Methods: A Roux-en-Y in the jejunum of 6 rats was created for isolated IES deployment. The IES was precontracted over a Bucatini noodle and inserted into the isolated roux limb. After 4 weeks of deployment, the rats were sacrificed and the Roux-en-Y length was recorded, harvested, and stained for histological analysis. A paired t-test was performed to compare initial and final roux limb lengths.

Results: Intestinal distraction was evaluated at 4 weeks post deployment of the IES, resulting in a significant increase in roux limb length from an average of 42.5 ± 15.4 mm to 54.2 ± 21.8 mm ($p=.043$, $n=6$) providing 27.5% elongation. IES samples showed variation in mucosal and submucosal integrity as well as varying bowel wall thickness in response to IES lengthening. In samples with partial mucosal erosion the basal/regenerative layer of the mucosa was preserved.

Conclusion: Distraction enterogenesis with significant intestinal lengthening in vivo has been achieved with the IES device. Histologic changes suggest all bowel functional layers and attributes are maintained through distraction enterogenesis. Future constructs of the IES may benefit from the addition of immunomodulators. Increasing intestinal mass with these devices may change the treatment paradigm for SBS.

PEDIATRIC SURGERY SESSION

Abstract | Pediatric Surgery

Colorectal surgical outcomes for patients with Trisomy 21 and Hirschsprung's Disease: A National Surgical Quality Improvement Program study

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Introduction: Trisomy 21 (T21) is associated with Hirschsprung's disease (HD) and has demonstrated increased risks of complications related to colorectal procedures. We sought to determine differences in surgical outcomes in HD patients with T21, compared to non-T21 counterparts.

Methods: A retrospective analysis of HD patients (<18 years) was conducted using the National Surgical Quality Improvement Program Pediatric from 2012 to 2021 and stratified by T21. Demographics, colorectal procedure codes, clinical factors, and complications were analyzed.

Results: Of 3,456 HD patients, 12.0% (n=413) had T21. T21 patients were more likely to undergo colostomy creation (OR 1.64 [1.19-2.26], p=0.0024) under a non-elective setting (OR 2.24 [1.71-2.95], p<0.0001). Pull-through (PT) procedures accounted for 54.9% of surgeries (n= 1,896), and 10.0% (n=189) had T21. T21 patients who underwent PT had a younger gestational age at birth (p<0.0001), cardiac risk factors (p<0.0001), higher ASA class (p<0.0001), longer hospitalization (p<0.0001), more unplanned reoperations (p=0.009), and older age (p=0.03). Operative times were similar, however, T21 patients had longer hospitalizations (p=0.0263) and procedure-to-discharge days (p=0.0033). Procedure-to-discharge times after PT were longer with T21 (p=0.0061), neonates (vs. infant [p<0.0001], small child [1-4 years; p=0.0077], child [>5 years; p=0.0124]), Black children (p<0.0001), non-elective surgery (p=0.0041), and those with cardiac risk factors (p<0.0001). T21 patients had more complications after PT (p=0.0034), including deep surgical site infections (SSI) (p=0.009), organ/space SSI (p=0.004), wound disruption (p<0.001), and sepsis (p=0.025) (Table).

Conclusion: Our study confirms significant differences exist in T21 patients undergoing colorectal procedures for HD. Understanding these differences improves treatment optimization for this unique population.

Table. Post-operative complications for pull-through procedures in patients with Hirschsprung's Disease, Pediatric National Surgery Quality Improvement Program, 2012 – 2021.

	All (N=1,896)	Non-Trisomy 21 (N=1,707)	Trisomy 21 (N=189)	p-value
Deep Incisional SSI*	8 (0.4)	5 (0.3)	3 (1.6)	0.0092
Organ/Space SSI*	44 (2.3)	34 (2.0)	10 (5.3)	0.0043
Wound Disruption	11 (0.6)	5 (0.3)	6 (3.2)	<.0001
Sepsis	26 (1.4)	20 (1.2)	6 (3.2)	0.0247
Any Complication	171 (9.0)	143 (8.4)	28 (14.8)	0.0034

*SSI = Surgical Site Infection

MINI-TALK SESSION | TRAUMA, BURN, & CRITICAL CARE SESSION

Abstract | Trauma/Burn/Critical Care

Food Insecurity Influences Firearm Homicide Mortality In United States Metropolitan Areas

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Tulane School of Medicine

Introduction: Gun violence disproportionally occurs in United States metropolitan areas and is related to social determinants of health. It is not known if food insecurity, specifically, influences gun violence nationwide. We sought to examine the relationship between food insecurity and firearm homicide throughout major U.S. metropolitan areas. We hypothesized a positive correlation between food insecurity and firearm homicide mortality rates.

Methods: A cross-sectional analysis examined the 51 largest U.S. metropolitan statistical areas using data from 2018. Demographic data were obtained from the US Census Bureau and the US Department of Education. Food Insecurity data was obtained from Feeding America. Firearm homicide data were obtained from the Centers for Disease Control and Prevention. Spearman ρ and linear regression were performed.

Results: The following variables were highly positively correlated on Spearman ρ analysis - food insecurity and poverty ($p < 0.001$), poverty and children with a single parent ($p < 0.001$), poverty and rate of unemployment ($p < 0.001$), and homicide rate and % Black/African American ($p < 0.001$). Mean-centered linear regression analysis was applied using best subsets regression. On linear regression, food insecurity ($p = 0.02$) and percent of the metropolitan population that is Black/African American ($p < 0.001$) are associated with homicide mortality.

Conclusion: Gun violence is a public health crisis, necessitating the understanding and mitigation of risk factors for violent crime. This study suggests that federal and state social programs addressing food insecurity could potentially contribute to reducing firearm homicide rates in major metropolitan cities across the United States.

	Firearm Homicide Rate	Food Insecurity Rate	Segregation Index	Black Population (%)	Unemployment Rate	Poverty Rate	HS Graduation Rate	Bachelor Degree Rate	Children in Single Parent Household	Gini Coefficient
Firearm Homicide Rate	1									
Food Insecurity Rate	0.6	1								
Segregation Index	0.4	0.1	1							
Black Population (%)	0.8	0.4	0.4	1						
Unemployment Rate	0.4	0.5	0.3	0.2	1					
Poverty Rate	0.5	0.8	0.4	0.4	0.7	1				
HS Graduation Rate	0	-0.4	0	0.1	-0.5	-0.6	1			
Bachelor Degree Rate	-0.3	-0.5	0	0	-0.5	-0.5	0.6	1		
Children in Single Parent Household	0.6	0.6	0.4	0.6	0.6	0.8	-0.3	-0.3	1	
Gini Coefficient	0.3	0.4	0.4	0.3	0.5	0.5	-0.5	-0.3	0.5	1

$P < 0.05$

FIGURE 1. Spearman ρ correlation matrix for variables analyzed for 51 metropolitan areas.

MINI-TALK SESSION | TRAUMA, BURN, & CRITICAL CARE SESSION

Abstract | Trauma/Burn/Critical Care

Does prehospital blood product administration improve the likelihood of receiving an ED thoracotomy following traumatic cardiac arrest?

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Introduction: Resuscitative thoracotomy (RT) in the Emergency Department (ED) is one procedure that has been shown to be effective in resuscitating a small subset of patients in cardiac arrest following trauma. Guidelines for RT for penetrating injuries include less than 15 minutes of prehospital CPR and/or pulseless with signs of life present. The benefit of prehospital blood product (PHBP) administration as a resuscitation measure in these patients has not been adequately studied. The objective of this study was to determine if the administration of PHBP increased the likelihood of resuscitative thoracotomy in the ED for patients with penetrating trauma.

Methods: A retrospective chart review was performed. Patients included in the study were >18 years old who presented to a Level 1 Trauma Center from November 2021 – July 2023 with prehospital cardiac arrest (PHCA) from penetrating trauma. Outcomes evaluated were RT on ED arrival, signs of life (SOL) on ED arrival, and survival to discharge. Patients were subsequently divided into two groups based on PHBP administration. The incidence of ED thoracotomy was the primary outcome. Univariate analyses were performed.

Results: Of the 89 patients who met study criteria, 50 (56.2%) received PHBP. There was no difference in baseline demographics between the two groups (p>0.05). The average elapsed time to PHBP administration was 11 ± 5 minutes. The average duration of PHCA prior to trauma center arrival was 23.5 ± 14.9 minutes in the PHBP group compared to 19.1 ± 15.7 minutes in the no PHBP group (p=0.18). Average EMS on scene time was significantly higher in the PHBP group (10.9 ± 5.4 minutes vs 7.3 ± 2.7 minutes, p=0.003). There was no significant difference in the incidence of RT, SOL on arrival, and survival to discharge between the two groups (p>0.05).

Conclusion: This study found that traumatic cardiac arrest patients who received PHBP were not more likely to undergo an ED thoracotomy compared to traumatic cardiac arrest patients who did not get administered PHBP. The results from this study indicate that administration of PHBP to traumatic cardiac arrest patients does not increase the likelihood of meeting criteria for an ED thoracotomy and may increase the duration of prehospital time. Future studies should focus on the optimal resuscitation of cardiac arrest for penetrating trauma patients.

Table 1. Incidence of ED thoracotomies, patient demographics, and prehospital intervals

Parameter	PHBP (n=50)	No PHBP (n=39)	P-value
Age, yr. (SD)	33 (13)	33 (12)	1.0
Black race, n (%)	47 (94.0)	37 (94.9)	1.0
Male gender, n (%)	47 (94.0)	33 (84.6)	0.22
EMS response time, avg min (SD)	7.1 (4.4)	6.6 (3.5)	0.56
EMS scene time, avg min (SD)	10.9 (5.4)	7.3 (2.7)	0.003*
EMS transport time, avg min (SD)	9.5 (4.1)	8.9 (4.2)	0.50
Duration of cardiac arrest prior to hospital arrival, avg min (SD)	23.5 (14.9)	19.1 (15.7)	0.18
Distance to hospital, avg min (SD)	5.4 (4.0)	6.6 (12.4)	0.52
Signs of life on ED arrival, n (%)	20 (40.0)	14 (35.9)	0.84
ED Thoracotomy, n (%)	19 (38.0)	12 (30.8)	0.51

MINI-TALK SESSION | TRAUMA, BURN, & CRITICAL CARE SESSION

Abstract | Trauma/Burn/Critical Care

Risk Factors for Empyema Following Penetrating Diaphragmatic Injuries

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LSU Health - New Orleans

Introduction: Empyema resulting as a complication of penetrating diaphragmatic injuries is a subject that requires further investigation, as the rate of empyema development and associated risk factors are controversial. The aim of this study was to determine the risk factors associated with empyema in patients with penetrating trauma.

Methods: Consecutive adult trauma patients from the trauma registry from a Level 1 trauma center were searched from 2016-2023 for penetrating diaphragm injuries. Data were collected on patient demographics, pre-existing conditions, injury type and severity, hospital interventions, in-hospital complications, and outcomes. Patients were stratified by empyema formation and univariant analyses were performed.

Results: 164 patients were identified, and 17 (10.3%) developed empyema. Baseline patient demographics were similar between groups (p>0.05). Empyema was associated with visible abdominal contamination (35.3% vs 15%, p=0.04) and thoracotomy (35.5% vs 13.6%, p=0.03). Empyema was associated with pneumonia (41.2% vs 14.3%, p=0.01), sepsis (35.3% vs 8.8%, p=0.006), increased hospital length of stay (25.5 vs 10.1 days, p=<0.001), increased intensive care unit length of stay (9.6 vs 4.3 days, p=0.01), and decreased in-hospital mortality (0% vs 20.4%, p=0.04). 12 of the 17 patients had positive pleural cultures (70.6%), mainly monomicrobial (n=7/12, 58.3%) compared to polymicrobial (n=5/12, 41.7%). The most cultured organisms were Enterococcus faecalis (n=3/12, 25%), Escherichia coli (n=3/12, 25%), Candida species (n=3/12, 25%), Coagulase-negative Staphylococci (n=2/12, 16.7%), and Klebsiella pneumoniae (n=2/12, 16.7%).

Conclusion: This study shows the risk factors for empyema following penetrating diaphragmatic injuries and the associated outcomes. It also shows the commonly cultured organisms which can guide empiric antimicrobial treatment.

	No Empyema (n = 147)	Empyema (n = 17)	p Value
Injury Information			
Visible abdominal contamination, n (%)	22 (15.0)	6 (35.3)	0.04
Interventions			
Thoracotomy, n (%)	20 (13.6)	6 (35.3)	0.03
Clinical Outcomes/Complications			
Pneumonia, n (%)	21 (14.3)	7 (41.2)	0.01
Sepsis, n (%)	13 (8.8)	6 (35.3)	0.006
Hospital Length of stay, avg days (SD)	10.1 (11.7)	25.5 (10.2)	<0.001
Intensive Care Unit Length of stay, avg days (SD)	4.3 (8.2)	9.6 (6.5)	0.01
In Hospital Mortality	30 (20.4)	0	0.04

Abstract | Trauma/Burn/Critical Care

Higher Dosage of Prehospital Ketamine Associated With More ED Intubations In Trauma Patients

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Introduction: The use of ketamine in the prehospital setting by EMS personnel has become an increasingly popular debate over the past several years. However, the adverse effects of prehospital ketamine administration have not been well-established in the trauma population. The object of this study was to examine patients who received prehospital ketamine and compare the dosages between patients who required intubation vs those who did not.

Methods: A retrospective chart review of adult trauma patients receiving prehospital ketamine at two level 1 trauma centers during a five-year period was performed. Data was collected from the prehospital EMS system as well as the Trauma registry. The primary outcome was intubation, and univariate analysis was used to compare dosages between the two groups.

Results: In total 232 patients received prehospital ketamine, 43 (18.5%) were intubated. Patients who required intubation in the ED had higher average doses of IV ketamine (126.3 +/- 111.8 vs 45.1 +/- 49.2; $p<0.001$) and IM ketamine (185.8 +/- 141.4 vs 81.7 +/- 96.9; $p<0.001$). Of the 43 patients who received prehospital ketamine and required intubation in the ED, the majority (n=16/43, 37.2%) patients received ketamine for pain or agitation.

Conclusion: Previous literature has identified an increased rate of ED intubations associated with prehospital ketamine use, and this was supported by the present data. Additionally, the majority of patients were documented to have received ketamine for pain or agitation, with a smaller subset who received ketamine for a procedure. An on-going prospective multi-center study is being performed to obtain additional data on this topic.

Abstract | Trauma/Burn/Critical Care

Proteomics Of Adipose Tissue Derived From Patients With Major Burn Injury: A Pilot Study

J Dennis, O Warren, J Schoen, H Phelan, J Carter, A Smith
LSU Health - New Orleans

Introduction: Major burn injuries are characterized by inflammatory responses that impact wound healing. During the inflammatory response, specific proteins and peptides are present to promote inflammation and initiate wound healing. The role and presence of various proteins in the tissue repair process following major burn injury has not been well-studied. The objective of this study was to determine if the proteomics profile of adipose tissue was different in burn versus non-burn patients. We hypothesized that patients who suffered a burn injury would have a different proteome profile compared to non-burn patients due to tissue damage and the injury-initiated immune response.

Methods: A total of 8 patients were enrolled, 50% (n=4) were major burn injury patients, and 50% (n=4) were elective plastic surgery non-burn-injury patients. Adipose tissue was collected from the site of major burn injury in patients with >20% total body surface area (TBSA) during initial debridement surgery, and from the site of elective plastic surgery in non-burn patients. Adipose tissue was sectioned and stored in liquid nitrogen until analysis. The proteins from each sample were purified and analyzed using an Orbitrap Eclipse Tribrid mass spectrometer (ThermoFisher). Scaffold Q+ 5.3.0 (Proteome Software Inc) was used to quantitate and normalize peptides and proteins via the Peptide Prophet algorithm. Differentially expressed proteins were determined by applying Mann-Whitney Test with unadjusted significance level $p<0.05$.

Results: The average TBSA was 31.8 ± 5.4%. The average patient age was 39.5 ± 9.9years for non-burn patients and 62.8 ± 17.8years for burn patients. The average BMI was 32.7 ± 5.7kg/m2 for non-burn patients and 26.4 ± 3.5kg/m2 for burn patients. 0% of non-burn patients and 75% of burn patients were male. The proinflammatory proteins that had significantly (p-value<0.002) higher counts in burn adipose compared to non-burn adipose consisted of FASN, APOB, SPTA1, ACACB, ANK1, and S100A9. The anti-inflammatory or collagen-identifier proteins that had significantly (p-value<0.002) higher counts in non-burn adipose compared to burn adipose tissue consisted of COL14A1, COL6A3, KRT1 and APOA4.

Conclusion: Adipose tissue isolated from a small set of burn patients at the time of initial surgery had significantly higher counts of proteins with proinflammatory functions during the inflammatory response compared to non-burn adipose tissue. The results from this study suggest that this significant difference in protein counts is due to the severe tissue and collagen damage in the early stages of burn injury wound healing. Further studies are needed to increase sample size, match patient demographics, and determine the implications of protein/proteomics analysis throughout the extended wound healing process in patients with a major burn injury.

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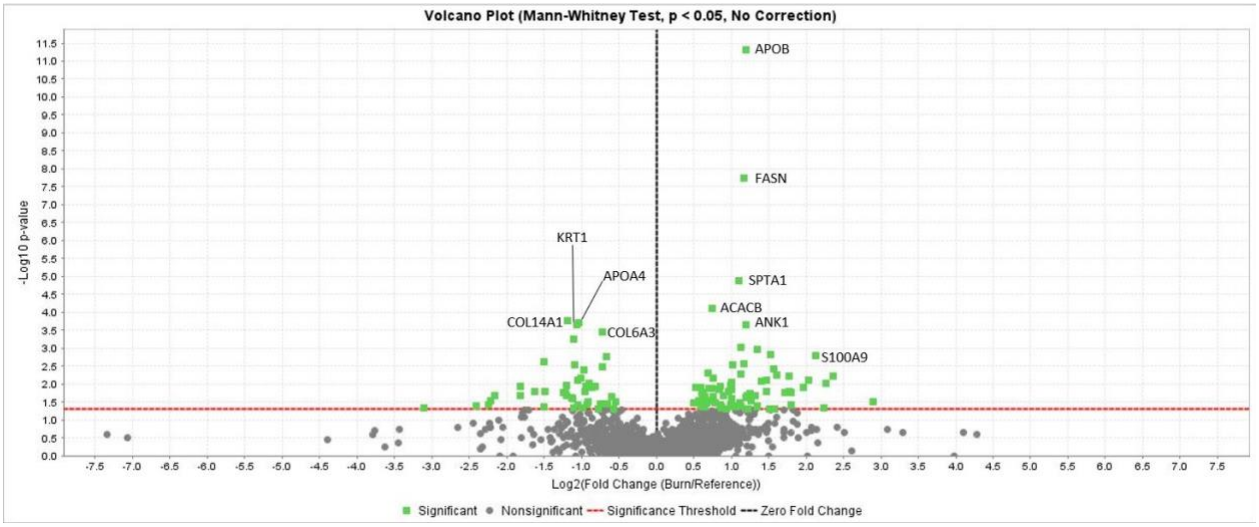
Volcano Plot (Mann-Whitney Test, p < 0.05, No Correction)
-Log10 p-value
Log2(Fold Change (Burn/Reference))
APOB
FASN
KRT1
APOA4
SPTA1
ACACB
COL14A1
ANK1
COL6A3
S100A9
Significant
Nonsignificant
Significance Threshold
Zero Fold Change

MINI-TALK SESSION | TRAUMA, BURN, & CRITICAL CARE SESSION

Abstract | Trauma/Burn/Critical Care

Impact Of Concomitant Traumatic Pancreatic And Colon Injuries On Outcomes

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Introduction: Colon and pancreatic injuries have both long been independently associated with intrabdominal infectious complications in trauma patients. The goal of this study was to evaluate the impact of concomitant pancreatic injury on outcomes in patients with traumatic colon injuries.

Methods: Consecutive patients over a 3-year period who underwent operative management of colon injuries were identified. Patient characteristics, severity of injury and shock, presence and grade of pancreatic injury, intraoperative packed red blood cell transfusions (PRBC), use of intestinal diversion, and type of repair were recorded. Outcomes including mortality, intraabdominal abscess formation, and suture line failure were collected and compared. Multivariable logistic regression analysis was then performed to determine the impact of concomitant pancreatic injury on intraabdominal abscess formation.

Results: 246 patients were identified: 110 with non-destructive injuries and 136 with destructive injuries. 17 patients had a pancreatic injury in addition to a traumatic colon injury. 6 of these involved the head of the pancreas. Colon injuries were managed with primary repair (n=109), proximal diversion (n=47), or resection and anastomosis (n=90). Patients with combined colon and pancreatic injuries (n=17) were clinically similar to those with isolated colon injuries (n=229) with respect to age (27 vs 29 years-old, p=0.536), gender (82.4% male vs 83.4%, p=0.910), penetrating mechanism of injury (82.4% vs 69.0% , p=0.247), admission lactate (3.1 vs 3.32, p=0.999), ISS (18 vs 17, p=0.568), suture line failure (11.8% vs 4.8%, p=0.216), and admission systolic blood pressure (129 vs 123, p=0.955). Although there was no difference in mortality (5.9% vs 4.4%, p=0.771), both intraabdominal abscess rates (88.2% vs 29.7%, p<0.001) and intraoperative PRBC transfusions (8 vs 1 units, p=0.004) were higher in the combined pancreatic and colon injury group. Multivariable logistic regression identified both intraoperative PRBC transfusions (odds ratio, 1.08; 95% confidence interval, 1.04-1.14; p<0.001) and concomitant pancreatic injury (odds ratio, 14.97; 95% confidence interval, 3.98-97.71; p<0.001) as independent predictors of intraabdominal abscess formation.

Conclusion: Both intraoperative PRBC transfusions and presence of concomitant pancreatic injury are independent predictors of intraabdominal abscess formation in patients with traumatic colon injuries.

MINI-TALK SESSION | SURGICAL POTPOURRI I

Abstract | Education

What About Dad: Male Surgeons' Perspective on Family Support

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Introduction: Increasing demands in surgical careers and family sizes emphasize the need for support among surgeons. The literature demonstrates the benefits of maternal leave, while limited research exists on parental support for males. This study aimed to assess satisfaction, family dynamics, and parental support among surgeons across genders.

Methods: A survey of the surgeons in the Louisiana American College of Surgeons chapter from April to July 2022 was distributed. Data included demographics, family dynamics, employment support, and satisfaction using Likert scales were analyzed via SPSS.

Results: Of 92 respondents, the majority identified as White (n=54/62, 87.1%), non-Hispanic (n=53/60, 88.3%), male (M=61/92, 66.3%), attending surgeons (n=89/92, 96.7%) under 50 years old (n=59/92, 64.1%), married (n=77/92, 83.7%) with children (n=68/92, 73.9%). A gender difference was seen within age (< 50; M=32/61 [52.5%], F=27/31 [87.1%]), parenthood (M=51/61 [83.6%], F=17/31 [54.8%]), total children (> 1; M=45/61 [73.8%], F=13/31 [41.9%]), family planning method (natural: M=52/61 [85.2%], F=20/31 [64.5%]), and reason against gamete preservation (time; M=52/61 [85.2%], F=18/31 [58.1%], $p<0.05$). The analysis demonstrated decreased satisfaction related to parenthood in residency, race (Asian, Multiracial), employment type (hospital-based, private), and family support ($p<0.05$). Female surgeons reported more access to parental leave (M=15/61 [24.6%], F=21/28 [75.0%]) although leave would impact their career goals (M=8/61 [13.1%], F=14/28 [50.0%]).

Conclusion: This prospective questionnaire of surgeons confirmed gender differences in family dynamics with reduced satisfaction related to parenthood in residency and less family support by employers. Males more often had children and larger family sizes, supporting further studies on equitable family support among surgeons.

MINI-TALK SESSION | SURGICAL POTPOURRI I

Abstract | Education

Implementing a Formal Interview Education Session for Senior Medical Students Applying to General Surgery Residency

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Tulane School of Medicine

Introduction: For senior medical students applying to general surgery residency, the interview is consistently cited by programs to be the most important factor in determining the applicant's place on the rank list. Medical school faculty or mentors may provide interview resources, but specific interview education is not routinely offered for general surgery applicants.

Methods: An interactive didactic session was created for senior surgical medical students with the goal of preparing students for interviews using known interview methods from business and managerial strategy. This included instruction on specific interview environment considerations, mindset and visualization of sample questions, how to address difficult interview situations, and how to approach follow-up questions. Following the session, the Reduced Instructional Materials Motivation Survey (RIMMS) was distributed to assess the students' motivation to learn.

Results: Sixteen students completed the pilot session. Reliability of the survey was adequate for each subgroup: attention, relevance, confidence, and satisfaction (Chronbach's alpha = 0.72, 0.81, 0.70, and 0.83 respectively). Overall, participants showed high levels of motivation for formal interview education (Figure 1). Relevance and satisfaction scores were higher than participants' confidence in learning the material. ANOVA showed no significant differences between subgroup categories (p=0.322).

Conclusion: Senior medical students applying to surgery residency showed high levels of motivation to learn interview technique. Combining didactic education with interactive interview strategies allowed for this session to be both effective and brief. Sessions such as this should be considered as an adjunct to mock interviews and interview workshops to best prepare medical students for the residency interview process.

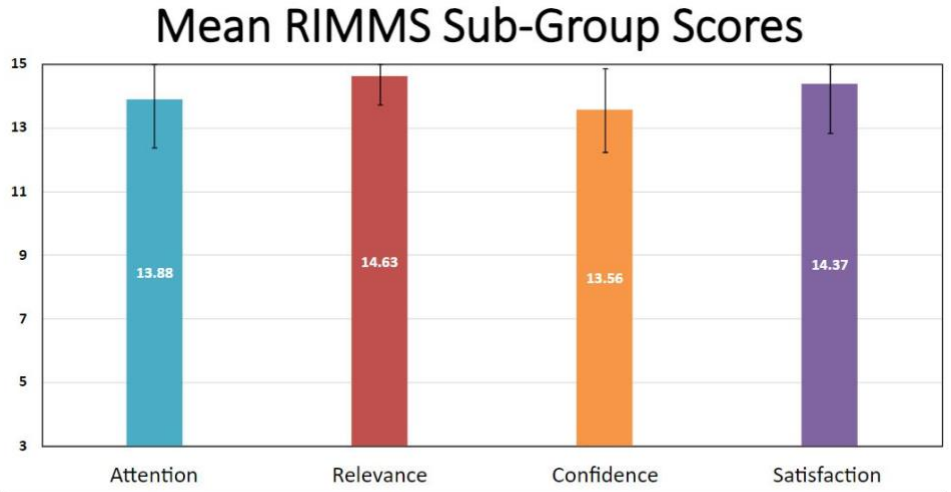

Figure 1. RIMMS sub-groups consisting of three questions per sub-group. The average of summed Likert scores from each participant are shown.

MINI-TALK SESSION | SURGICAL POTPOURRI I

On a Scale of Work to Life, What's Imbalanced?

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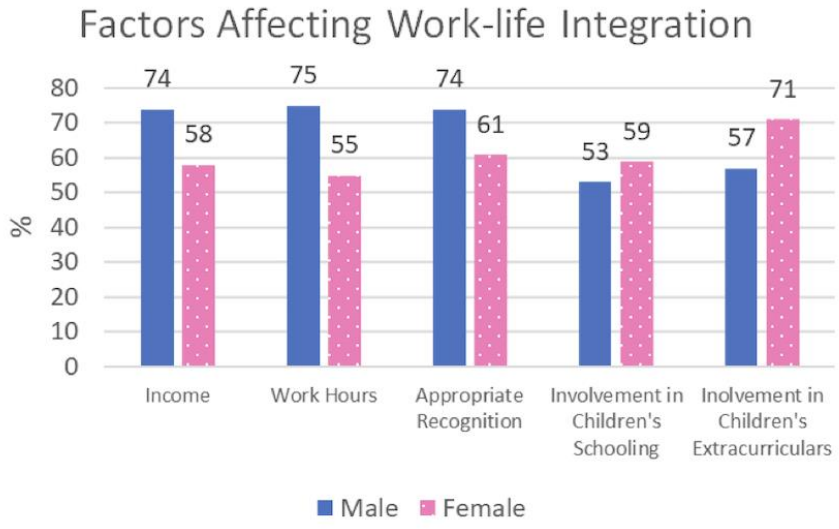
LSU Health - New Orleans

Introduction: As one of the most demanding medical specialties, surgical careers are thought to be associated with poor work-life balance. This dilemma has been shown to differ between men and women surgeons, however, few studies have focused on identifying factors leading to this imbalance. This study aimed to qualitatively assess the factors that may lead to imbalances in male and female surgeons work-life integration.

Methods: A 67-question RedCap survey was distributed three times to practicing surgeons from different specialties through Department Heads, Division Chiefs, and the local chapter of the American College of Surgeons. Questions assessing satisfaction were analyzed using a 3-point Likert scale. Data were analyzed using SPSS.

Results: A total of 92 surgeons from various specialties completed the survey, 66% identified as male (n=61/92) and 97% were attending surgeons (n=89/92). Most participants were under the age of 50 (64%, n=59/92), married (84%, n=77/92), and had children (74%, n=68/92). The most represented board-certified specialty was General Surgery (54%, n=50/92) and the academic setting was the most represented (65%, n=60/92) type of practice. Less female surgeons reported satisfaction with income (M: 74%, n=45/61 vs. 58%, n=18/31), work hours (M: 75%, n=46/61 vs. F: 55%, n=17/31), and appropriate recognition (M: 74%, n=45/61 vs. F: 61%, n=19/31) when compared to male surgeons. Compared to female surgeons, male surgeons were less likely to report satisfaction with their involvement in their children's schooling (M: 53%, n=32/61 vs. F: 59%, n=18/31) and extracurriculars (M: 57%, n=35/61 vs. F: 71%, 22/31).

Conclusion: Although "work-life balance" is treated as a single entity, findings in this study suggest work imbalances for female surgeons and family-life imbalances for male surgeons. Female surgeons were less likely to report satisfaction with career factors such as income, hours, and appropriate recognition. Male surgeons were less likely to report satisfaction with life factors such as their involvement in family activities. Further investigation is warranted to better characterize these imbalances for male and female surgeons.



Abstract | Trauma/Burn/Critical Care

Interleukin-22 and Interleukin-22 Binding Protein Signaling Influences Respiratory Failure in Trauma

A Anderson, J Broome, M Shenk, V Noguera, W Covey, A Smith, J Duchesne, D Tatum, C Bojanowski, D Pociask, J Kolls, O Jackson-Weaver, S Taghavi
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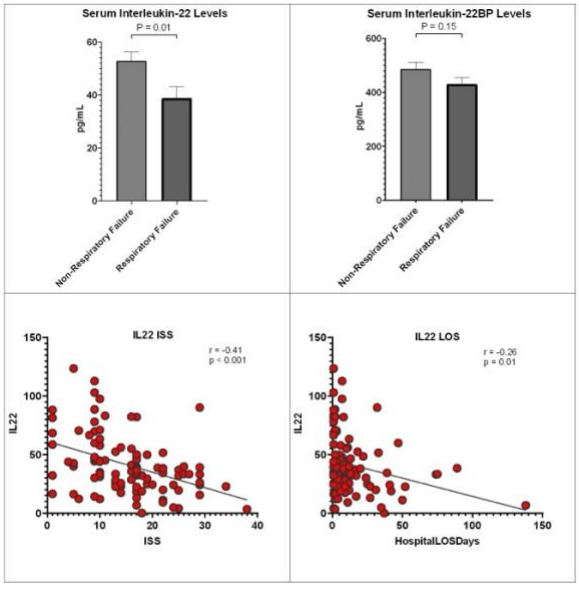
Introduction: Interleukin-22 (IL-22) is a cytokine with lung protective properties, while IL-22 binding protein (IL-22BP) is a plasma soluble receptor blocking IL-22. The role of IL-22 and IL-22BP in respiratory failure (RF) after acute trauma is unknown. This study sought to determine how IL-22 and IL-22BP influence RF in the acutely injured. We hypothesized IL-22 levels would be lower in RF.

Methods: Plasma samples were prospectively obtained in the trauma bay at consecutive Level 1 activations from 11/2021-11/2022. Patients were considered RF if intubated in the field or trauma bay, while those not requiring intubation were considered control (CO). Two-to-one case-control matching was conducted based on the age, sex, mechanism of injury, and injury severity score (ISS). Plasma IL-22 and IL-22BP levels were measured by enzyme-linked immunosorbent assay (ELISA).

Results: A total of 99 patients were matched, with 33 RF and 66 CO. The cohort was mostly male with median age (IQR) of 41 (29-61). Most patients had blunt trauma (69.7%) with median ISS of 16 (9-21). There was no difference in these variables between groups. No difference was seen in blood pressure, heart rate, or shock index. IL-22 levels were lower in RF, with no difference in IL-22BP. Lower IL-22 correlated with higher ISS and longer hospital stay (Figure 1). On adjusted analysis, increased IL-22 levels were associated with less RF (OR: 0.97, 95%CI: 0.95-0.97, p=0.02). Being male (OR: 3.60, 95%CI: 1.11-11.66, p=0.03) and traumatic brain injury (OR: 3.54, CI 1.15-10.83, p=0.03) were associated with RF. Age (OR: 0.97, 95%CI: 0.94-1.01), ISS (OR: 1.02, 95%CI: 0.94-1.11, p=0.61) and chest injury (OR: 0.70, 95%CI: 0.20-2.43, p=0.57) were not significant.

Conclusion: IL-22 may play a protective role in RF for critically injured trauma patients and may be a novel therapeutic. Further research is indicated to understand the underlying mechanisms.



Abstract | Trauma/Burn/Critical Care

Impact of Catastrophic Brain Injury Protocols on Organ Donation Rates: Results of an East Multicenter Trial

E Iacullo, K Nordham, D Tatum, M Patel, A Paramesh, J Duchesne, J Nahmias, A Maiga, A Peetz, P Udekwu, A Stiles, C Shell, J Stodghill, T Maghsoudi, B McLafferty, E Coonan, R Boudreau, S Zimmerman, B Shammassian, T Egodage, P Morris, J Metheny, M Farrell, M Painter, O McCabe, P Spadafore, D Tai-Wai Wong, J Serrano, J Sciarretta, P Kim, R Hayton, D Gonzales, J Murry, K Meadows, L Jacobson, J Williams, A Bernard, B Smith, S Morrissey, N Patel, D Tabello, E Teicher, A Chowdhury, F Ahmad, B Marcos, M West, T Jacome, G Davis, J Marks, D Rattigan, J Haan, K Lightwine, K Matsushima, S Park, A Santos, K Shrestha, R Sawyer, S VandenBerg, R Jean, C Hicks, S Lueckel, N Bugaev, W Abosena, C Alvarez, M Lieser, H McDonald, R Dumas, C Fitzgerald, W Hillman Terzian, Y Tian, V Mousafeiris, F Mulita, D Mederos, A Smith, S Taghavi
Tulane School of Medicine

Introduction: One third of organ donors have suffered a catastrophic brain injury (CBI). Currently, there are no standard guidelines for the management of CBI and not all trauma centers use an institutional CBI protocol (CBIP). Additionally, there is high variability in management between institutions with CBIP, with some protocols including components such as hormone therapy, steroids, pressors, and fluid resuscitation. We hypothesized that centers with CBIP have higher organ donation rates than those without.

Methods: This prospective, observational EAST-sponsored multicenter trial included adult (18+ years old) CBI patients at 34 level I and II trauma centers from 1/22-5/23 (Fig 1a). CBI was defined as a brain injury causing loss of function above the brain stem and subsequent death. Logistic regression with clinically relevant variables determined if presence of CBIP was associated with organ donation.

Results: A total 790 patients from 34 participating centers met inclusion criteria (Fig 1a). In unadjusted comparison, CBIP centers had higher rates of organ donation, and higher use of early antibiotics, steroids, whole blood, and hormones (Fig 1b). Of the 322 patients at centers with CBIP, 206 (71.5%) were treated with hormone therapy and only 79 (24.4%) with steroids. On multivariate analysis, CBIP was not associated with organ donation, but variables associated with organ donation included registered donor status, lower emergency department GCS, hormone administration, and no comorbidities (Fig 2).

Conclusion: There is high variability in management of CBI at trauma centers, even at those with CBIP in place. While use of CBIP was not associated with increased organ donation, hormone therapy, a common element of CBIPs, was associated with donation. Improved standardization of management with CBIP may inform practices and increase organ donation rates nationwide.

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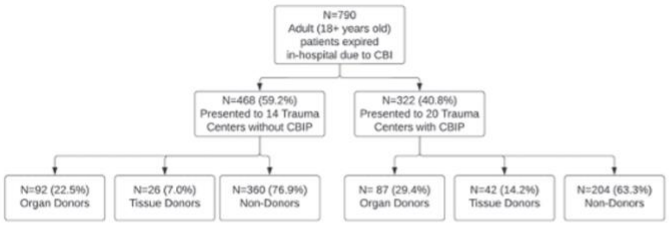

A.

	Total (n = 790)	No CBIP (n = 468, 59.2%)	CBIP (n = 322, 40.8%)	P Value
Registered donor	126 (18.7)	46 (12.0)	80 (27.4)	<0.001
ISS	29 (25 – 35)	29 (25 – 37)	27 (25 – 34)	0.03
AIS-Head	5 (4 – 5)	5 (4 – 5)	5 (4 – 5)	0.3
Antibiotics administered in 1st 24 hours	405 (55.1)	223 (50.8)	182 (61.5)	<0.01
Whole blood transfused	60 (8.1)	27 (6.1)	33 (11.3)	0.01
Any hormone administered	422 (59.8)	216 (51.7)	206 (71.5)	<0.001
Steroid administered	137 (18.8)	65 (14.9)	72 (24.4)	<0.001
Vasopressin administered	314 (43.0)	171 (39.3)	143 (48.5)	0.01
Desmopressin administered	159 (21.8)	97 (22.2)	62 (21.0)	0.69
T4 administered	126 (17.3)	45 (10.4)	81 (27.5)	<0.001
Dopamine administered	41 (5.6)	13 (3.0)	28 (9.5)	<0.001
Approach for organ consent	267 (50.5)	148 (47.6)	119 (54.6)	0.11
Approach for tissue consent	189 (41.4)	101 (37.1)	88 (47.8)	0.02
Next-of-kin consent obtained	195 (74.7)	101 (71.1)	94 (79.0)	0.15
Organ donation	179 (25.4)	92 (22.5)	87 (29.4)	0.04
Tissue donation	68 (10.2)	26 (7.0)	42 (14.2)	<0.01

B.

Figure 1. (A) Flow chart showing number of patients at CBIP and non-CBIP centers and organ/tissue donation outcomes. (B) Characteristics and outcomes at CBIP and non-CBIP trauma centers. CBI: Catastrophic Brain Injury, CBIP: CBI Protocol, ISS: Injury Severity Score, AIS: Abbreviated Injury Score.

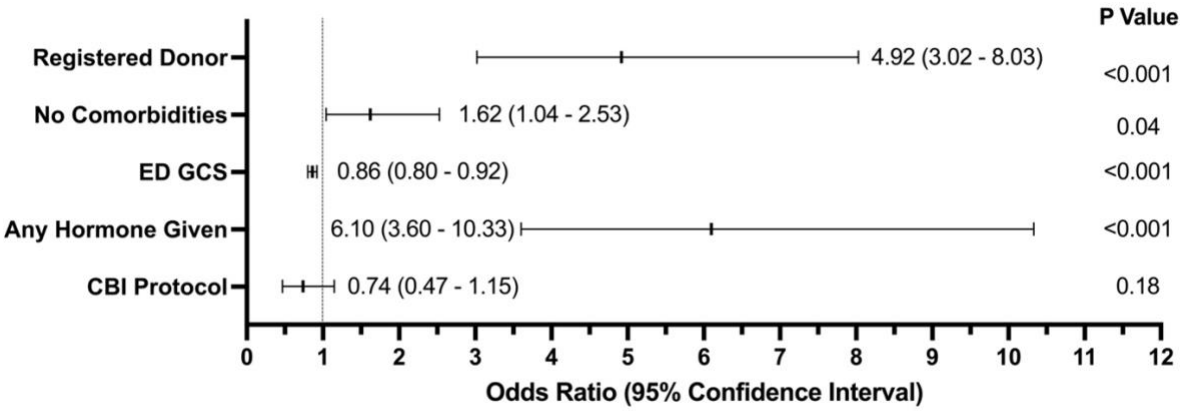

Figure 2. Multivariate logistic regression for factors associated with organ donation in CBI patients.

Abstract | Trauma/Burn/Critical Care

Cytokine Profile Of Adipose-Derived Stem Cells From Patients With Burn Injuries And Infection

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Introduction: Adipose-derived stem cells (ADSCs) are a multi-potent stem cell that play an important role in wound healing via secretion of cytokines. Prior studies have demonstrated the presence of certain pro-inflammatory cytokines in burn wounds. However, no studies have been performed evaluating the cytokines released by burn wounds with concomitant infections. We hypothesized that there is an alteration in the paracrine factors secreted by ADSCs in burn wounds with concomitant infections.

Methods: Adipose tissue was collected from patients with burn injuries (>20% total body surface area, TBSA) at their index operation and ADSCs were extracted. ADSCs were grown under standard tissue culture techniques. The supernatant was extracted. Cytokine analyses were performed. Infection was determined using a burn sepsis protocol. A student's t test was used to compare the groups.

Results: Seventeen patients were enrolled in the study, 53% with bacterial infection (n = 9). There was no significant difference in gender, age, BMI, race, or TBSA ($p>0.05$). There were significant differences in the concentrations of interleukin 13 (IL-13) and vascular endothelial growth factor (VEGF) ($p<0.05$) (Figure 1).

Conclusion: This study demonstrated lower production of IL-13 and higher VEGF in burn subjects with concomitant bacterial infection. IL-13 is involved in the anti-inflammatory pathway by downregulating macrophage activity. VEGF promotes angiogenesis and is a growth factor for endothelial cells. Additional studies will need to be performed on the anti-inflammatory role of IL-13 and the VEGF mediated angiogenesis in the wound healing of burn patients with concomitant wound infections.

Abstract | Trauma/Burn/Critical Care

Every Minute Counts: Extending the Continuum Of Care Through Early Prehospital Blood Administration

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Tulane School of Medicine

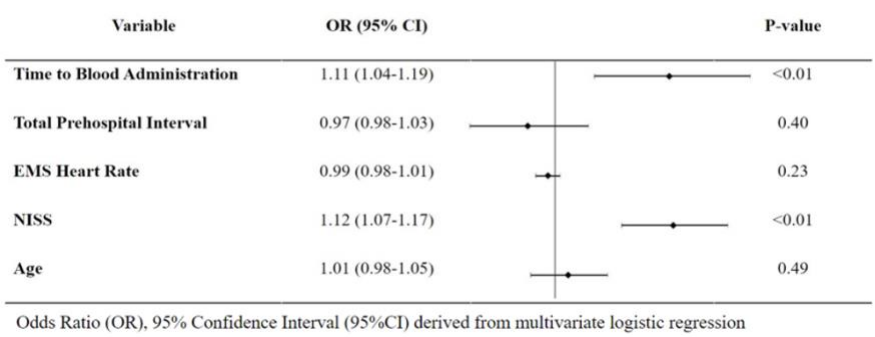
Introduction: Prehospital resuscitation with blood products is gaining popularity for patients with traumatic hemorrhage. The MEDEVAC trial data indicated a survival benefit exclusively among patients who received PRBCs or plasma within 15 minutes of air medical evacuation. In a fast-paced urban EMS system, mortality data based on the timing to first blood administration is scarce. We hypothesize a survival benefit in patients with severe hemorrhage when blood is administered within the first 15 minutes of EMS patient contact.

Methods: This was a retrospective analysis of a prospective database of prehospital blood (PHB) administration between 2021 and 2023 in an EMS system with 70,000 annual responses. PHB patients were compared to trauma registry controls from an era before prehospital blood utilization (2016-2019). Included were patients with penetrating injury and SBP

Results: Included were 143 patients (PHB=61, controls=82): median age of 34 years, with no difference in demographics. Median scene and transport intervals were longer in the PHB cohort, with a 5-minute increase in total prehospital time. Time to administration of first unit of blood was significantly lower in the PHB vs. control group (8min vs 27min; p <0.01). Overall, in-hospital mortality was lower in the PHB vs. control group (7% vs 29%; p<0.01). When controlling for patient age, NISS, tachycardia on EMS evaluation, and total prehospital time interval, multivariate regression revealed an independent increase in mortality by 11% with each minute delay to blood administration following injury (OR 1.11, 95%CI 1.04-1.19) (B).

Conclusion: Compared to patients who first received blood after hospital arrival, resuscitation with blood products was started 19 minutes earlier after initiation of a PHB program despite a 5-minute increase in prehospital time. A survival for early PHB use was demonstrated, with an 11% mortality increase for each minute delay to blood administration. Early interventions such as PHB may help minimize “dead zones” in trauma care by bringing effective resuscitation closer to the point of injury.

B. Adjusted Odds Ratio of In-Hospital Mortality



Odds Ratio (OR), 95% Confidence Interval (95%CI) derived from multivariate logistic regression

Abstract | Trauma/Burn/Critical Care

Abdominal Seatbelt Signs and Hollow Viscous Injury – The Predictive Value CT Free Fluid in Determining the Need for Observation

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Introduction: Seatbelt-associated trauma can lead to unique injury presentations, including hollow viscus injury, which can be challenging to detect with imaging modalities. This study aims to evaluate the prevalence of intra-abdominal injuries in motor vehicle collision (MVC) patients with abdominal seatbelt sign, as well as the prevalence of intestinal injuries and delayed presentation of such injuries to determine the predictive value of CT findings when taken in addition to this physical exam finding and help to refine clinical management guidelines.

Methods: A retrospective chart review was conducted in an adult level 1 Trauma Center from February 2018 to May 2021. Information was gathered from electronic medical records of adult trauma patients with a documented physical exam finding of abdominal seatbelt sign upon presentation. These patients were broken into 2 groups – those who underwent an abdominal surgery (ABD SURG) and those that did not undergo any surgery (NO SURG). Univariate analysis was then performed using a fisher's exact test for categorical variables and a student's t-test for continuous variables.

Results: 258 patients presenting after an MVC were documented to have an abdominal seatbelt sign and included in our study. The ABD SURG group comprised 24 of the 258 patients (9.2%), with 22 of the 24 patients (92%) found to have either a small bowel injury, large bowel injury, mesenteric injury, or some combination of these. CT free fluid was seen in 24 of the 210 (11%) of those patients in the NO SURG group. A CT scan showed free fluid in 20 of the 24 (83%) in the ABD SURG group . ($P<0.0001$). The remaining 4 patients were taken to the OR based on other radiologic findings necessitating surgery. In our analysis, free fluid on CT carried a 98% NPV for no hollow viscus injury (determined by no need for abdominal surgery) and a 90% sensitivity for predicting surgical intervention. Additionally, 88 of the 258 patients were discharged from the ED with no unplanned readmissions.

Conclusion: The findings in this study show abdominal seatbelt sign patients without evidence of CT free fluid in an otherwise negative CT, may be safely discharged without surgical intervention. Further studies can be added to strengthen these findings and help to refine existing guidelines for managing this specific cohort of trauma patients.

	ABD Surg + n= 24	No Surg - n= 234
CT fluid +	20	24
CT fluid -	4	210

Sensitivity	**83%**
Specificity	**90%**
Positive Predictive Value	**45%**

Abstract | Surgical Oncology

Targeted Inhibition of Inflammatory Cascade Increases Survival In Bile Duct Ligated Mouse Model of Liver Injury

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LSU Health - New Orleans

Introduction: Previous studies of the inflammatory cascade linked to underlying liver disease and hepatocellular carcinoma identified the enzyme ectonucleotide pyrophosphatase/phosphodiesterase (ENPP2) as a target for intervention. Subsequent 3D in-silico screening of ENPP2 crystalized structure identified potential inhibitors The purpose of this study was to test the leading compound for hepatoxicity and contraindications using the murine surgical bile duct ligation model of liver injury.

Methods: Acute liver injury was induced in 12wk old C57B6 mice (n=10) by triple ligation of the common bile duct (BDL). Sham surgery involved anesthesia, laparotomy and manipulation of bile duct without ligation. Blood was collected by saphenous vein puncture prior to surgery and 7 days post-surgery. Mice received single bolus injection (IP) of ENPP2 inhibitor or vehicle (DMSO) at the time of ligation. Liver function enzymes were measured using piccolo analyzer with liver function discs.

Results: One-week post-surgery the mortality rate was 0% in sham surgery mice, 20% in vehicle treated BDL mice and 0% in ENPP2 treated BDL mice. Total bilirubin, ALT and AST levels were significantly increased in BDL vehicle mice when compared to shams. ENPP2 inhibitor treatment to BDL mice reduced ALT and AST levels when compared to vehicle treated BDL mice. EPNN2 did not reduce BDL induced increased in bilirubin

Conclusion: Targeting ENPP2 attenuates surgically induced liver disease markers and reduced mortality. Additional studies are required to evaluate the chronic effects of ENPP2 inhibition on liver function.

Abstract | Surgical Oncology

Diagnostic Utility of RAS Mutations in Cytologically Indeterminate Thyroid Nodules: A Systematic Review and Meta-Analysis

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Introduction: RAS mutations are common in indeterminate thyroid nodules, but their association with malignancy risk is unclear. We performed a meta-analysis to establish the diagnostic utility of RAS testing for cytologically indeterminate nodules.

Methods: PubMed and Embase were systematically searched. Thirty studies comprising 13,328 nodules were included. Random effects meta-analysis synthesized the proportion of RAS mutations, risk of malignancy with RAS positivity, and histologic outcomes.

Results: The pooled rate of RAS mutations in 5,307 indeterminate nodules was 41% (95% CI 33-50%). RAS positivity increased malignancy risk 1.7-fold (RR 1.68, 95% CI 1.21-2.34, p=0.002) with significant heterogeneity (I2=89%). Among RAS-positive malignant nodules, classical variant papillary thyroid carcinoma predominated compared to follicular carcinoma (OR 9.96, 95% CI 3.29-30.11).

Conclusion: RAS analysis has diagnostic utility for refining indeterminate cytology, particularly toward classical variant papillary carcinoma. RAS analysis has diagnostic utility for refining indeterminate cytology.

MINI-TALK SESSION | SURGICAL ONCOLOGY

Abstract | Surgical Oncology

Incidence of Triple Negative Breast Cancer in Louisiana

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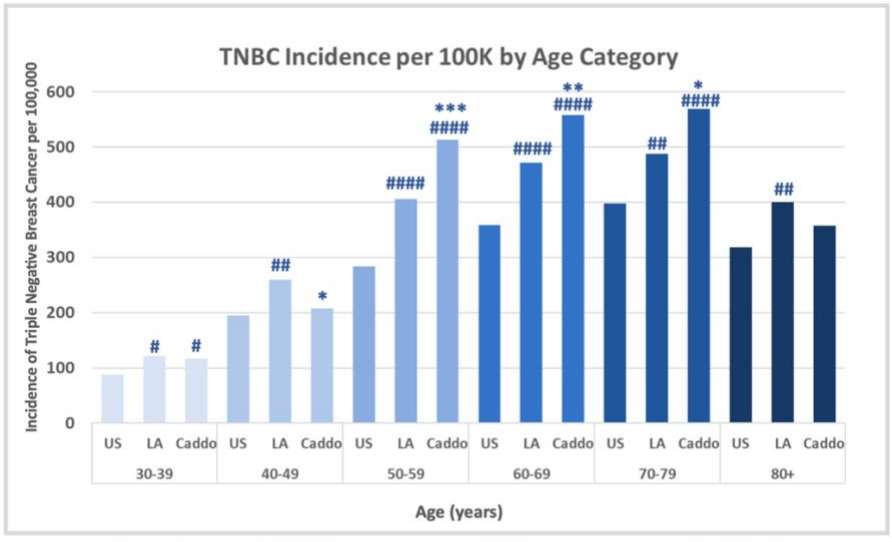
Willis-Knighton Medical Center

Introduction: Aside from skin cancer, breast cancer is the most common cancer in American women. Tumors lacking estrogen, progesterone, and HER2 hormone receptors are classified as triple negative breast cancer (TNBC). TNBC represents 10%–20% of invasive breast cancers and carries a poorer prognosis, shorter survival, and unresponsiveness to hormone therapy compared to other forms of breast cancer. The primary aim of this study is to compare incidence of TNBC in Louisiana, Caddo Parish, and the United States.

Methods: State, parish, and national level data were obtained from the Louisiana Tumor Registry (LTR). Our study evaluated women in Louisiana diagnosed with TNBC from 2010-2019 of all ages. The population was subdivided by age at the time of diagnosis. Statistical analysis was performed with GraphPad Prism. Bivariate comparisons were performed with chi-square analysis. P-values

Results: Women in Louisiana have a significantly higher rate of TNBC compared to the United States overall. Caddo Parish has a significantly higher rate of TNBC in ages >50 compared to both Louisiana and the United States. Caddo Parish also has significantly higher rates of TNBC in ages divided by in increments of 10 years (50-59, 60-69, and 70-79) compared to both Louisiana and the United States.

Conclusion: We confirmed Louisiana and Caddo Parish have a significantly increased incidence of TNBC compared to the nation in women ages 50-79 years. Further studies should be done to identify potential factors with the evaluation of ethnicity and modifiable co-morbid conditions including obesity and diabetes.



#, P<0.05 compared to US; ##, P<0.01 compared to US; ###, P<0.001 compared to US; ####, P<0.0001 compared to US;
**, P<0.05 compared to LA; **, P<0.01 compared to LA; ***, P<0.001 compared to LA; **** P<0.0001 compared to LA*

Figure 3. Incidence of TNBC per 100,000 people in the US, LA, and Caddo Parish ages 30-39, ages 40-49, ages 50-59, ages 60-69, ages 70-79, and ages 80 and above.

Abstract | Hepatobiliary and Pancreas

Disparities in the Multidisciplinary Management of Pancreatic Cancer Patients in Louisiana

H Malinosky, A Chapple, M Hargis, M Al Efishat, J Lyons, J Watson, M Maluccio, V Nfonsam, O Moaven
LSU Health - New Orleans

Introduction: Pancreatic cancer is the third leading cause of cancer-related deaths and access to comprehensive multidisciplinary care is fundamental to improve outcomes. The aim of this study was to evaluate the disparities in multidisciplinary treatment and its impact on outcomes in patients with pancreatic cancer in Louisiana.

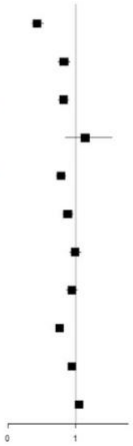
Methods: Data was provided from the Louisiana Tumor Registry from 2000-2020. Unadjusted Fisher exact testing and multivariable logistic regression were performed to predict receipt of treatment while adjusting for confounding factors. Multivariable Cox regression was performed to determine which factors were associated with receipt of treatment and survival.

Results: A total of 12,571 patients with pancreatic cancer were included in the study. Black patients were less likely to receive any treatment (51.1% vs. 55.1%, p<.001). Patients with private insurance received any treatment at higher rates than those with public insurance or uninsured (70.9% vs. 50.6% vs. 49.3%, p<.001). After adjusting for confounding factors, uninsured patients were 17.9% less likely to receive any treatment than those with private insurance (aOR=0.43, 95% CI = 0.36-0.52, p<.001) and black patients were 4.4% less likely to receive any treatment than their white counterparts (aOR=0.82, 95% CI = 0.75-0.89, p<.001). Receipt of any form of treatment was associated with a decreased hazard of death (aHR = .39, 95% CI = .37-.40, p<.001).

Conclusion: This study revealed significant racial and socioeconomic disparities in the management of pancreatic cancer patients in Louisiana. The findings of this study are instrumental in designing a more granular multilevel investigation of multi-level determinants to identify the actionable items driving the observed disparities.

Figure 1: Multivariable logistic regression for receipt of any treatment. Multiple imputation was performed for missing values and averaged odds ratios, confidence intervals, p-values, and estimated average treatment effects (estimated average change in likelihood of any treatment receipt) are reported.

Variable	OR (CI)	P-value	ATE
No Insurance vs Private Insurance	0.43 (0.36-0.52)	<.001	-17.9
Public vs Private Insurance	0.82 (0.74-0.91)	0.001	-4.2
Black vs White Race	0.82 (0.75-0.89)	<.001	-4.4
Hispanic ethnicity	1.14 (0.84-1.53)	0.407	2.7
High Poverty Zip Code vs All Others	0.78 (0.72-0.85)	<.001	-5.4
Rural vs Urban Zip Code	0.88 (0.81-0.96)	0.005	-2.7
Male vs Female Gender	0.99 (0.92-1.07)	0.802	-0.2
Ever Smoker	0.94 (0.87-1.02)	0.207	-1.3
Stage (continuous)	0.76 (0.74-0.79)	<.001	-5.2
Age at Dx (continuous)	0.94 (0.94-0.95)	<.001	-0.1
Year of Dx (continuous)	1.05 (1.04-1.05)	<.001	1



Abstract | Hepatobiliary and Pancreas

Impact Of Vascular Resection on the Surgical Outcomes In Patients with Pancreatic Tumor

Gazi Zibari, MD; Het Patel, MD; Raquel Candal; MD, Hemangini Dhaibar, PhD; Anil Veluvolu, MD; Gregory Wellman, MD; Shokouh-Amiri, Hosein, MD
LSU Health - Shreveport

Introduction: Pancreatic cancer is the third leading cause of cancer related death in the United States, carrying an overall 5-year survival rate of only 12% across all stages. Vascular resections, although an accepted procedure to improve survival rate, its benefits in pancreatic cancer management remains highly controversial. Hence, here in this study, we aim to evaluate the impact of vascular resection on the surgical outcomes in patients with pancreatic tumors.

Methods: A retrospective cohort study (184 adult patients, 2014-2022) was performed in patients who underwent surgery for pancreatic tumor. Tumor staging was done using American Joint committee on Cancer (AJCC) 7th Edition TNM staging system. Baseline characteristics were compared using the chi square test and Wilcoxon rank sum test for categorical and continuous variable, respectively.

Results: The Kaplan-Meier curve signifies lower mortality rates (p=0.09) among patients who received vascular resection (n=25; 13.6%) compared to patients who received standard Whipple procedure (159; 86.4%). Perioperative mortality within 30 days of surgery was excluded from the study. No statistically significant differences were observed in demographics, hospital stay, tumor staging and in-hospital complication rates between the groups. Post-surgery exhibited no significant difference in mortality for 3 years of follow up (Figure 1).

Conclusion: In this single center study, perioperative mortality was observed among the patients with no benefit on overall survival between the groups. This might be attributed to an increased number of patients with late-stage tumors with vascular involvement. Future studies with large number of patients are required to improve decision making process.

Abstract | Hepatobiliary and Pancreas

Obstructive Jaundice Due to Malignancy: Do All Patients Need Treatment?

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Introduction: Obstructive jaundice is often the first presentation of a hepatobiliary malignancy. However, management of these patients is complex, multidisciplinary, and often lengthy; and little data exists on best in-hospital management of this problem. The aim of this study was to review the management of patients who presented to a single institution with malignant obstructive jaundice (MOJ).

Methods: We reviewed the records of all patients who were admitted to our institution with a diagnosis of MOJ from 2018 to 2021. Patients with multiple previous jaundice episodes, non-obstructive jaundice, benign etiology, or lack of discharge follow up were excluded. Patient outcome data was examined through 2023. We compared those patients who eventually received any type of cancer treatment to those that received no cancer treatment. Statistical analysis of continuous variables was conducted using unpaired t-tests with an alpha value of 0.05.

Results: Following exclusions, we identified 52 patients admitted to our institution with MOJ. The median age was 70 years (range 47–94). The majority of patients were white (59.6%). Males comprised 57.6% (30 patients). Distal obstructions were responsible for 81% of cases. Mid, hilar, and intrahepatic obstructions comprised 6%, 6%, and 7% of cases, respectively. Stage 4 disease was seen in 44% of cases. 61.5% of patients had 3 or more radiologic scans (MRI or CT), 71% had at least 1 endoscopy, and 28% had 2 or more radiology/IR procedures. Mean hospital stay was 7.6 days (range 1–24). 38% of patients received no treatment for their malignancy. Of those that received cancer treatment, first treatments included surgery (8%), chemotherapy (23%), and radiation therapy (2%). The mean time from jaundice to treatment was 31.9 days (range 3-101). There was no difference in the number of scans performed ($p = 0.41$), radiology procedures performed ($p = 0.2$), and endoscopic procedures performed ($p = 0.28$) between those receiving and not receiving cancer therapy, nor was there any difference in hospital length of stay ($p = 0.13$) between these groups of patients.

Conclusion: Obstructive jaundice from malignancy remains a challenging problem that requires significant resources and takes many inpatient and outpatient days to completely resolve. Despite correction of their MOJ, over one-third of these patients were not candidates for and did not receive any type of cancer therapy. Providers should consider this early in the jaundice presentation to avoid the unnecessary treatment of MOJ among patients who are not candidates for cancer therapy.

Transplantation Surgery

Outcomes of Simultaneous Kidney-Pancreas Transplantation in Patients with Type-1 and Type-2 Diabetes Mellitus

Hosein Shokouh-Amiri, Sana Badar , Robert McMillan, Donnie Aultman, Srijan Tandukar, Neeraj Singh, Gazi B. Zibari
Willis Knighton Health System

Introduction: Advantages for type-2 diabetes mellitus (T2DM) patients receiving simultaneous kidney-pancreas transplantation (SKPT) as compared to kidney transplantation are shorter waiting times and availability of better-quality organs. UNOS approved SKPT for T2DM in 2014. We listed patients with T2DM and ESRD for SKPT with the following criteria: (1) age < 55 years, (2) insulin requirement ≤ 1 unit/kg body weight, (3) BMI ≤ 32 kg/m2. The aim of this study was to measure the change in volume of SPKT and compare outcomes between SKPT T1DM and T2DM recipients.

Methods: From Feb 2010 to Jul 2021, 62 T1DM and 36 T2DM SKPT recipients were studied. BMI, c-peptide, HbA1c, and e-GFR were evaluated pre-transplant and post-transplant until 1-year. Outcomes included volume of SKPT pre-and post- UNOS approval of SKPT for T2DM, complications, death-censored 5-year kidney and pancreas graft survival, and 5-year patient survival.

Results: Among 98 SKPT, 18 (T1DM) were done before and 80 (44 T1DM and 36 T2DM) after the UNOS approval of SKPT in T2DM, translating to an increase in SKPT from 3.6/year to 11.4/year (216.7% increase) . T2DM patients were older, gained weight post-transplantation, and had higher BMI and e-GFR at 1-year post-transplant (Table 1). There were no differences in complications and graft and patient (Figure 2).

Conclusion: UNOS approval of SKPT for T2DM led to an increase in SKPT with no differences in graft or patient survival between T1DM and T2DM patients. Weight gain should be carefully monitored and managed post-transplant in SKPT T2DM recipients.

	T1DM (n=62)	T2DM (n=36)	P-value
Age (Y), Mean ± SD	40.7 ± 9.7	47.5 ± 8.6	<0.01
Male, % (n)	62.9 (39)	55.6 (20)	0.47
African American, % (n)	58.1 (36)	61.1 (22)	0.93
Age at Onset of DM (Y), Mean ± SD	13.8 ± 8.3	27.7 ± 11.7	<0.01
Pre-Tx Insulin Use (U/kg/day), Mean ± SD	39.6 ± 22.8	40.8 ± 28.5	0.82
Pre-Tx Dialysis Duration (Y), Mean ± SD	1.7 ± 1.6	2.4 ± 1.6	0.03
BMI (kg/m^2), Mean ± SD			
-Pre-Tx	25.9 ± 4.0	27.1 ± 2.9	0.08
-1-year post-Tx	26.7 ± 4.6	32.0 ± 3.7	<0.01
C-peptide (ng/ml), Mean ± SD			
-Pre-Tx	0.4 ± 0.8	5.5 ± 4.8	<0.01
-1-year post-Tx	3.7 ± 2.1	4.8 ± 3.1	0.11
HbA1C (%), Mean ± SD			
-Pre-Tx	8.4 ± 1.4	7.8 ± 2.1	0.47
-1-year post-Tx	5.2 ± 0.4	5.3 ± 0.4	0.42
e-GFR (ml/min/1.73m^2), Mean ± SD			
-Pre-Tx	13.0 ± 7.9	12.6 ± 9.2	0.88
-1-year post-Tx	62.0 ± 18.6	76.7 ± 22.6	0.04
Cumulative 1-Year Kidney Rejection Episodes, n (range)	17 (0-5)	2 (0-1)	<0.05
Cumulative 1-Year Pancreas Rejection Episodes, n (range)	16 (0-3)	8 (0-2)	0.71
1-Year Complications, %			
- Bleeding	10.9	5.9	0.42
- Pancreatitis	3.7	6.1	0.61
- Thrombosis	3.6	3.0	0.88
- Anastomotic Leak	1.8	0	0.44
- Wound Dehiscence	3.6	0	0.27
- Wound Infection	3.6	3.0	0.88
- Abscess	1.9	0	0.43
- Perinephric Hematoma	1.8	2.9	0.73
Volume of SKPT before UNOS approval 2010-2014, % (n)	100 (18)	0 (0)	-
Volume of SKPT after UNOS approval 2015-2021, % (n)	55 (44)	45 (36)	-
Death-censored 5-year kidney graft survival, % (n)	85.5 (53)	94.4 (34)	0.50
Death-censored 5-year pancreas graft survival, % (n)	87.1 (54)	94.4 (34)	0.41
5-year patient survival, %	95.2 (59)	86.1 (31)	0.05

Abstract | General Surgery

Comparison of Medical Management versus Parathyroidectomy in Patients with Mild Primary Hyperparathyroidism: A Meta-Analysis

Peter P. Issa
LSU Health - New Orleans

Introduction: Parathyroidectomy is the definitive cure for patients with primary hyperparathy-roidism (pHPT) and has an annual prevalence of 0.2% - 1% in the US. Some patients with mild disease are managed effectively medically using calcium-lowering medications and drugs against complications as osteoporosis, however, many maintain a persistently high calcium level that negatively impacts their skeletal, renal, and psychogenic systems over the long term. This me-ta-analysis aims to compare the outcomes of medical management versus parathyroidectomy in patients with mild pHPT.

Methods: This meta-analysis was performed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines using PubMed, Embase, and Web of Science by two teams of investigators. Analysis was run using R packages.

Results: A total of 12 publications including seven Randomized Control, two prospective, and three retrospective trials with total of 1346 patients were included for analysis. Average follow-up for all patients was 41±23.8 months. Demographics, pre-treatment calcium, PTH, and Bone Min-eral Density (BMD) were similar between the medical (n=632) and surgical (n=714) cohorts. Post-treatment calcium and PTH levels were significantly higher in the medical cohort (10.46 vs. 9.39, $p<0.01$), (106.14 vs. 43.25, $p=0.001$) respectively. Interestingly, the post-treatment PTH in the medical cohort increased when compared to pre-treatment (83.84 to 106.14). Patients in the medi-cal cohort had lower BMD in lumbar (0.48 g/cm2; OR=0.42, 95%CI= 0.21, 0.83), femoral (0.48; OR=0.42, 95%CI= 0.29, 0.61), and hip (0.61; OR=0.33, 95%CI= 0.13, 0.85). Incidences of fracture, nephrolithiasis, cardiovascular death, or overall mortality were not significantly different between the cohorts.

Conclusion: The present study is the most comprehensive meta-analysis on mild pHPT to date. Our findings reflect that parathyroidectomy is the superior option in the treatment of mild pHPT pa-tients as opposed to medical management.

MINI-TALK SESSION | SURGICAL POTPOURRI II

Vascular Surgery

Femoral Vein Translocation for Complex Hemodialysis Access

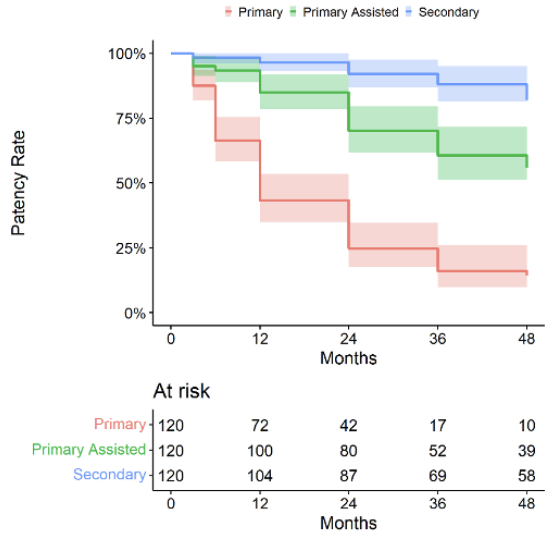
LSU Health - New Orleans

Introduction: Vascular access is difficult in patients without suitable arm veins and prior graft infections. The use of femoral vein translocation for complex hemodialysis access may be associated with low infection rates and high patency rates. The largest case series in the literature consists of 30 cases. The objective of this study is to determine the infection incidence, primary patency, primary-assisted patency, and secondary patency rates among femoral vein translocations.

Methods: A retrospective chart review was performed on all patients who underwent femoral vein translocation by a single vascular practice over a 10-year period, 2013-2023. Study variables included length to last follow up (months), prior access, prior graft infection, comorbid conditions, primary patency, primary-assisted patency, secondary patency, postoperative steal syndrome, postoperative graft infection, postoperative harvest site complication, and postoperative compartment syndrome.

Results: A total of 131 femoral vein translocations were performed over the ten-year period; 126 patients (46% male, 68% female) with a mean age of 52; BMI 29 had at least 1 month follow up and were included for analysis. The median (IQR) follow up was 46 (19-72) months. The mean number of prior permanent accesses was 2.5. Forty-eight percent of patients had prior graft infections. The primary, primary assisted, and secondary patency rates were 66%, 93%, 98%, respectively, at 6 months; 43%, 85%, 96% at 12 months; 25%, 70%, 92% at 24 months; 16%, 61%, 88% at 36 months; and 14%, 56%, 82% at 48 months. The prevalence of postoperative steal syndrome was 16%. The prevalence of postoperative access infection requiring access excision was 5%. Harvest site complications requiring an additional procedure occurred in 19% of cases. Three patients developed compartment syndrome postoperatively, requiring fasciotomy.

Conclusion: Femoral vein translocation is associated with low infection rates and high long-term patency rates. Femoral vein translocation does have a significant risk for postoperative steal syndrome and thigh complications; however, it is a viable option for patients with repeated graft infections.



Abstract | Colon and Rectal Surgery

Retroileal Anastomosis as a Salvage Maneuver Following Left-Sided Colorectal Resection

A Alani, A Berenson, A Broussard, J Paruch, W Kethman, D Kay, W Johnston, B Kann, C Whitlow, D Vargas
UQ Ochsner

Introduction: Left-sided colorectal resection can be particularly challenging when the surgeon is faced with creating adequate reach for anastomotic construction. Retroileal anastomosis (RIA) serves as a salvage maneuver that can facilitate this step. In this study we aimed to describe the surgical indications and assess patient safety involved with use of the RIA.

Methods: A retrospective review was performed of all patients who underwent colorectal resection within our department of colon and rectal surgery between Jan 1, 2012 and October 1, 2023. Patients undergoing RIA were identified.

Results: A total of 2,550 patients that received any colon or rectal resection between 2012 and 2023 were reviewed. Within this group, 17 patients (17 / 2,550; 0.67%) required a retroileal anastomosis during their operation. The median age of the cohort was 65-years-old (range: 42 to 79) with a median BMI of 29.13 kg/m2 (range: 20.83 to 35.71). Table 1 illustrates the surgical indications, intra-operative details and post-operative outcomes. The most frequent indication for surgery was colon/rectal cancer with 7 patients, followed by colostomy reversal (5 patients), chronic diverticular disease (2), Crohn's disease (2), and enterocolitis (1). RIA was more frequently utilized during pelvic dissections, as indicated by all anastomoses occurring at the upper rectum, mid rectum, or coloanal level. Thirteen patients required an open operation, either from initial approach or conversion from a minimally invasive approach, while four patients were completed laparoscopically with a hand-assist. A single patient (1 / 17; 5.9%) experienced an anastomotic leak. This patient demonstrated a post-operative leukocytosis, and underwent IR drainage of a pelvic fluid collection. This allowed for resolution of the leak, and the patient later underwent stoma closure. Diverting ileostomy was planned in six patients (6 / 17; 35.3%) that all received neoadjuvant therapy. These stomas were reversed in five of the six patients (83.3%). The single patient that did not receive reversal expired at 6 months post-op from causes unrelated to the operation. The 90-day mortality was 0%.

Conclusion: Retroileal anastomosis is a salvage maneuver for anastomotic construction in left-sided colorectal resection. This technique was rarely employed within our department, only 0.67% of patients since 2012, yet remains an option to avoid completion colectomy with ileorectal anastomosis or end colostomy. Only a single patient experienced an anastomotic leak, and this was effectively managed via IR drainage. Our cohort of RIA patients demonstrates that this is a feasible, safe technique when the surgeon is faced with limited reach in a left-sided colorectal resection.

Table on next page

	Retroileal Anastomosis (RIA) n=17
Indication	
Colon/Rectal Cancer	7
Colostomy Reversal	5
Chronic Diverticular Disease	2
Crohn's Colitis	2
Enterocolitis	1
Surgical Approach	
Laparoscopic with hand-assist	4
Laparoscopic converted to open	3
Open	9
Robotic converted to open	1
Level of Anastomosis	
Upper Rectum	4
Mid Rectum	8
Coloanal	5
Anastomotic Technique	
Handsewn End-to-End	0
Stapled End-to-End	12
Handsewn Coloanal J Pouch	1
Stapled Coloanal J Pouch	4
Clavien-Dindo Complication	
None	7
I	5
II	3
IIIa	1
IIIb	1
IVa	0
IVb	0
Unplanned IR Procedures	2
Unplanned Re-operations	0
Postoperative Leak	1
Planned Diverting Ileostomy	6
Ostomy Reversal	5

Abstract | Endocrine

Patient-specific Modeling for Parathyroid Adenomas Using 3D Printing

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Introduction: The application of 3D printing is rapidly increasing in medicine and can be used for bioprinting, synthesize cheap versions of surgical tools, or to facilitate surgical planning and operative conduct. The information generated from standard medical imaging techniques can be used to create a patient-specific physical model with a 3D printer. These models are used for surgical planning and resident training. This technology has the potential to be expanded to overlays for virtual imaging and localization of critical structures during surgical procedures and implementation of augmented reality for real-time parathyroid adenoma localization.

Methods: Preoperative 4D CT parathyroid scans were obtained as localizing studies in patients with primary hyperparathyroidism as part of their standard care, and the DICOM data was utilized to construct patient-specific anatomic models by 3D printing (Figure 1).

Results: We constructed 3D printing of patient-specific models for four consecutive patients with primary hyperparathyroidism and parathyroid adenoma(s). One patient had "double adenomas" depicted by the model. These models are currently being used routinely by the primary surgeon (TCL) as a paradigm for preoperative surgical planning and resident training.

Conclusion: Patient-specific models of parathyroid adenomas can be printed using 3D printing technology. These models precisely depict the unique spatial anatomic relationships of the adenoma(s) to the individual patient's surrounding thyroid gland, trachea, major vessels, and other critical structures. Our ongoing studies are building on these initial models to develop augmented reality and virtual imaging technologies for use in routine or complex intraoperative parathyroid surgical localization.

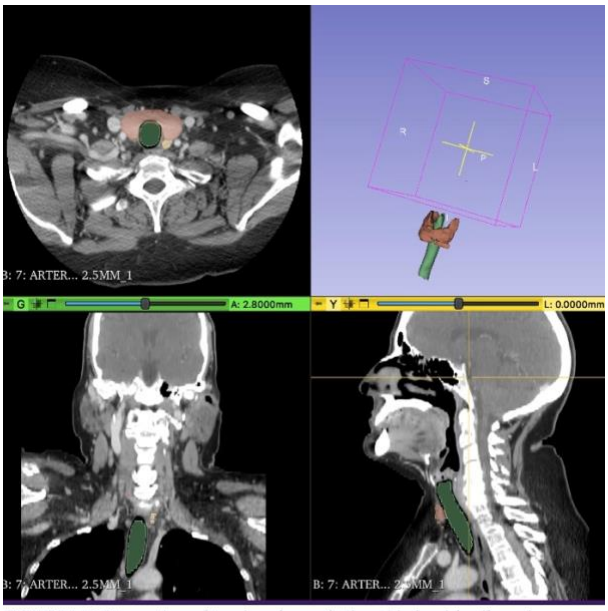

FIGURE 1: ROI creation of trachea (green), thyroid gland (red), and parathyroid adenoma (yellow) shown in transverse, coronal, and sagittal planes. The 3D generated model is shown in the top right.

HPB/ONCOLOGY SESSION

Abstract | Hepatobiliary and Pancreas

Impact of Louisiana Medicaid Expansion on Disparities in Pancreatic Cancer

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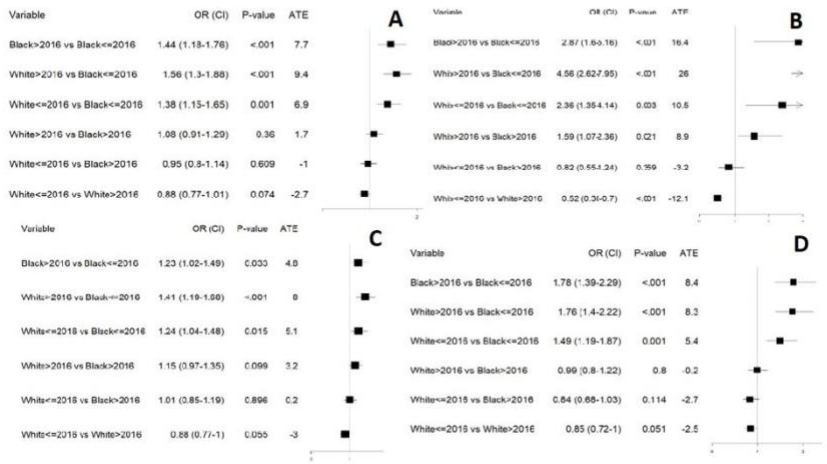
Introduction: State-based Medicaid expansions have been associated with increased insurance coverage and access to care. The aim of the study was to evaluate the impact of the Louisiana Medicaid expansion on disparities in pancreatic cancer (PDAC) in Louisiana.

Methods: Data was collected from the Louisiana Tumor Registry from 2013-2020. Unadjusted Fisher exact and Wilcoxon rank sum testing were performed. Multivariable logistic regression was performed, and average estimated treatment effects were computed. Multivariable Cox regression was performed to evaluate if Medicaid expansion impacted the risk of death.

Results: A total of 5,926 patients with PDAC were included in the study. More Medicaid patients (7.2% vs. 10.7%, p=<.001) and less uninsured patients (4.2% vs. 1.5%, p=<.001) were observed post-expansion. Before 2016, white patients were estimated on average 10.5% to be more likely to receive neoadjuvant treatment than black patients (p=.003) and following the expansion, white patients were an estimated 8.9% more likely to receive neoadjuvant therapy than black patients (p=.021). Before expansion, white patients were an estimated 6.9% more likely to receive any treatment than black patients (aOR=1.38, 95% CI=1.15-1.65, p=<.001). The observed disparity was no further significant post-expansion (p=.36). White patients had a decreased risk of death both before and after the expansion compared to black patients, but the risk of mortality from PDAC declined among black patients after Medicaid expansion.

Conclusion: The disparity in receipt of any treatment between black and white PDAC patients diminished after the Medicaid expansion. The findings in this study are instrumental in advocating for policy change and further Medicaid expansion.

Figure 1: Multivariable logistic regression for whether a patient received any treatment (systemic or surgical) (A), neoadjuvant treatment (B), systemic treatment (C), and surgical treatment (D).



HPB/ONCOLOGY SESSION

Abstract | Hepatobiliary and Pancreas

Effect of Jejunostomy Feeding Tube Placement in Patients Undergoing Whipple Procedure

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Introduction: Placement of feeding jejunostomy tube (JT) is used for starting earlier nutrition and enhancing postoperative course for patients undergoing Whipple procedure. However, the literature shows limited data and sample sizes. The study's aim is to quantitatively compare implications, benefits, and postoperative complications between Whipple patients with and without JT feeding.

Methods: This retrospective study was performed on Whipple patients (n=223) with(n=118) or without (n=105) JT at our institution between 2013-2023. Outcomes include demographic data, use of neoadjuvant chemotherapy, comorbid conditions (Diabetes Mellitus [DM], Hypertension [HTN], obesity, adhesions, and gastroparesis), start of oral feeding, and preoperative nutritional status. Length of stay delayed gastric emptying (DGE), postoperative readmission rate, supportive feeding during adjuvant chemotherapy, rate of postoperative complications and mortality were measured.

Results: In the JT group 16.1% (n=19) vs the non-JT group 19.0% (n=20) had received neoadjuvant chemotherapy, with no statistical difference. The average age of the patients (67 for both) and presence of overall comorbid conditions was not statistically different between the groups, with HTN (67.8% vs 68.3%; p=0.46) and DM (33.9% vs 37.1%; p=0.30). The rate of postoperative complications (49.2% vs 39.0%; p=0.06) revealed an upward trend in the JT group which was not statistically significant. But DGE (12.8% vs 5.7%; p=0.03), and hospitalization length (15 vs 12 days; p=0.003) was statistically different in JT group. The mortality (6.7% vs 5.7%; p=0.37) showed no significant difference.

Conclusion: In this study, J tube placement during Whipple procedure did not achieve the desired goal of improving postoperative course.

HPB/ONCOLOGY SESSION

Abstract | Surgical Oncology

Ultrasound in the assessment of regional lymph node status for nodal staging in newly diagnosed cutaneous melanoma patients: A prospective pilot study

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Introduction: Sentinel lymph node biopsy (SNB) is the standard of care for staging and regional disease control for node negative disease (cN0) in cutaneous melanoma. Recently, ultrasound (US) has been investigated as an alternative to SNB. US may reduce overall morbidity and prevents removal of tumor draining lymph nodes (LN) which are considered vital for anti-tumor immunity.

Methods: We perform a prospective pilot study of patients with newly diagnosed malignant melanoma with cN0 who underwent US of regional LN basins. Primary outcome is the negative predictive value (NPV) of US in identifying LN metastasis.

Results: A total of 10 patients were enrolled so far in the study. Tumor was located in the upper and lower extremity in 40% and 60% of patients respectively. The median size and depth of tumors were 2.5 cm and 3.5 mm respectively. The cohort included pT3-4 lesions with ulceration in 60%. All patients had cN0 disease. US showed metastatic disease in two patients, who received neoadjuvant therapy. Among other patients, 75% (6/8) underwent SNB and wide local excision of tumor. Two patients are to receive upfront surgery. Of the three patients who underwent SNB, none had metastatic disease. The NPV of US in detecting metastatic disease was 100%.

Conclusion: Our pilot study shows that US may be a safe alternative SNB for melanoma patients. A larger patient cohort is required to draw definitive conclusions. Following our initial study, the authors aim to continue patient enrollment over 2 years to yield long-term results.

HPB/ONCOLOGY SESSION

Abstract | Surgical Oncology

Impact of Positive Surgical Margins for Neuroendocrine Cancers

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Introduction: The purpose of this study was to quantify the incidence and impact of positive surgical margins on overall survival in patients with neuroendocrine cancer. Neuroendocrine Tumors (NET) are a group of rare cancers (~ 6/100,000) originating from neuroendocrine cells within multiple organs. Surgical resection is often the first-line therapy. A recent literature search pertaining to positive surgical margins and overall survival in neuroendocrine cancer did not yield any results.

Methods: Our neuroendocrine group runs one of the largest surgical centers for NET and has built a comprehensive database including NET patients treated between 2006 and 2023. This database was searched for margin status, tumor grade, overall survival, and years of life lost.

Results: We identified 358 NET patients, of which 60 (16.7%) had a positive margin identified in the pathology report. There was no statistical difference in overall survival in patients with a positive margin (2171±686days) when compared to negative margin patients (1842±378days P=0.34). In a similar manner, there was no statistical impact of margin status on years of life lost. There was no statistical difference in overall survival or loss of expected life years between margin positive and margin negative patients when stratified by tumor grade (G1-G3).

Conclusion: Data from this pilot study suggests that surgical margin status does not significantly impact overall survival or expected life lost. This is not unexpected. Neuroendocrine cancers are slow growing and many patients will die with rather than of neuroendocrine cancer. Additionally, a number of surgical procedures in NET are performed to palliate symptoms. Our findings are similar to some reports in renal cancer where despite increased risk of local recurrence, metastasis, reduced recurrence/progression-free survival, a positive margin did not decrease overall survival. [1]. Additional study is required to better understand the impact of positive margins in neuroendocrine cancer. A limitation of this study is that we did not stratify patients by primary location or stage. This will be addressed in future work.

SURGICAL POTPOURRI SESSION

Abstract | Thoracic Surgery

T-Helper 17 Cells as Potential Mediators of Fluoroquinolone Induced Aortic Aneurysms

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Introduction: Aortic aneurysms are a common and potentially fatal disease with several etiologies. Recent studies have pointed to an increased rate of aneurysm formation in patients exposed to fluoroquinolone antibiotics. The purpose of this study was to develop a further understanding of this connection, and identify cellular targets for future studies.

Methods: The publicly available Comparative Toxicogenomic Database was utilized to identify all known genetic targets of fluoroquinolones. Next, the endothelial database (EndoDB), a database of endothelial cell transcriptomics data, was used to identify which genes may be uniquely present within the endothelial cells of the aortic wall. This was accomplished by comparing genes that are differentially expressed between aortic and iliac endothelial cells. These iliac endothelial cells are exposed to similar hemodynamic conditions but are not associated with the same increased rates of aneurysm formation after exposure to fluoroquinolones, serving as an ideal comparison group for aortic endothelial cells. This group of genes, differentially expressed between aortic and iliac endothelial cells, was then cross-referenced with the fluoroquinolone-targeted list, and a gene ontology analysis was performed to identify the common cellular function and biological processes across these common genes.

Results: 2296 genes were identified to have a known interaction with fluoroquinolones. When comparing the aortic and iliac endothelial cell gene lists, 228 differentially expressed pathways comprising thousands of genes were identified. Of these 228 pathways, 240 genes were differentially expressed between the two groups. These were then cross-referenced with the known fluoroquinolone-targeted genes, yielding 50 unique genes. These genes play roles in multiple distinct sub-group pathways. Further gene ontology analysis revealed the most influential gene pathways, of which the top five genes related to T-helper 17 cell differentiation and recruitment. Other top pathways include leukocyte tethering or rolling and adhesion to vascular endothelial cells. These results point to inflammatory conditions present within the aortic wall, propagated by fluoroquinolones, predisposing the aorta the development of aneurysmal disease.

Conclusion: This study identified 50 genes that are influenced by fluoroquinolones and uniquely expressed within aortic endothelial cells. This is the first study to identify the role of the T-helper 17 cell pathway with aortic aneurysms, providing a mechanism to account for increased rates of aneurysm in patients exposed to fluoroquinolones.

SURGICAL POTPOURRI SESSION

Abstract | Colon and Rectal Surgery

Is Luminal Stenosis an Absolute Contraindication to Watch and Wait for Rectal Cancer?

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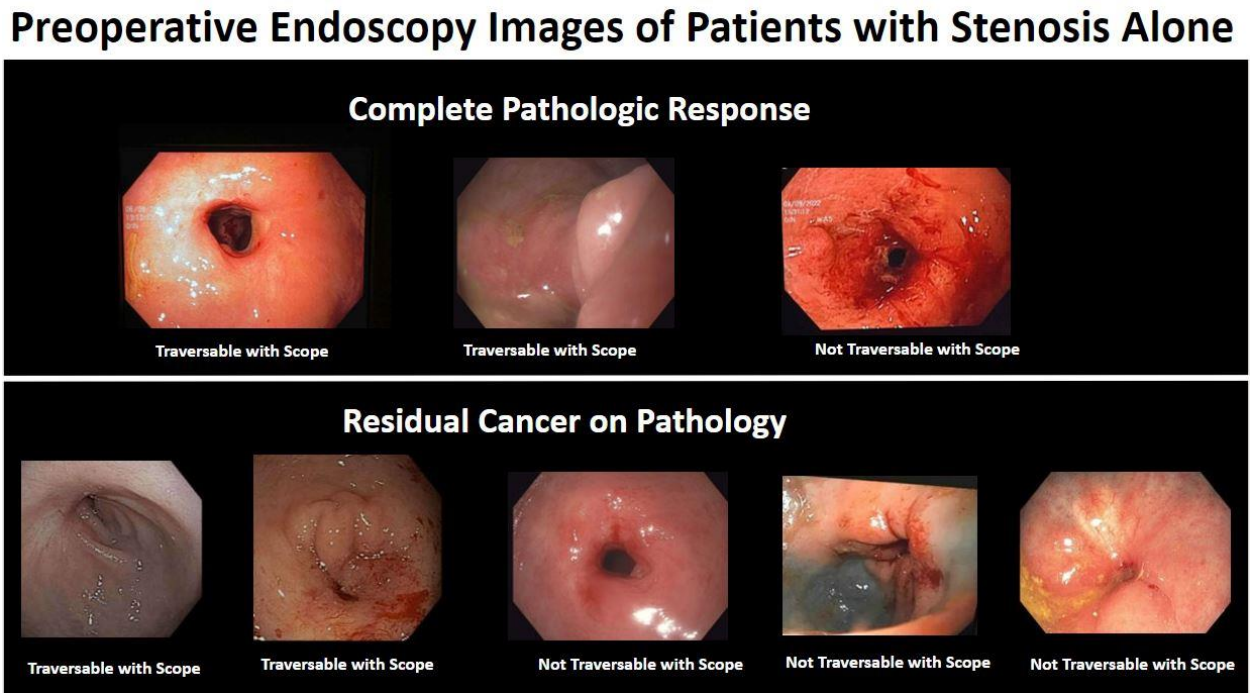
Introduction: Luminal stenosis following total neoadjuvant therapy (TNT) is considered a contraindication to Watch and Wait although the actual rate of occult malignancy in these patients is not known. We hypothesized that stenosis is high risk for persistent cancer, and the aim of the study was to establish the rate of occult malignancy present in stenosis following TNT.

Methods: A retrospective analysis was performed for patients with rectal cancer who underwent treatment with TNT between 2019 and 2023. Patients with residual stenosis were stratified into two groups: stenosis alone (SA), and stenosis with additional exam or imaging features of incomplete clinical response (ICR).

Results: Post-treatment luminal stenosis was identified in 22 (7.8%) TNT patients, with 18 of these patients going on to surgery. Among patients who underwent resection, 9 (50%) had an ICR, and 9 (50%) had SA based on preoperative assessment. In the ICR group, 8 (88.9%) patients had residual cancer in their surgical specimen, and 1 patient had a complete pathologic response (cPR). In the SA group, cancer was found in 5 (55.6%) of surgical specimens, and 4 (44.4%) patients had cPR (Figure 1).

Conclusion: Patients with residual stenosis after TNT for rectal cancer have a high rate of tumor in their surgical specimens, even when the stenosis was endoscopically traversable or there were no other endoscopic or imaging findings of residual tumor. This suggests stenosis is a marker for persistent cancer following TNT and supports using stenosis as a contraindication to Watch and Wait in patients who are surgical candidates.



SURGICAL POTPOURRI SESSION

Abstract | General Surgery

Surgeons, Who's Watching the Kids?

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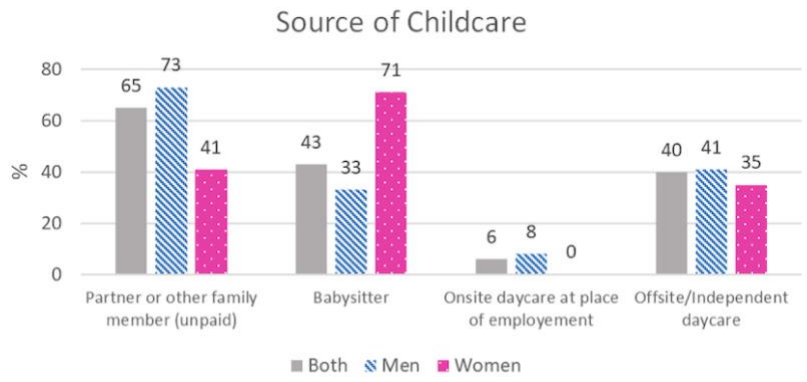
LSU Health - New Orleans

Introduction: Advancing surgical careers while raising children in one of the most demanding specialties requires surgeons to coordinate reliable childcare. This dilemma can deter family oriented medical students from pursing surgical careers and it may disproportionately affect females. This study examines the childcare resources available for surgeons and which of those are being utilized by men and women surgeons.

Methods: A 67-question RedCap survey was distributed three times to practicing surgeons from different specialties through Department Heads, Division Chiefs, and the local chapter of the American College of Surgeons. The survey consisted of mostly closed questions (Y/N). Few questions included answer choices of yes, no, or unsure. Data was analyzed in SPSS using Fisher's Exact Test with $p<0.05$ considered to be significant.

Results: A total of 92 surgeons completed the survey, 33% identified as female (n=31/92). The most represented specialty was General Surgery (54%, n=50/92) in the academic setting (65%, n=60/92). Most participants were under the age of 50 (64%, n=59/92), married (84%, n=77/92), and had children (74%, n=68/92). Male surgeons were more likely to have children (M: 84%, n=51/61 vs. F: 55%, n=17/31, p=0.005). When asked about working in a family friendly environment, more female surgeons felt supported by their employer (M: 61%, n=37/61 vs. F: 74%, n=23/31) and more male surgeons felt supported by their colleagues (M: 84%, n=51/61 vs. F: 77%, n=24/31). Most female surgeons reported requiring babysitters (71%, n=22/31) as a major source of childcare. Male surgeons reported obtaining childcare from their partners or family members (73%, n=44/61). More female surgeons required 5 days or more of childcare compared to male surgeons (71%, n=12/31 vs. 39%, n=20/61, p<0.05). Only 3% of surgeons reported being provided with an extra stipend for childcare (n=3/92) and 6% had access to onsite daycare at their place of employment (n=5/92).

Conclusion: Most surgeons reported working in a family-friendly environment regardless of gender but were not provided with a childcare stipend or access to on-site daycare. More female surgeons required paid babysitters for more days per week as compared to male surgeons who were able to obtain childcare from their partners or family members. Further investigation is warranted on how to improve systematic support from employers within surgical careers specifically for female surgeons.



SURGICAL POTPOURRI SESSION

Abstract | General Surgery

Feasibility study of pressure measurement for pressure ulcer prevention

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LSU Health - Shreveport

Introduction: Pressure ulcers, also known as hospital-acquired pressure injuries, arise from sustained or intense pressure on soft tissues over bony prominences. Annually, this condition impacts an estimated 25 million hospitalized patients in the United States, ranking as the second most prevalent diagnosis in health care billing systems. The financial burden of managing these injuries is substantial, with costs approximating $25 billion per year. The morbidity and mortality associated with pressure ulcers vary, but notably, they extend hospital stays with healing durations ranging from 30 to 60 days. Previous research indicates that prolonged tissue pressure exceeding 32 mmHg can inhibit capillary blood flow and disrupt venous return (pressures above 8-12 mmHg), leading to tissue necrosis. This study aims to investigate the development of skin sensors for monitoring "high-risk" pressure points. The overarching goal is to create a pressure sensor that empowers healthcare providers to prevent pressure injuries, thereby reducing morbidity and mortality in patients with extended hospitalizations.

Methods: Design a resistive force transducer versus a capacitance force transducer (pressure sensor) attached to a voltage divider that is connected to an analog voltage-to-digital converter (ARDUINO UNO micro-converter) which provides us with real-time digital data and serial monitoring (using the ARDUINO Software). This data can be used to monitor the pressures exerted on high-risk bony prominences and alert the health care provider to turn the patient to prevent pressure wounds. We plan to continue to use live-subjects and measure them over 5-10 hr periods of time to evaluate the efficacy of our censors.

Results: Prototype results show our censors are able to measure forces applied to the sensor (force/millisecond) which we translated into pressure in kilograms per centimeter using the Aurduino mica-converter.

Conclusion: Our prototype sensor is capable of measuring pressures in bony prominences. We aim to design bluetooth sensors that can be attached to the patient in hopes to aid healthcare providers prevent pressure ulcers in patients who have prolonged hospitalizations.

SURGICAL POTPOURRI SESSION

Abstract | Bariatric/Foregut

Propensity-matched Analysis Between Patients With and Without CKD Undergoing Primary Vertical Sleeve Gastrectomy

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Introduction: Metabolic and bariatric surgery (MBS) has demonstrated notable efficacy in ameliorating renal parameters among individuals with obesity and chronic kidney disease (CKD). Despite the acknowledged advantages, discussions persist regarding the safety and postoperative ramifications in CKD patients undergoing MBS. Conceptualized as a spectrum, CKD presents increasing postoperative risks corresponding with advancing stages. This study seeks to pinpoint the specific stage on the CKD spectrum where the most pronounced escalation in postoperative outcomes occurs.

Methods: A retrospective examination of the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) database spanning 2017 to 2021 was undertaken. Employing propensity-matched analysis, we compared patients with and without CKD who underwent vertical sleeve gastrectomy (VSG), with emphasis on perioperative and postoperative outcomes.

Results: Propensity matching involved 172,551 individuals with CKD (stages I-V) and 531,701 without CKD who underwent primary VSG. Broadly, postoperative risks increased in tandem with CKD stage progression. The most substantial increase in severe complications (OR=1.99; 95% CI=1.72, 2.30; $p<0.0001$), major adverse cardiovascular events (MACE) (OR=3.04; 95% CI=1.97, 4.69; $p<0.0001$), and mortality (OR=3.00; 95% CI=1.89, 4.76; $p<0.0001$) was observed between CKD stage II and CKD stage IIIA.

Conclusion: Patients with CKD exhibit greater perioperative and postoperative complications following MBS compared to their non-CKD counterparts. These complications increase with advancing CKD stages, with the most significant escalation observed in the CKD stage IIIA cohort. This insight empowers clinicians to preemptively identify and manage high-risk patients. Further investigations are warranted to ascertain whether analogous trends persist in the context of Roux-en-Y gastric bypass.

SURGICAL POTPOURRI SESSION

Abstract | Colon and Rectal Surgery

Precision and Prospects of ChatGPT-4-Generated References for Colon and Rectal Surgical Literature

Albuck AL, Becnel C, Sirna D, Turner J
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Introduction: To assess the precision of references generated by ChatGPT4 in scientific literature pertaining to colon and rectal surgery.

Methods: Ten frequently studied keywords pertaining to colon and rectal surgery were chosen: colon cancer, rectal cancer, anal cancer, total neoadjuvant therapy, diverticulitis, low anterior resection, transanal minimally invasive surgery (TAMIS), ileal pouch anal anastomosis (IPAA), abdominoperineal resection, and hemorrhoidectomy. Subsequently, ChatGPT4 was employed to generate comprehensive citations for all aforementioned keywords. Subsequent to this, two separate evaluators meticulously examined the outcomes to ensure precision and accorded a numerical rating to each article in accordance with predetermined criteria.

Results: 41 of the 100 references were fully accurate, but none included a DOI. Partial accuracy was observed in 67 of the references, which were identifiable by title and journal. Performance varied across specific search terms; for example, references for colon and rectal cancer were 100% identifiable by title and journal, but no term had 100% accuracy across all categories. Notably, none of the generated references correctly listed all authors.

Conclusion: While ChatGPT-4 offers improvements over its predecessors and shows potential for use in academic literature, its inconsistent performance across categories, lack of DOIs, and irregularities in authorship listings raise concerns about its readiness for application in the field of colon and rectal surgery research.

Table 1. Stratification of correct searches across ten categories and ten colon and rectal surgery topics.

		Title	Journal	Author	Year
Total (n=100)	Number Correct:	85	68	49	71
	Percent Correct:	85%	68%	49%	71%
Colon Cancer (n=10)	Number Correct:	10	10	9	10
	Percent Correct:	100%	100%	90%	100%
Rectal Cancer (n=10)	Number Correct:	10	10	4	10
	Percent Correct:	100%	100%	40%	100%
Anal Cancer (n=10)	Number Correct:	9	9	5	9
	Percent Correct:	90%	90%	50%	90%
Total Neoadjuvant Therapy (n=10)	Number Correct:	10	8	2	8
	Percent Correct:	100%	80%	20%	80%
Diverticulitis (n=10)	Number Correct:	10	6	6	6
	Percent Correct:	100%	60%	60%	60%
Low Anterior Resection (n=10)	Number Correct:	8	5	5	6
	Percent Correct:	80%	50%	50%	60%
Transanal Minimally Invasive Surgery for Rectal Cancer (TAMIS) (n=10)	Number Correct:	7	5	4	5
	Percent Correct:	70%	50%	40%	50%
Ileoanal Puch-Anal Anastomosis (J-pouch) IPAA (n=10)	Number Correct:	7	5	4	5
	Percent Correct:	70%	50%	40%	50%
Abdominoperineal Resection (n=10)	Number Correct:	6	5	3	5
	Percent Correct:	60%	50%	30%	50%
Hemorrhoidectomy (n=10)	Number Correct:	5	4	4	4
	Percent Correct:	50%	40%	40%	40%