



Decline in Bariatric Surgery

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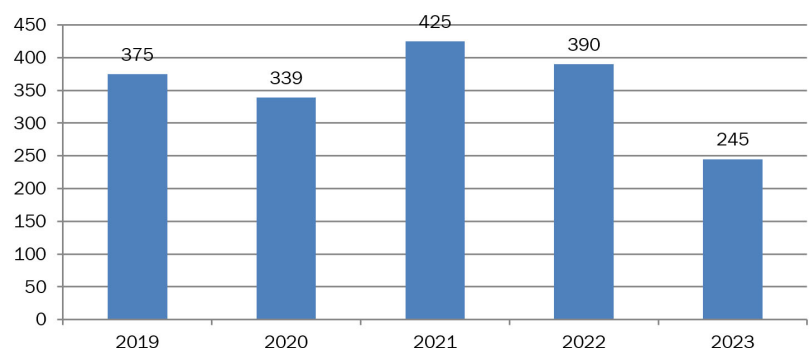
Introduction: The increased use of glucagon-like peptide-1 (GLP-1) drugs has led to a recent decrease in bariatric surgery rates. These medications mimic a naturally occurring hormone that helps regulate blood sugar and appetite and are used to treat diabetes and aid in weight loss.

Methods: Using the University of Puerto Rico (UPR) surgery department database, we evaluated the number of bariatric surgical cases performed during the years 2019 to 2023. The effect of the 2021 approval of GLP-1 drugs for obesity management on the number of surgical cases was evaluated. This database was IRB-approved.

Results: A total of 1,774 bariatric cases had surgery between 1/1/2019 and 12/31/2023. The mean age of the group was 51 ± 23 years. The gender distribution indicated that 64% were women and 36% were men. The mean body mass index was 33 ± 12 . Compared with 2021, the number of bariatric surgical cases decreased by 42% in 2023, as indicated in Figure 1. This was a statistically significant difference, $p < 0.05$.

Conclusion: A significant drop in bariatric surgeries has been noted after 2021, as shown in our study. It has been suggested that the sharp increase in GLP-1 prescriptions has coincided with this change, indicating that the GLP-1s are increasingly seen as a primary treatment for obesity.

Figure 1. Bariatric surgical cases per year



Orthopedic Injuries and Hospital Outcomes Among Hyperglycemic and Diabetic Hispanic Trauma Patients: A Retrospective Study

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Introduction: Diabetes mellitus (DM) affects 17.7% of Puerto Rican adults, nearly half undiagnosed. Both DM and trauma-related hyperglycemia increase vulnerability to orthopedic injuries and worsen trauma outcomes, yet these associations remain understudied in Hispanic populations. This study evaluated orthopedic injury patterns and hospital outcomes by hyperglycemic and diabetic status among trauma patients at the Puerto Rico Trauma Hospital (PRTH).

Methods: This retrospective cohort analysis, approved by IRB, included 7,079 adult trauma admissions at PRTH (2015–2023). Patients were classified as hyperglycemic diabetic (HD), normoglycemic diabetic (NHD), hyperglycemic non-diabetic (HND), or normoglycemic non-diabetic (NHND). Sociodemographic, clinical, and trauma-related variables were collected. HD and HND were propensity score-matched (3:1) to NHND. Statistical comparisons used Kruskal-Wallis, Wilcoxon, chi-square, or Fisher's exact test; regressions evaluated associations.

Results: The cohort included 9.5% HND patients and 3.5% HD patients. Diabetics were older, more often female, and had higher BMI and blood pressure ($p < 0.01$). Orthopedic injuries were more frequent in diabetics, especially rib and spinal fractures (>54%). HND patients had more lacerations, open wounds, and greater odds of femur fractures (OR: 1.54). Hyperglycemia and DM were associated with longer hospitalization (HND-RR: 1.15), ICU admission (HND-OR: 1.43), mechanical ventilation (HND-OR: 1.99), complications (HND-OR: 1.19), and mortality (HND-OR: 2.31), with HND showing the worst overall outcomes.

Conclusion: Diabetes and trauma-related hyperglycemia strongly predicted adverse outcomes. HND patients demonstrated the poorest profiles, suggesting acute stress hyperglycemia may reflect greater injury severity. Early recognition and targeted management may help reduce complications and mortality, particularly among non-diabetic or undiagnosed individuals.

Effect of Prior Endovascular Intervention on Limb Salvage Outcomes After Infrainguinal Bypass for Chronic Limb-Threatening Ischemia

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Introduction: Chronic limb-threatening ischemia (CLTI) often requires multiple revascularization strategies. When infrainguinal bypass becomes necessary, concern remains that prior ipsilateral endovascular intervention may adversely affect surgical outcomes. This study evaluates whether prior endovascular procedures influence limb salvage and amputation-free survival after lower extremity bypass in CLTI patients.

Methods: We conducted a retrospective cohort study of all infrainguinal bypasses performed for CLTI from January 2020 to July 2025. Limbs were treated as independent units. Patients were stratified into a bypass-first group (limbs undergoing infrainguinal bypass as the first therapeutic revascularization) and an endovascular-first group (limbs undergoing bypass after prior ipsilateral therapeutic endovascular intervention). The primary outcome was limb salvage; secondary outcomes included amputation-free survival and reintervention rates. This study was IRB approved.

Results: A total of 348 infrainguinal bypasses were analyzed (243 bypass-first, 105 endovascular-first). Baseline characteristics were similar; however, diabetes was more common in the endovascular-first group. Rutherford classification at the time of bypass was comparable between groups. Limb salvage at 1 year was 80.2% in the bypass-first group and 80.1% in the endovascular-first group; at 4 years, 75.7% vs. 73.3%. Amputation-free survival at 1 year was 69.5% vs. 67.6%. Within the endovascular group, limb salvage did not differ significantly between patients with one or multiple prior interventions.

Conclusion: Prior ipsilateral endovascular intervention was not associated with inferior limb salvage or amputation-free survival after infrainguinal bypass for CLTI. When bypass was performed at comparable disease severity, outcomes were equivalent regardless of prior endovascular exposure.

Incidence of Non-Syndromic and Syndromic Craniosynostosis in Puerto Rico: A Population-Based Study

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Introduction: Craniosynostosis, the premature fusion of cranial sutures, affects about 1 in 2,500 births in the US. In Puerto Rico, data is scarce due to inconsistent epidemiological surveillance. Surgical treatment is limited to a few subspecialists in San Juan. This study presents the first retrospective analysis of surgically treated cases in the region.

Methods: Upon Institutional Review Board approval, we retrospectively reviewed all patients who underwent corrective surgery for craniosynostosis at PR from 2020 to 2025. Data included craniosynostosis subtype, syndromic status, surgical procedure, age at surgery, length of stay, and patient demographics. We calculated annual birth prevalence using case counts and live-birth data for Puerto Rico.

Results: Fifty patients underwent surgical correction during the study: 26 (52%) were male and 24 (48%) were female, with a median age at surgery of 11 months and a mean length of stay of 2.8 ± 1.4 days. Most cases (92%) were non-syndromic; the sagittal suture was affected in the majority of cases (56%). The overall birth prevalence was 3.65 per 10,000 live births, peaking in 2020, with no significant temporal trend found in the Poisson regression analysis.

Conclusion: The distribution of craniosynostosis subtypes in Puerto Rico resonates with US mainland records, but birth prevalence estimates are slightly lower. This difference likely arises from issues with case identification rather than from actual prevalence. These findings emphasize the need for improved surveillance of congenital anomalies and better access to specialized care in Puerto Rico.

Mapping Workforce Distribution and Future Trends in Puerto Rico's Otolaryngology–Head & Neck Surgery Workforce

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Introduction: Otolaryngology- Head and Neck Surgery (OHNS) workforce capacity and geographic distribution are determinants of access to care worldwide. Despite extensive international and United States workforce analyses, Puerto Rico lacks data describing its OHNS workforce. No characterization exists regarding workforce size, geographic distribution, subspecialty composition, or demographic structure. Establishing a baseline is essential for identifying inequities and informing workforce planning and policy interventions.

Methods: A cross-sectional study was conducted using registry data from the Puerto Rico Board of Medical Licensing and Discipline and a workforce survey distributed to all practicing otolaryngologists. Registry data included practice location, subspecialty training, and years in practice. Survey data captured workload and anticipated retirement timelines. Descriptive statistics summarized ENT density per 100,000 population, regional distribution, subspecialty composition, and retirement patterns. Approved by IRB.

Results: Seventy-three practicing otolaryngologists were identified, corresponding to an overall density of 2.27 ENTs per 100,000 population. More than half practiced in the metropolitan region, which had the highest density at 5.40 per 100,000, while non-metropolitan regions showed lower availability, ranging from 0.87 to 1.64 per 100,000. Subspecialty-trained physicians were concentrated in the metropolitan area. Mean years in practice were 24.0. 42 physicians completed the survey, and 40.5% anticipated retirement within 15 years.

Conclusion: Puerto Rico's otolaryngology workforce is small, centralized, and aging, with limited access to subspecialty care outside the metropolitan region. Anticipated retirements may worsen regional disparities. This study provides the first workforce baseline and supports the need for strategic workforce planning and targeted policy interventions.

Why LGBTQ+ Medical Students Avoid General Surgery: A Comparison with Internal Medicine in Puerto Rico

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Introduction: LGBTQ+ medical students face challenges during specialty selection and the residency match process. Surgical specialties have been perceived as less inclusive, which may influence specialty avoidance and contribute to workforce disparities. This study compared perceptions of inclusivity, discrimination, and mentorship between General Surgery and Internal Medicine among LGBTQ+ medical students in Puerto Rico.

Methods: A cross-sectional study was conducted using an anonymous survey administered to LGBTQ+ medical students enrolled in Puerto Rico's medical schools (n = 28). Participants rated perceived inclusivity across medical specialties using a Likert scale. Survey included perceived inclusivity, experiences of discrimination during clinical rotations, visibility of LGBTQ+ role models, and accessibility of mentorship. General Surgery and Internal Medicine were used as comparator specialties. Approved by IRB.

Results: General Surgery demonstrated substantially lower perceived inclusivity than Internal Medicine (mean score: 1.61 vs 3.33). In General Surgery, 55.6% of respondents rated the environment as *not inclusive at all*, whereas in Internal Medicine, it was predominantly rated as *somewhat inclusive*. Mentorship was perceived as accessible by 15.8% of respondents in surgical specialties, compared with 47.4% in non-surgical specialties. Additionally, 52.6% of participants reported considering changing their specialty preference due to concerns about discrimination.

Conclusion: LGBTQ+ medical students perceive General Surgery as less inclusive than Internal Medicine, with limited mentorship and greater exposure to discrimination. These disparities may influence specialty choice and contribute to the underrepresentation of LGBTQ+ individuals in surgical careers, highlighting the need for targeted mentorship and inclusivity initiatives within surgical training environments.

Assessing Breast Imaging – Reporting and Data System (BIRADS) Scores and Biopsy Results in Pediatric Patients with Breast Masses

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Introduction: Palpable breast masses in pediatric patients, though usually benign, can cause significant anxiety and are occasionally linked to early cancer diagnoses. While the Breast Imaging Reporting and Data System (BIRADS) standardizes malignancy risk in adults, its use in pediatric populations remains controversial and may lead to unnecessary interventions. This study evaluates the appropriateness of BIRADS categorization in pediatric patients and its correlation with histopathological findings.

Methods: A retrospective review was conducted at a single tertiary center from March 2013 to May 2025. Female patients under 21 years of age evaluated for palpable breast masses by a pediatric surgeon were included. Male patients, those with gynecomastia, or those diagnosed with breast abscess were excluded. Demographic, clinical, imaging (BIRADS), and pathology data were collected.

Results: A total of 106 female patients (median age: 17 years, range: 7–20) were included. Most were post-menarche (83/106, 78.3%) with no family history of breast cancer (83/106, 78.3%). Masses were palpable (89/106, 84.0%) and solitary (57/106, 53.8%), with a median size of 2.2 cm. Ultrasound showed hypoechoic echogenicity (64/106, 60.4%), round/oval shape (33/106, 31.1%), and well-defined margins (30/106, 28.3%). BI-RADS 2 and 3 were most common (38/106, 35.8%; 37/106, 34.9%). Among 51 biopsied cases, 23 (45.1%) were BIRADS 4–5, yet all revealed benign pathology. Surgical excision was performed in 55/106 (51.9%), most often for conventional fibroadenoma (31/106, 29.2%).

Conclusion: Despite benign pathology, high biopsy and excision rates suggest overtreatment. A pediatric-specific approach to BI-RADS may reduce unnecessary interventions.

3D Laparoscopic Adrenalectomy: Advancing Precision in Minimally Invasive Surgery

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Introduction: Laparoscopic adrenalectomy is the gold standard for adrenal gland removal, with advancements such as three-dimensional (3D) laparoscopy enhancing surgical precision. This study evaluates postoperative outcomes of patients who underwent 3D transperitoneal laparoscopic adrenalectomy (TLA), focusing on discharge within 24 hours and the incidence of perioperative complications.

Methods: A retrospective cohort review was conducted on 57 patients who underwent 3D TLA at Hospital Episcopal San Lucas between 2018 and 2025. The collected clinical data included key perioperative outcomes, including estimated blood loss, discharge timing, and perioperative complications. To assess the impact of tumor size on perioperative outcomes, patients were stratified into two groups: Small Category (SC, <5 cm) vs Large Category (LC, ≥5 cm).

Results: Of the 57 patients, 93% were discharged within 24 hours in both categories ($P = 0.554$). No patients required blood transfusions, and there were no perioperative complications, bowel injuries, or conversions to open surgery. The median operative time was significantly longer for LC ($P < .001$), whereas estimated blood loss did not differ significantly ($P = 0.166$). All patients underwent successful adrenalectomy without major post-operative complications.

Conclusion: This study demonstrates that 3D laparoscopic adrenalectomy is a safe and effective approach with a high rate of early discharge and no significant complications. These findings support the continued use of laparoscopic adrenalectomy as a minimally invasive standard, offering excellent patient outcomes and reduced hospital stays. Further studies comparing 3D laparoscopy with conventional approaches may provide additional insights into its long-term benefits.

Patterns of Traumatic Brain and Spinal Cord Injuries Among Geriatric Patients Treated at the Puerto Rico Trauma Hospital

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Introduction: Traumatic Brain Injuries (TBIs) and Traumatic Spinal Cord Injuries (TSCIs) are major sources of death and disability worldwide. This study aims to identify the incidence, etiology, and outcomes of TBIs and TSCIs in geriatric trauma patients.

Methods: We conducted an IRB-approved retrospective cohort study of elderly patients (≥ 65 years) treated at the Puerto Rico Trauma Hospital during 2010-2025. Patients were classified according to their trauma diagnosis: severe TBI, TSCI, and a control group of elderly trauma patients. Sociodemographic characteristics, injury profile, hospital course, and outcomes were evaluated using group comparisons and multivariable analyses.

Results: 2,310 patients were included in the study (57 TSCIs, 212 TBIs, 2,041 controls). Falls were the predominant injury mechanism in the TBI (50.5%) and TSCI (61.4%) groups, but pedestrian accidents were more common in the TBI (28.8%) than in the TSCI (10.5%) group ($p < 0.001$). TBIs (20.5) and TSCIs (27.3) had significantly higher mean Injury Severity Scores versus controls (9.9) ($p < 0.0001$). TBI (63.7% and 81.1%) and TSCI (40.4% and 38.6%) had increased risk for TICU admission and mechanical ventilation versus controls (19.0% and 17.1%) ($p < 0.001$). Both groups had a higher risk of increased LOS, complications, and mortality ($p < 0.01$). Adjusted analyses revealed increased risk of death in TBI (ARR=4.68; 95%CI: 3.31–6.60) and TSCI (ARR=2.53; 95%CI: 1.41–4.54).

Conclusion: Our findings confirm that geriatric TBI and TSCI patients experience significantly worse injuries and outcomes than other geriatric trauma patients. This evidence lays the groundwork for developing prevention programs and guidelines aimed at reducing trauma-related morbidity and mortality among the elderly.

Endovascular Management of Blunt Thoracic Aortic Injury in Females at the Puerto Rico Trauma Hospital: A Single-Surgeon Experience

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Introduction: Blunt thoracic aortic injury (BTAI) is a highly lethal consequence of trauma following rapid deceleration, and thoracic endovascular aortic repair (TEVAR) has become the preferred treatment modality for grade III injuries. Despite widespread adoption, evidence largely reflects male-predominant cohorts, with limited data addressing female patients and sex-specific anatomical considerations.

Methods: We conducted a single-surgeon retrospective case series of female patients with grade III BTAI treated with TEVAR at a tertiary trauma center between 2011 and 2025. Patients were identified through institutional registries, and demographics, injury mechanisms, anatomical features, procedural details, complications, and follow-up outcomes were analyzed descriptively. The study was IRB-approved.

Results: A total of 15 female patients underwent TEVAR for grade III BTAI, with a mean age of 46.1 years and a high injury burden reflected by a mean ISS of 59.2. MVA accounted for 73.3% of injuries, with associated fractures and pulmonary injuries. A bovine aortic arch configuration was present in 46.7% of patients, most of whom demonstrated type I or II arches. Femoral access was utilized in 60% of cases, while 40% required abdominal aorta conduit. Left subclavian artery coverage occurred in 40% of procedures. Overall complications occurred in 33.3% of patients, including two type IA endoleaks, one case of paraplegia, one common femoral artery thrombosis, and one incisional hernia.

Conclusion: In this female-only case series, TEVAR for grade III BTAI demonstrated high technical success with a low rate of aortic procedure-related complications, highlighting the importance of sex-specific anatomical considerations during procedural planning.
