A01

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A Delicate Balance: Monitored Anesthesia Care in a Child With Chronic Airway Dependence

Pediatric patients with severe neurologic impairment and chronic airway dependence pose distinct anesthetic challenges, particularly when undergoing procedures requiring shared airway access and image-guided interventions. This case describes the anesthetic management of a child with spastic quadriplegic cerebral palsy, cystic encephalomalacia, and lifelong tracheostomy and gastrostomy dependence who presented for percutaneous gastrostomy (PEG) tube insertion with magnetic gastropexy under ultrasound guidance.

The patient is a six-year-old male, born at 29 weeks' gestation, with a history of spastic quadriplegic cerebral palsy and cystic encephalomalacia. He has global developmental delay, chronic respiratory failure, and lifelong dependence on tracheostomy and gastrostomy tubes. Preoperative planning focused on maintaining spontaneous ventilation, minimizing aspiration risk, and avoiding QT-prolonging agents. During the procedure, the patient was on monitored anesthesia care using a propofol infusion, supplemented with low-dose ketamine for analgesia and sedation. At the end of the procedure, the patient was placed on a tracheostomy collar, breathing spontaneously and maintaining stable oxygen saturations. The patient was observed in the post-anesthesia care unit, where he remained comfortable and alert at baseline neurologic status.

Anesthetic care for children with chronic tracheostomy and multisystem comorbidities remains inherently complex and demands meticulous planning. To achieve positive outcomes, there needs to be a balance between adequate sedation with preservation of spontaneous ventilation, airway vigilance, and titration of propofol and ketamine to avoid hemodynamic instability. Our patient's outcome highlights how anesthetic planning that accounts for long-standing physiologic adaptations can ensure safety in the setting of cerebral palsy, tracheostomy dependence, and chronic respiratory and gastrointestinal dysfunction.

A02

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A Sheep in Wolf's Clothing? - Cholesterol Cleft Granuloma as a Diagnostic Teaching Case in Breast Surgery

Cholesterol cleft granuloma (CCG) of the breast is a rare benign inflammatory lesion that can closely resemble carcinoma on mammography and ultrasound. Because imaging findings often overlap with malignancy, histopathologic confirmation is essential to avoid unnecessary surgical intervention.
A 48-year-old woman with a medical history of type 2 diabetes mellitus, hyperlipidemia, hypothyroidism, and uterine fibroids presented for routine screening mammography. Screening demonstrated multiple areas of asymmetry in both breasts and was categorized as BI-RADS 0, prompting diagnostic evaluation. Targeted ultrasound of the left breast revealed a hypoechoic lesion at the 5:30 position with irregular margins and posterior acoustic shadowing, concerning for malignancy. Ultrasound-guided core needle biopsy showed fibrous tissue containing abundant cholesterol clefts and associated multinucleated giant cells in a granulomatous background. Terminal duct-lobular units were absent, and no malignant tissue was identified. These findings confirmed a diagnosis of cholesterol cleft granuloma. Given the benign pathology, surgical excision was not pursued. The patient was counseled regarding the diagnosis and advised to continue routine surveillance. At six-month follow-up, she remained asymptomatic and repeat ultrasound demonstrated no interval change.
CCG of the breast is an uncommon but important benign entity that may closely mimic carcinoma on imaging. This case underscores the central role of radiologic-pathologic correlation and highlights the importance of obtaining a tissue diagnosis in the evaluation of suspicious breast lesions. Recognition of CCG may reduce unnecessary interventions and help guide appropriate management.

A03

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Anesthesia Considerations and Planning for a Histotripsy Procedure in a Non-Operating Room Setting

Learning Objective: This case highlights anesthetic considerations for liver histotripsy in a medically complex patient performed in a non-operating room anesthesia (NORA) setting.
Case Description: A 79-year-old man with metastatic sigmoid colon adenocarcinoma to the liver and mesentery underwent liver histotripsy in the IR suite. Comorbidities included coronary artery disease with prior PCI and drug-eluting stents, severe COPD, hypertension, and type 2 diabetes. Medications included dual antiplatelet therapy, antihypertensives, insulin and oral hypoglycemics, bronchodilators, inhaled steroids, statin, PPI, and alprazolam. He had adequate functional capacity and was not oxygen-dependent. After discussion, general anesthesia was induced and a double-lumen endotracheal tube was placed for right lung isolation to optimize liver exposure. The 4.5-hour procedure was uneventful. Postoperatively, he developed a hypertensive crisis with acute respiratory distress and radiographic pulmonary congestion. Treatment with IV antihypertensives, diuretics, and bronchodilators led to stabilization and oxygen weaning. He was discharged the following day.
Discussion: Histotripsy is a noninvasive focused ultrasound technique that destroys hepatic tumors through acoustic cavitation without thermal injury, radiation, or incisions. Although bleeding risk is reduced, coagulation activation and thrombotic risk may occur. This patient's significant cardiopulmonary disease and antiplatelet therapy increased perioperative risk. Lung isolation improved the acoustic window and liver exposure while minimizing ultrasound interference. Tight hemodynamic control was essential given cardiac and cerebrovascular risk. The procedure occurred in a NORA environment with limited resources and no on-site blood bank, requiring contingency planning for emergent transfer. This case emphasizes careful anesthetic planning for high-risk patients undergoing novel procedures in remote settings.

A04

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Regional Anesthesia Has Shorter Length of Stay for Total Knee Arthroplasty

Introduction
Total knee arthroplasty is among the most common surgical procedures performed in the United States. Prolonged admission length of stay (LOS) can become a burden to the patient and healthcare system. Moreover, it is associated with higher healthcare costs. This study sought to assess the relationship between regional anesthesia (RA) on admission LOS among patients who underwent primary total knee arthroplasty (TKA).
Methods
A retrospective cohort study was performed using the National Surgical Quality Improvement Program (NSQIP) database of primary TKA occurring between 2012 and 2020. The primary exposure was anesthesia modality (RA versus general anesthesia [GA]). The primary outcome was surgical admission LOS. Potential confounders included basic demographics, baseline health status (preoperative functional status, ASA classification, BMI, smoking, diabetes, chronic immunosuppression), and procedure characteristics (admission source, procedural setting, operative time, and wound classification). Univariate analyses were performed to assess for differences between cohorts. Multivariable regression analysis that adjusted for confounding was performed to identify risk of anesthesia modality on prolonged admission LOS.
Results
Over the study period, there were 200,500 cases of TKA, of which 8,523 (4.25%) received RA. Many patients in both cohorts had age 65-74 years, female sex, White race, non-Hispanic ethnicity, independent functional status, obesity, no smoking, no diabetes, no chronic immunosuppression, admission from home, and inpatient setting. In contrast, a higher proportion of patients who received RA versus GA had ASA class 2 versus 3, respectively. On multivariable regression analysis, patients who received RA versus GA had shorter (OR 0.98, 95% CI 0.97 to 0.99; $p<0.001$) LOS for TKA admission.
Conclusion
Compared to patients who received GA, those who received RA for TKA had shorter surgical admission LOS.

A05

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Neuraxial Anesthesia Has Lower Risk of Complications After Total Knee Arthroplasty

Introduction:
Total knee arthroplasty (TKA) is among the most common surgical procedures performed in the United States. Procedure-related complications, as defined by the Comprehensive Care for Joint Replacement (CCJR) Model, may impair patient outcomes and create financial burdens. This study assessed the impact of neuraxial anesthesia (NA) on procedure-related complications in patients undergoing primary TKA.
Methods:
A retrospective cohort study was performed using the National Surgical Quality Improvement Program (NSQIP) database of primary TKA occurring from 2012-2020. The primary exposure was anesthesia modality (NA versus general anesthesia [GA]). NA was defined as epidural or spinal anesthesia. The primary outcome was procedure related complications, as defined by the CCJR Model Technical Expert Panel. Multivariable regression analysis, adjusting for demographics, baseline health (including ASA classification and BMI), and procedure characteristics, evaluated the risk of anesthesia modality on TKA complications.
Results:
Over the study period, there were 370,361 cases of TKA, of which 178,384 (48.16%) received NA. Many patients in both cohorts had age 65-74 years, female sex, White race, non-Hispanic ethnicity, independent functional status, obesity, no smoking, no diabetes, no chronic immunosuppression, admission from home, and inpatient setting. In contrast, a higher proportion of patients who received NA versus GA had ASA class 3 versus 2, respectively. On multivariable regression analysis, patients who received NA versus GA had 0.79 times lower odds (95% CI 0.74 to 0.84; $p<0.001$) of procedure-related complications following TKA.
Conclusion:
Compared to patients who received GA, those who received NA for TKA had a lower risk of procedure-related complications following surgery. Further research into ideal candidates for nexuraxial anesthesia may reduce procedure-related complications and optimize outcomes.

A06

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Severe Placental Abruption Presenting as Fetal Demise After Epidural Placement in a Patient with Superimposed Preeclampsia

Placental abruption is a major cause of maternal morbidity and perinatal mortality, particularly in patients with hypertensive disorders of pregnancy. We present a 26-year-old G3P2002 at 37+1 weeks with chronic hypertension, superimposed preeclampsia without severe features, and fetal growth restriction who developed acute intrauterine fetal demise (IUFD) during labor in the setting of evolving concealed placental abruption and maternal hemodynamic instability.

She was admitted in early labor with uterine tachysystole and a Category II fetal heart tracing with moderate variability. After artificial rupture of membranes and intrauterine resuscitative measures, a combined spinal-epidural was placed. Shortly thereafter, she developed persistent hypotension (SBP 70-90 mmHg) requiring intravenous fluids and vasopressors. Simultaneously, fetal heart tones became undetectable and bedside ultrasound confirmed IUFD. Laboratory evaluation demonstrated progressive anemia and declining fibrinogen, concerning for concealed abruption with evolving coagulopathy. She delivered vaginally, and placental examination revealed approximately 80% abruption with 1000 mL blood loss and uterine atony.

Neuraxial anesthesia produces sympathetic blockade with arterial and venous vasodilation, reducing systemic vascular resistance and venous return. In patients with diminished preload or occult hemorrhage, this may cause disproportionate hypotension due to limited intravascular reserve and impaired compensatory tone. Thus, hypotension after neuraxial placement may represent the first manifestation of concealed hemorrhage rather than a primary causal event. This case underscores the importance of maintaining a broad differential diagnosis for hypotension after neuraxial labor analgesia and prompt evaluation for both expected anesthetic effects and underlying hemorrhagic or placental processes through coordinated multidisciplinary management.

A07

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Severe Elevation of Peak Airway Pressures in a Morbidly Obese Patient Following Trendelenburg Positioning: A Case Report (318308)

We present a case of a 59yo P3033 post-menopausal female with PMHx of obesity (BMI 61), HTN, DM, hypothyroidism, osteoarthritis, asthma, anemia, and abnormal uterine bleeding secondary to endometrial hyperplasia, who presents to ambulatory surgery for scheduled Robotic-Assisted Total Laparoscopic Hysterectomy, Bilateral Salpingectomy. Vascular access was difficult on this patient requiring the placement of a 5Fr micro introducer catheter in the Left basilic vein under ultrasound guidance. Due to high BMI and body habitus patient was expected to be a difficult airway and so video laryngoscopy was used, along with shoulder roll. Patient was induced with midazolam 2mg,fentanyl 150mcg, lidocaine 100mg, propofol 200mg, and rocuronium 50mg. Following successful intubation, the patient was placed on Volume control pressure limiting ventilation. With a volume of 500mL, RR 16, Pmax 40cmH2O. The airway pressures were reaching 35-38 while volumes of only ~450mL were being achieved. The patient was then placed on PCV mode and with a PEEP of 5 and Pinsp 30 with which volumes of ~450mL were being achieved. Patient stomach was suctioned, and patient was positioned with legs in stir-ups. As the case was a robotic hysterectomy, the patient needed to be in steep Trendelenburg positioning. After the patient was placed in ~10Â° of Trendelenburg position the peak pressures increased to 40-50cmH2O. The tube was confirmed to be above carina using fiberoptic bronchoscopy visualization of carina through ETT. Pressures remained critically elevated, prompting abortion of the surgical procedure. The patient was returned to the supine position, with immediate improvement in airway pressures and oxygenation.This case highlights the profound impact of positioning on respiratory mechanics in morbidly obese patients and underscores the importance of preoperative risk assessment, intraoperative vigilance, and multidisciplinary decision-making when planning surgical approaches requiring Trendelenburg.

A08

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Hemodynamic Crisis in Ruptured Abdominal Aortic Aneurysm: A Multimodal Anesthetic Approach

Ruptured abdominal aortic aneurysm (rAAA) is a catastrophic perioperative emergency characterized by profound hemorrhagic shock and high mortality despite rapid intervention. Endovascular aneurysm repair (EVAR) is often preferred when feasible, though significant complications may require advanced anesthetic management.

A 78-year-old man with an unknown medical history presented with altered mental status and severe hemodynamic instability. Imaging demonstrated a ruptured infrarenal AAA, prompting massive transfusion activation and emergent EVAR. Standard ASA monitors were applied. Rapid sequence induction and intubation were performed with fentanyl (2 mcg/kg) and rocuronium (1.2 mg/kg), followed by sevoflurane maintenance. Mechanical ventilation was set to volume control, with end-tidal CO_2,, in the high 20s, consistent with severe metabolic acidosis. Invasive monitoring included an arterial line, central venous catheter, two 14-gauge peripheral IVs, and continuous hemodynamic monitoring via FloTrac. Vasoactive support escalated from norepinephrine boluses to continuous infusions of norepinephrine, epinephrine, and vasopressin. Resuscitation included calcium and bicarbonate therapy. The intraoperative course was complicated by abdominal compartment syndrome requiring emergent decompressive laparotomy. Total transfusion included 5 units packed red blood cells, 2 units fresh frozen plasma, and 1 unit platelets. Postoperatively, the patient developed refractory vasoplegic shock requiring multiple vasopressors and methylene blue, severe high anion gap metabolic acidosis (pH nadir 6.92), and acute renal failure requiring continuous renal replacement therapy. Despite maximal support, he progressed to multiorgan failure and expired on hospital day six.

This case highlights the anesthesiologist's critical role in managing peri-induction instability, massive transfusion, abdominal compartment syndrome, and catecholamine-resistant vasoplegia during emergent EVAR for rAAA.

A09

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Anesthetic Management of Diffuse Systemic Sclerosis with Pulmonary Hypertension and Right Ventricular Dysfunction During Procedural Sedation

Systemic sclerosis (SSc) is an autoimmune connective tissue disease characterized by progressive fibrosis, microvascular dysfunction, and multiorgan involvement. The diffuse cutaneous subtype represents the most aggressive phenotype. When complicated by pulmonary hypertension (PH) and right ventricular dysfunction (RVD), these patients carry significant anesthetic risk, as sedation-induced hypoventilation or hemodynamic shifts may precipitate acute right heart decompensation, even during minor procedures.

We report the anesthetic management of a 37-year-old Black woman with diffuse SSc complicated by PH and RVD, as well as asthma and rheumatoid arthritis, who presented for colonoscopy under planned monitored anesthesia care. Preoperatively, she reported dyspnea when supine and poor functional capacity (<4 metabolic equivalents). Electrocardiography demonstrated a bifascicular block; no recent transthoracic echocardiogram was available. Airway exam revealed Mallampati class III, mouth opening less than 3 finger breadths, poor dentition, and moderate restriction in neck movement. Flexible fiberoptic intubation was identified as the only feasible rescue technique in the event of an airway emergency. Sedation was initiated with 2mg midazolam and 20mg propofol, followed by 40mg propofol every 5 minutes. Induction was delayed, likely secondary to reduced cardiac output, increasing the risk of dose escalation. The procedure was aborted after 4 minutes due to poor bowel preparation. No major intraoperative complications occurred.

This case highlights the complex interplay among sedation depth, airway control, and cardiopulmonary stability in patients with diffuse SSc-associated PH and RVD. Careful preoperative assessment, anticipation for potential difficult airway crises, and consideration of elective invasive airway control or advanced titration strategies, such as target-controlled infusion, may improve safety during procedural sedation in this high-risk population.

A10

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Non-Independent Preoperative Functional Status is Associated with Increased Postoperative Complication Risk in Syndesmosis Fixation

Introduction: Syndesmosis injuries requiring surgical fixation are common orthopedic conditions with potential for significant morbidity. While technical factors have been extensively studied, patient-specific preoperative characteristics influencing outcomes remain incompletely understood. This study evaluated the association between preoperative functional status and postoperative complications following syndesmosis fixation.

Methods: A retrospective cohort analysis using the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) database from 2010 to 2022 identified adult patients (≥18 years) who underwent syndesmosis fixation. Patients were stratified by preoperative functional status: independent versus non-independent. Demographics, comorbidities, and 30-day postoperative outcomes were analyzed. The primary outcome was a composite of complications including myocardial infarction, pneumonia, sepsis, septic shock, pulmonary embolism, mechanical complications, and surgical site bleeding. Univariate analyses compared groups, followed by multivariate logistic regression to assess the independent association between functional dependence and complications

Results: Of 6,231 patients analyzed, 6,092 were functionally independent and 139 were non-independent preoperatively. Non-independent patients had significantly higher ASA classification scores ($p<0.001$) and higher BMI ($p=0.003$). Multivariate analysis revealed thatp reoperative functional dependence was independently associated with significantly increased risk of postoperative complications (OR=6.50; 95% CI: 2.70-14.3; $p<0.001$).

Conclusion: Preoperative functional dependence is a powerful independent predictor of complications following syndesmosis fixation, with a 6.5-fold increased odds in non-independent patients. These findings emphasize the importance of preoperative functional assessment in risk stratification and suggest incorporating functional status into preop

A11

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Unexplained etiologies of transplant-associated thrombotic microangiopathy: Insights from genetic mutations in NPHS2 and SCL7A9

Transplant-associated thrombotic microangiopathy (TA-TMA) is a serious complication that often arises post-kidney transplantation, typically triggered by factors that have been well described in literature. However, in this case report we present two kidney transplant recipients who developed de novo TA-TMA that do not follow the typical presentation. Genetic testing revealed novel mutations in the NPHS2 and SLC7A9 genes, which are not traditionally associated with TA-TMA. The NPHS2 mutation, linked to nephrotic syndrome, and the SLC7A9 mutation, associated with cystinuria, raise new questions about the genetic predisposition to TA-TMA. This report explores the potential connection between these genetic mutations and TA-TMA, emphasizing the need for further research to investigate the role of genetics in TA-TMA and to assess the utility of genetic screening in transplant recipients to mitigate risk. Transplant-associated TMA is a complex condition with multiple contributing factors, many of which affect patients during the process of receiving an allograft. Two significant factors most transplant recipients face are the use of immunosuppressive medications like tacrolimus and ischemia during transplantation. While both of these have been linked to an increased risk of TA-TMA, as discussed above, further research is needed to better understand the pathophysiology of tacrolimus in causing TA-TMA and to determine the ischemia thresholds that elevate risk.

A12

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Transforming Neurosurgery With Spatial Computing: Enhancing Intraoperative Visualization and Precision Through Augmented Reality.

BACKGROUND AND OBJECTIVES:
Extended reality (XR) systems have emerged as transformative tools in neurosurgery, enhancing surgical planning, procedures, and outcomes. Integrating XR into intraoperative surgical environments represents a novel frontier in this field. This technical note explores the integration of XR systems into neurosurgical operating rooms (ORs) to leverage the capabilities of spatial computing and enhance surgical ergonomic conditions.
METHODS:
We analyzed 3 neurosurgical cases using the Medivis surgical augmented reality (AR) platform. The Surgical AR system software coupled with a second-generation Microsoft HoloLens worn by the primary surgeon (R.D.) facilitated the overlay of surgical 3-dimensional volumes and exoscopic outputs in the surgeon's visual field. Exoscopic and endoscopic o

A13

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Complications in Thermal Ablation Therapies in Diseased Iliac Veins

Objective: Endovenous ablation (EVA) is a safe, effective treatment for chronic venous insufficiency (CVI). In patients with chronic iliac vein disease, however, EVA is often approached cautiously despite limited supporting evidence. We analyzed outcomes of 2,818 EVA procedures in patients with and without iliac vein disease to evaluate safety and efficacy.
Methods: We retrospectively reviewed 3,596 EVA procedures performed from 2020-2024 at a single outpatient-based laboratory (OBL), including EVLA (n=1,128), RFA (n=1,481), and Varithena (n=209). After excluding cases without complete pre- or postoperative duplex imaging (n=778), 2,818 procedures in 1,323 patients were analyzed. Mean age was 64.3 years; 62.3% were female; mean BMI was 32.2; CEAP mode 3. Patients were stratified by presence of iliac vein disease and evaluated for endothermal heat-induced thrombosis (EHIT) and recanalization. Groups were compared using Fisher's exact test.
Results: Of 2,818 procedures, 2,795 had normal iliac duplex and 23 showed disease (9 in-stent, 14 naÃ¯ve stenosis). EHIT occurred in 26 procedures (0.93%) among patients with normal scans (EHIT 1=6, 2=13, 3=5, 4=2). One EHIT 2 occurred in the diseased group (4.5%). Fisher's exact test ($p = 0.22$) indicated no statistically significant difference in EHIT rates between the groups. Recanalization occurred in 71 procedures (2.5%): EVLA - 28 (2.5%), RFA - 28 (1.9%), Varithena - 15 (7.2%). Two recanalizations occurred in the diseased group. Varithena had significantly higher recanalization rates than EVLA and RFA ($p<0.0019$ and $p<0.0001$, respectively), with no difference between EVLA and RFA ($p=0.340$).
Conclusions: EVA appears safe in patients with chronic iliac vein disease, with no increased EHIT risk. Varithena demonstrated higher recanalization rates, though smaller sample size warrants further study. These findings support reconsideration of conservative treatment practices in this population.

A14

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Increased Hospital Acquired Complications in Diabetes Patients with Undergoing Surgical Repair of Humeral Shaft Fracture: A Retrospective National Cohort Analysis

Introduction: Humeral shaft fractures frequently require surgical intervention, yet metabolic comorbidities like diabetes can complicate recovery. Diabetes-induced microvascular impairment increases susceptibility to hospital-acquired complications (HACs), impacting patient outcomes and healthcare costs. This study assessed the relationship between diabetes status and HACs following humeral shaft repair.

Methods: A retrospective cohort study was performed using the National Surgical Quality Improvement Program (NSQIP) database for humeral shaft surgical repairs occurring between 2011 and 2022. The primary exposure was a diagnosis of insulin-dependent or non-insulin-dependent diabetes. Confounding variables included demographics and baseline health status. The primary outcome was HACs, defined as the occurrence of acute renal failure or urinary tract infection. Univariate analyses assessed differences between cohorts, and multivariable regression identified complication risk while adjusting for identified confounders.

Results: A total of 6,179 cases of humeral shaft surgical repair were identified. Of these, 485 (7.85%) patients had insulin-dependent diabetes and 663 (10.7%) had non-insulin-dependent diabetes. The majority of patients were female, of White race, and underwent elective procedures. On multivariable regression analysis, compared to patients without diabetes, those with insulin-dependent and non-insulin-dependent diabetes had 7.17 (95% CI 1.12-38.6; $p<0.05$) and 4.84 (95% CI 1.01-21.8; $p<0.05$) times higher odds of HACs, respectively.

Discussion: Compared to patients without diabetes, those with either insulin-dependent or non-insulin-dependent diabetes undergoing surgical repair of a humeral shaft fracture face a higher risk of hospital-acquired complications. These findings suggest that enhanced preoperative risk stratification for patients with diabetes is necessary to improve clinical outcomes.

A15

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Association of Diabetes With Procedure and Hospital-Related Complications Following Intertrochanteric Fracture Repair: A NSQIP Analysis

Introduction
Intertrochanteric fractures are common fragility fractures in the elderly. Limited data exist on how diabetes affects postoperative outcomes. This study evaluated the association between diabetes status and 30-day complications following intertrochanteric fracture repair.
Methods
A retrospective cohort study was conducted using the American College of Surgeons NSQIP database (2010-2022). Adults undergoing surgical repair of intertrochanteric femur fractures were included. Diabetes status was categorized as no diabetes, non-insulin-dependent diabetes (NIDDM), or insulin-dependent diabetes (IDDM). Primary outcomes were 30-day procedure-related complications (myocardial infarction, pneumonia, sepsis, septic shock, DVT, PE, surgical site bleeding, death) and hospital-acquired complications (UTI, acute kidney injury, transfusion). Multivariable logistic regression adjusted for demographics, comorbidities (BMI, ASA class, functional status, smoking, steroid use, heart failure, COPD), and procedural factors.
Results: Among 127,161 patients, 10,869 (8.5%) had IDDM and 14,158 (11.1%) had NIDDM. Patients were predominantly ≥80 years, female, White, non-Hispanic, ASA III-IV, and treated inpatient. IDDM was associated with higher odds of procedure-related complications (OR 1.23, 95% CI 1.14-1.32; $p<0.001$) and hospital-acquired complications (OR 1.23, 95% CI 1.17-1.30; $p<0.001$) compared to no diabetes. NIDDM was not associated with increased procedure-related complications (OR 1.01, 95% CI 0.94-1.09; $p=0.70$) but was associated with slightly increased odds of hospital-acquired complications (OR 1.05, 95% CI 1.00-1.10; $p=0.046$).
Conclusion
Insulin-dependent diabetes is associated with increased 30-day procedure-related and hospital-acquired complications after intertrochanteric fracture repair. Non-insulin-dependent diabetes is linked to a modest increase in hospital-acquired complications. Optimizing perioperative management in diabetic patients may improve outcomes.

A16

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Neuraxial Anesthesia Has Lower Risk of Discharge to Institution After Revision Total Knee Arthroplasty

Introduction
Revision total knee arthroplasty (RTKA) is a complex procedure frequently requiring substantial postoperative support, and discharge to an institution rather than home may reflect higher morbidity and reduced functional recovery. Anesthesia modality may influence discharge disposition. This study evaluated the association between neuraxial anesthesia and discharge destination after RTKA.
Methods
We performed a retrospective cohort study using the American College of Surgeons National Surgical Quality Improvement Program database to identify adults undergoing revision total knee arthroplasty from 2012 to 2023. The primary exposure was anesthesia type, categorized as neuraxial (spinal or epidural) anesthesia (NA) versus general anesthesia (GA). The primary outcome was discharge destination (home vs institution). Covariates included demographic characteristics, baseline health status, and surgical characteristics. Univariate analyses were used to compare patient characteristics across anesthesia groups, followed by adjusted multivariable regression modeling to determine the association between anesthesia modality and discharge to institution after RTKA.
Results
Among 25,282 revision total knee arthroplasty cases, 7,943 (31.4%) received neuraxial anesthesia and 17,339 (68.6%) received general anesthesia. Compared to those who received GA, those who received NA had a lower rate of discharge to an institution (22% vs 32%, $p<0.001$). In adjusted multivariable regression, compared to those who received GA, those who received NA were associated with lower odds of institutional discharge (OR 0.68; 95% CI 0.62 - 0.74; $p<0.001$).
Conclusion
Compared with general anesthesia, neuraxial anesthesia for revision total knee arthroplasty was associated with a greater likelihood of discharge home rather than to an institution. These findings suggest neuraxial techniques may support more favorable functional recovery and disposition after revision total knee arthroplasty.

A17

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Patients with Psoriatic Arthritis Undergoing Total Hip Arthroplasty Have Higher Odds of Institutional Discharge Disposition

Introduction
Total hip arthroplasty (THA) is a common procedure that improves mobility and quality of life in hip arthritis. Discharge to an institution increases healthcare costs and resource use. Psoriatic arthritis (PsA), a chronic inflammatory disease affecting joints and skin, may complicate recovery after THA. This study assesses whether PsA patients have higher odds of institutional discharge compared to those with osteoarthritis (OA).
Materials and Methods
We queried the National Inpatient Sample database to identify THA cases performed between 2010 and 2021. Patients were divided into two groups: PsA and OA. The outcome assessed was discharge disposition, defined as institution versus home. Univariate analysis compared baseline characteristics, comorbidities, and discharge outcomes between the two groups. Multivariable logistic regression models adjusted for demographics, health status, and hospital characteristics to assess the odds of discharge to an institution.
Results
A total of 665,008 THA cases were included, with 7,367 (1.1%) PsA patients. The cohort was predominantly aged 60-69 years, female, White, and Medicare-insured. Patients with PsA had significantly higher rates of discharge to a skilled nursing facility or other institutional care (22% vs. 20%, $p<0.010$). After adjusting for confounders, PsA patients had 1.21 times higher (OR: 1.14-1.29; $p<0.001$) odds of being discharged to an institution compared to those with OA.
Conclusion
PSA patients are more likely to be discharged to an institutional setting following THA, compared to patients with OA. Clinicians should be aware of this higher risk when planning postoperative care and discharge. Further research is needed to better understand the underlying factors contributing to these outcomes and to explore strategies to improve post-surgical recovery in this population.
Summary
Patients with psoriatic arthritis have higher odds of discharge to an institution following total hip arthroplasty.

A18

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Neuraxial Anesthesia Is Associated With Lower Rates of Reoperation and Readmission After Revision Total Knee Arthroplasty

Introduction: Revision total knee arthroplasty (RTKA) is a complex and increasingly common procedure in the United States. Unplanned readmission and reoperation increases the burden of the healthcare system. This study aimed to evaluate the association between neuraxial anesthesia and the risk of unplanned readmission and reoperation among patients undergoing RTKA.
Methods: We conducted a retrospective cohort study using the American College of Surgeons National Surgical Quality Improvement Program (NSQIP) database to identify adults who underwent RTKA between 2012 and 2023. The primary exposure was anesthesia modality, categorized as neuraxial (spinal or epidural) anesthesia (NA) versus general anesthesia (GA). Two outcomes were evaluated: unplanned reoperation and unplanned hospital readmission within 30 days of surgery. Covariates included demographic characteristics, baseline health status, and surgical characteristics. Univariate analyses were used to compare patient characteristics across anesthesia groups, followed by multivariable regression modeling to determine the adjusted association between anesthesia modality and the risk of readmission and reoperation after RTKA.
Results: Over the study period, there were 25,282 cases of RTKA. Of which 7,943 (31.4%) received NA and 17,339 (68.6%) received GA. Compared with GA, NA was associated with lower unadjusted rates of reoperation (2.4% vs 3.6%) and 30-day readmission (4.3% vs 6.0%). In adjusted multivariable regression, NA was associated with lower odds of reoperation (odds ratio [OR] 0.81; 95% CI 0.68-0.97; p=0.019) and lower odds of readmission (OR 0.81; 95% CI 0.71-0.93; p=0.003) compared with GA following RTKA.
Conclusion: Compared with patients who received GA, those who received NA for RTKA had a lower risk of reoperation and unplanned readmission. Further research to identify which RTKA patients are optimal candidates for NA may help reduce these adverse events and improve overall outcomes.

A19

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Higher Economic Burden Among Patients with Psoriatic Arthritis Undergoing Primary Total Hip Arthroscopy

Introduction:
Total hip arthroplasty (THA) is an effective intervention for improving mobility and quality of life in patients with advanced hip pathology. However, THA represents a substantial economic burden, particularly when comorbid inflammatory conditions complicate recovery and increase healthcare utilization. Psoriatic arthritis (PsA), a chronic systemic inflammatory disease, may adversely affect postoperative outcomes. This study evaluated the economic impact of PsA among patients undergoing THA, focusing on length of stay (LOS) and total admission charges.
Materials and Methods:
The National Inpatient Sample was queried to identify adult THA hospitalizations from 2010-2021. Patients were stratified into PsA and osteoarthritis (OA) cohorts using diagnostic codes. Primary outcomes were LOS and total admission charges. Baseline demographics and comorbidities were compared using univariate analysis. Multivariable log-linear regression models adjusted for age, sex, race, insurance status, comorbidity burden, and hospital characteristics to assess the independent association of PsA with LOS and admission charges.
Results:
A total of 665,008 THA cases were identified, including 7,367 (1.1%) patients with PsA. The cohort was predominantly aged 60-69 years, female, White, and Medicare insured. Patients with PsA experienced significantly longer LOS compared to those with OA (2.55 vs. 2.37 days, $p<0.001$). After multivariable adjustment, PsA remained independently associated with 6% longer LOS and 2% higher admission charges ($p<0.001$ for both).
Conclusion:
PsA is independently associated with increased hospital resource utilization following THA, reflected by prolonged hospitalization and higher admission charges. These findings highlight the importance of targeted perioperative optimization strategies to reduce costs and improve efficiency in this high-risk population.

A20

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Diabetes and Discharge Disposition Following Intertrochanteric Fracture Surgery: An Analysis of Postoperative Transitions of Care

Introduction
Intertrochanteric (IT) fractures are one of the most common fragility fractures affecting the elderly. Few studies assess the impact of comorbidities on discharge destination post-procedure. This study sought to assess the relationship between diabetes, a condition that increases risk of perioperative complications, and discharge destination after IT fracture repair.
Methods
A retrospective cohort study was conducted using the American College of Surgeons National Surgical Quality Improvement Program (NSQIP) database from 2010 to 2022. Adult patients undergoing surgical repair of IT femur fractures were included. The primary exposure was diabetes status, categorized as no diabetes, non-insulin-dependent diabetes, or insulin-dependent diabetes. The primary outcome was hospital discharge disposition. Discharge destinations were grouped into home and facility. Covariates included demographic characteristics, baseline health status, and procedural characteristics. Univariate analyses were used to assess differences by diabetes status. Multivariable logistic regression was conducted to evaluate the association between diabetes status and discharge destination.
Results
Over the study period, there were 127,161 cases of IT fracture repair, of which 10,869 (8.5%) had insulin-dependent diabetes and 14,158 (11.1%) had non-insulin-dependent diabetes. On multivariable regression analysis, compared to patients without diabetes, patients with insulin-dependent diabetes had 1.56 times higher odds of being discharged to a facility rather than home. Patients with non-insulin-dependent diabetes had 1.14 times higher odds.
Conclusion
Compared to patients without diabetes, patients with insulin-dependent diabetes and non-insulin dependent diabetes had a higher risk of discharge to a facility rather than home. These findings highlight the importance of discharge planning and postoperative support for patients with diabetes undergoing IT fracture repair.

A21

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Spinal Anesthesia is Associated with Lower Risk of Discharge to Facility Following Knee Hemiarthroplasty

Introduction:
Knee hemiarthroplasty is performed to relieve advanced knee joint disease and improve quality of life and mobility. Discharge to a facility after surgery increases healthcare costs and burdens the system. This study evaluated the association between spinal anesthesia and discharge disposition following knee hemiarthroplasty.
Materials and Methods:
A retrospective cohort study was conducted using the National Surgical Quality Improvement Program (NSQIP) database of knee hemiarthroplasty cases from 2010 to 2022. The primary exposure was anesthesia modality (spinal versus general). The primary outcome was discharge disposition to home or facility. Potential confounders included demographics (age, sex, race, ethnicity), baseline health status (preoperative functional status, ASA classification, BMI, smoking, diabetes, history of congestive heart failure, chronic obstructive pulmonary disease), and procedure characteristics (setting, operative time, wound classification). Univariate analyses compared cohorts. Multivariable regression adjusted for confounders to assess the association between anesthesia modality and discharge disposition.
Results:
A total of 2,114 knee hemiarthroplasties were identified; 1,302 were performed under spinal anesthesia. In both cohorts, many patients were female, White, non-Hispanic, functionally independent, obese, nonsmokers, without diabetes, and not immunosuppressed. On multivariable regression, spinal versus general anesthesia was associated with 0.48 times lower odds of discharge to a facility (95% CI 0.36-0.63; $p<0.001$).
Conclusion:
Compared with general anesthesia, spinal anesthesia for knee hemiarthroplasty was associated with lower odds of discharge to a facility. Further research may help identify optimal candidates and reduce healthcare burden.

A22

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Neuraxial Anesthesia Has Lower Risk of Complications After Revision Total Knee Arthroplasty

Introduction
Revision total knee arthroplasty (RTKA) is a complex and increasingly common procedure in the United States. Procedure-related complications, as defined by the Comprehensive Care for Joint Replacement (CCJR) Model, can reduce patients' quality of life. This study aimed to evaluate the association between neuraxial anesthesia and the risk of procedure-related complications among patients undergoing RTKA.
Methods
This retrospective cohort study used the American College of Surgeons National Surgical Quality Improvement Program (NSQIP) database to identify patients who underwent RTKA between 2012 and 2023. The primary exposure was anesthesia modality, defined as neuraxial (spinal or epidural) anesthesia versus general anesthesia (GA). Covariates included demographic factors, baseline health measures, and procedural characteristics. Univariate analyses were used to compare patient and procedural characteristics across anesthesia groups, followed by multivariable regression modeling to determine the adjusted association between anesthesia modality and the risk of procedure-related complications after RTKA.
Results
Over the study period, there were 25,282 cases of RTKA. Of which, 7,943 (31.4%) received NA. Compared with patients who received GA, those who received NA more often had lower ASA class (1-2), fewer cardiopulmonary comorbidities, shorter operative times, and lower unadjusted rates of any CCJR-defined complication (3.3% vs 4.7%). On multivariable regression analysis, patients who received NA versus GA had 0.74 times the odds (95% CI 0.63 to 0.88; p=0.001) of experiencing procedure-related complications following RTKA.
Conclusion
Compared with patients who received GA, those who received NA for RTKA had a lower risk of procedure-related complications following surgery. Further research to identify which RTKA patients are optimal candidates for NA may help minimize procedure-related complications and improve postoperative outcomes.

A23

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Psoriatic Arthritis as a Risk Factor for Postoperative Complications in Total Hip Arthroplasty

Introduction:
Total hip arthroplasty (THA) is a prevalent surgical procedure in the United States aimed at improving mobility and quality of life. With increasing THA rates, understanding what may influence postoperative outcomes is crucial. This study investigates the impact of psoriatic arthritis (PsA) on same-admission postoperative complications following THA.
Materials and Methods:
Using the National Inpatient Sample database, we identified THA cases from 2010 to 2021. The cohort was divided into two groups: those with psoriatic arthritis (PsA) and those with osteoarthritis (OA). Univariate analysis was conducted to explore baseline differences between the groups, and multivariable logistic regression was performed to adjust for demographic factors, health status, and surgical facility characteristics. The outcome was procedure-related complications defined as acute myocardial infarction, pneumonia, sepsis/septicemia/septic shock, pulmonary embolism, deep vein thrombosis, mechanical complications, and surgical site complications.
Results:
665,008 THA cases were included in the analysis. 7,367 (1.1%) had a diagnosis of PsA. The majority were aged 60-69 years, female, White, and had Medicare insurance. Most procedures were performed in urban teaching hospitals and private not-for-profit institutions. Patients with PsA experienced significantly higher rates of complications (6.1% vs. 2.1%, $p<0.001$). After adjusting for potential confounders, patients with PsA had 2.86 times higher odds of postoperative complications compared to those with OA (OR: 2.59-3.15, $p<0.001$).
Conclusion:
PsA is associated with a significantly increased risk of same-admission postoperative complications following THA compared to osteoarthritis. These findings suggest that PsA may represent a risk factor for poorer surgical outcomes, warranting additional preoperative management and closer monitoring. Future studies should explore the mechanisms and investigate strategies to mitigate risk.

A24

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Impact of Chronic Obstructive Pulmonary Disease on Postoperative Complications Following Revision Shoulder Arthroplasty

Background:
Revision total shoulder arthroplasty (TSA) addresses complications from prior TSA, such as implant loosening, infection, and joint instability, and is associated with high complexity and risk. With demand for revision TSA projected to outpace primary TSA by 2060, understanding predictors of complications is warranted. Chronic obstructive pulmonary disease (COPD), affecting millions in the United States, has been linked to worse outcomes in orthopaedic surgeries; however, its impact on revision TSA has not been studied. This study evaluates the impact of COPD on postoperative complications following revision TSA.
Methods:
The American College of Surgeons National Surgical Quality Improvement Program (ACS-NSQIP) database was queried to identify patients who underwent revision TSA between 2013 and 2022, excluding emergent cases. Univariate analyses compared baseline demographics, health status, and postoperative complications between patients with and without COPD. Complications included acute myocardial infarction, pneumonia, sepsis, septic shock, pulmonary embolism, deep vein thrombosis, stroke, urinary tract infection, and acute kidney injury. Multivariable logistic regression, adjusting for baseline demographic factors and health status, assessed COPD as an independent risk factor for postoperative complications.
Results:
The study included 2,076 patients undergoing revision TSA: 151 with COPD and 1,925 without. On univariate analysis, patients with COPD had significantly higher rates of postoperative complications (6.0% vs. 2.1%, $p = 0.008$). COPD was associated with significantly higher odds of procedure-related complications (OR: 4.92, 95% CI: 2.06-11.75, $p < 0.001$).
Conclusions:
COPD significantly increases the risk of procedure-related complications following revision TSA. These findings highlight the need for targeted perioperative management and risk stratification strategies to optimize outcomes for this population.

A25

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Impact of Diabetes on 30-Day Mortality After Surgical Repair of Intertrochanteric Hip Fractures: A Retrospective Cohort Study

Introduction:
Intertrochanteric fractures are common fragility fractures affecting the elderly. Few studies assess the impact of comorbidities on mortality rates. This study sought to assess the relationship between diabetes and 30-day mortality associated with intertrochanteric fracture repair.
Methods:
A retrospective cohort study was conducted using the American College of Surgeons National Surgical Quality Improvement Program database from 2010 to 2022. Patients who underwent surgical repair of intertrochanteric femur fractures were identified. The primary exposure was diabetes status, categorized as no diabetes, non-insulin-dependent diabetes, or insulin-dependent diabetes. The primary outcome was 30-day postoperative mortality, defined as death occurring within 30 days of the index operation. Patients with survival beyond 30 days, or unknown death status, were excluded from the analysis. Covariates included demographic factors, baseline health status, and operative characteristics. Univariate analyses were conducted to assess differences by diabetes status. Multivariable logistic regression was performed to determine the association between diabetes status and 30-day mortality, adjusting for potential confounders.
Results:
There were 127,161 cases of intertrochanteric fracture repair, of which 8.5% had insulin-dependent diabetes and 11.1% had non-insulin-dependent diabetes. On multivariable regression analysis, patients with insulin-dependent diabetes had 1.13 times higher odds (95% CI 1.01-1.25; p=0.031) of 30-day postoperative mortality compared to patients without diabetes. Non-insulin-dependent diabetes was not associated with mortality (OR 0.97, 95% CI 0.88 - 1.08; p=0.60).
Conclusion:
Patients with insulin-dependent diabetes had a higher risk of 30-day postoperative mortality. Non-insulin-dependent diabetes was not significantly associated with mortality. Further research is warranted to identify strategies that may reduce mortality risk.

A26

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Spinal Anesthesia and its Association with Deep Vein Thrombosis following Intertrochanteric Fracture Repair: A Retrospective Cohort Study

Intertrochanteric fractures are common in the elderly and often require surgical fixation. While both general and spinal anesthesia are widely used for operative management, their effect on postoperative outcomes such as DVT remains unclear. This study sought to assess the relationship between anesthesia modality and DVT occurrence in patients who underwent an intertrochanteric fracture repair.

The study was performed using the National Surgical Quality Improvement Program (NSQIP) database of open treatment of femoral fractures between the trochanters, occurring between 2010-2022. Inclusion criteria was age >18 years. Patients were divided into two cohorts based on if they underwent general or spinal anesthesia. The primary outcome was procedure-related complications such as DVT, myocardial infarction, sepsis, septic shock, pneumonia, and pulmonary embolism, renal injury, wound disruption, and urinary tract infection. Potential confounders included demographics (age, sex, race, ethnicity), baseline health status (BMI, smoking status, history of diabetes, immunosuppressive therapy). Univariate analyses were performed to assess differences between the two cohorts. Multivariable regression analysis adjusted for confounders, was performed to assess the relationship between anesthesia modality and procedure outcomes.

During the study period, 127,125 patients underwent this surgery. 92,624 patients received general anesthesia, whereas 25,570 patients underwent spinal anesthesia. The most common demographics are: 80+ y/o, female, white, non-Hispanic, normal BMI, ASA class 3, non-smokers, non-diabetics, and not on immunosuppressive therapy. On multivariate regression analysis, patients who received spinal anesthesia, rather than general anesthesia, had 22% lower odds (95% CI: 0.67-0.90; $p<0.001$) of DVT.

Patients undergoing a repair of an intertrochanteric fracture who received spinal anesthesia may have decreased risk of a DVT than those receiving general anesthesia.

A27

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Impact of Psoriatic Arthritis on Same-Admission Reoperation Following Total Hip Arthroplasty

Introduction:
Total hip arthroplasty (THA) is generally a safe and effective procedure for patients with hip joint arthritis, but complications can sometimes require reoperation. Psoriatic arthritis (PsA), a chronic inflammatory disorder, may increase the risk of surgical complications and subsequent reoperation. This study evaluates the incidence of same-admission reoperation, including revision THA or debridement, in patients with PsA compared to those with osteoarthritis (OA).
Materials and Methods:
We queried the National Inpatient Sample database to identify THA cases performed between 2010 and 2021. The study cohort was divided into two groups: patients with PsA and those with OA. The primary outcome assessed was the occurrence of same-admission reoperation, defined as revision procedures and/or debridement. Univariate analysis was performed to examine differences in baseline characteristics, comorbidities, and reoperation rates. Multivariable regression models were used to adjust for demographic factors, comorbidities, and hospital characteristics to determine the odds of same-admission reoperation.
Results:
A total of 665,008 THA cases were included, with 7,367 (1.1%) diagnosed with PsA. The majority of patients were aged 60-69 years, female, White, and had Medicare insurance. Most procedures were performed in large, urban teaching hospitals, and private not-for-profit institutions. Patients with PsA were more likely to experience a same-admission reoperation compared to those with OA (20% vs. 18%, $p<0.001$). After adjusting for confounders, patients with PsA had 1.07 times higher (OR: 1.01-1.14, $p<0.001$) odds of undergoing a same-admission reoperation compared to those with OA.
Conclusion:
Patients with PsA undergoing THA are at significantly higher risk for same-admission reoperation compared to those with OA. These findings suggest that PsA may contribute to poorer surgical outcomes, necessitating closer monitoring and early intervention.

A28

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Spinal Anesthesia and its Association with Postoperative Complications for Intertrochanteric Fracture Repair; A Retrospective Cohort Study

Intertrochanteric fractures are common in the elderly and often require surgical fixation. While both general and spinal anesthesia are widely used for operative management, their effect on postoperative outcomes remains unclear. This study sought to assess the relationship between anesthesia modality and the occurrence of procedure-related complications (PRC) in patients who underwent an intertrochanteric fracture repair. The study used the National Surgical Quality Improvement Program (NSQIP) database of open treatment of femoral fractures between the trochanters, occurring between 2010-2022. Inclusion criteria was age >18 years. Patients were divided into two cohorts based on if they underwent general or spinal anesthesia. The primary outcome was procedure-related complications such as myocardial infarction, sepsis, septic shock, pneumonia, and pulmonary embolism, renal injury, deep vein thrombosis, urinary tract infection, and wound disruption. Potential confounders included demographics (age, sex, race, ethnicity), baseline health status (BMI, smoking status, history of diabetes, immunosuppressive therapy). Univariate analyses assessed cohort differences. Multivariable regression analysis adjusted for confounders, was performed to assess the relationship between anesthesia modality and procedure outcomes. During the study period, 127,125 patients underwent this surgery. 92,624 patients received general anesthesia, whereas 25,570 patients underwent spinal anesthesia. The most common demographics are: 80+ y/o, female, white, non-hispanic, normal BMI, ASA class 3, non-smokers, non-diabetics, and not on immunosuppressive therapy. On multivariate regression analysis, patients who received spinal anesthesia, rather than general anesthesia, had 13% lower odds (95% CI: 0.84-0.89; $p<0.001$) of PRC [table 2]. Patients undergoing a repair of an intertrochanteric fracture who received spinal anesthesia may have decreased PRC risk than those receiving general anesthesia.

A29

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The Top 100 U.S. Orthopaedic Hospitals Demonstrate Regional Heterogeneity and Inconsistent Reporting of Medicare Severity Diagnosis Related Group Codes for Cervical and Thoracolumbar Spinal Fusion

Here is a slightly shortened version to ensure you stay safely under the 2000 character limit:
The United States healthcare system has the highest per capita expenditure globally, yet price transparency remains inconsistent despite federal mandates. In 2021, the Centers for Medicare and Medicaid Services required hospitals to publish machine readable chargemasters and standardized pricing data, including Diagnosis Related Group classifications, to promote transparency and reduce cost variability. Prior studies have shown inconsistent compliance among orthopaedic institutions. We evaluated compliance among the top 100 orthopaedic hospitals ranked by US News and World Report for 2021 to 2022.
This cross sectional study reviewed publicly available chargemaster files for inclusion of Medicare Severity Diagnosis Related Group codes related to thoracolumbar and cervical spinal fusion. Codes included spinal fusion with and without major complication or comorbidity. Charges were categorized as gross standard, insurance negotiated, or variable. Regional patterns were analyzed.
Of 100 hospitals, 98 provided machine readable files, but 24 were not analyzable due to technical limitations, leaving 74 institutions. Inclusion of Diagnosis Related Group codes ranged from 38 to 50 hospitals depending on code. Mean gross standard charges varied widely. Thoracolumbar fusion with major complication had a mean of 262,694 dollars and ranged from 50,043 to 647,644 dollars. Cervical fusion with major complication ranged from 20,895 to 674,716 dollars, up to a 32 fold difference. The Northeast showed the lowest compliance and least uniform reporting.
Despite federal mandates, significant regional heterogeneity and extreme price variation persist among leading orthopaedic hospitals. Greater standardization of Diagnosis Related Group reporting may improve meaningful price comparison and support informed patient decision making.

A30

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Impact of Chronic Obstructive Pulmonary Disease on Readmission and Reoperation Following Revision Shoulder Arthroplasty

Background:
Revision total shoulder arthroplasty addresses complications from prior total shoulder arthroplasty, such as implant loosening, infection, and joint instability, and is associated with high complexity and risk. With the demand of revision total shoulder arthroplasty (TSA) projected to outpace primary total shoulder arthroplasty by 2060, understanding predictors of complications is warranted. Chronic obstructive pulmonary disease (COPD), a condition affecting millions in the United States, has been linked to worse outcomes in orthopaedic surgeries. However, its impact on revision TSA has not been studied. This study evaluates the impact of COPD in postoperative complications following revision TSA.
Methods:
The American College of Surgeons National Surgical Quality Improvement Program (ACS-NSQIP) database was queried to identify patients who had undergone revision TSA between 2013 and 2022, excluding emergent cases. Univariate analyses were conducted to compare baseline demographics, health status, and postoperative complications between patients with and without COPD. Multivariable logistic regression analyses, adjusting for baseline demographic factors and health status, were used to assess COPD as an independent risk factor associated with postoperative outcomes such as unplanned readmission and unplanned reoperation.
Results:
The study population consisted of 2,076 patients undergoing revision TSA, including 151 with COPD and 1,925 without COPD. COPD was associated with significantly higher odds of unplanned readmissions (OR: 2.22, 95% CI: 1.10 - 4.85, $p = 0.026$), and unplanned reoperations (OR: 2.61, 95% CI: 1.20 - 5.69, $p = 0.016$) within 30 days.
Conclusions:
COPD significantly increases the risk of procedure-related complications, unplanned readmissions, and reoperations following revision TSA. These findings highlight the need for targeted perioperative management and risk stratification strategies to optimize outcomes for this population.

A31

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Spinal Anesthesia and its Association with Wound Disruption for Intertrochanteric Fracture Repair: A Retrospective Cohort Study

Introduction:
Intertrochanteric fractures are common in the elderly and often require surgical fixation. While both general and spinal anesthesia are widely used for operative management, their effect on postoperative outcomes such as wound disruption remains unclear. This study sought to assess the relationship between anesthesia modality and the wound disruption in patients who underwent an intertrochanteric fracture repair.
Methods:
The study was performed using the National Surgical Quality Improvement Program (NSQIP) database of open treatment of femoral fractures between the trochanters, occurring between 2010-2022. Inclusion criteria was age >18 years. Patients were divided into two cohorts based on if they underwent general or spinal anesthesia. The primary outcome was procedure-related complications such as wound disruption, myocardial infarction, sepsis, septic shock, pneumonia, pulmonary embolism, renal injury, and urinary tract infection. Potential confounders included demographics, baseline health status. Univariate analyses were performed to assess differences between the two cohorts, while multivariable regression analysis assessed the relationship between anesthesia modality and procedure outcomes.
Results:
During the study period, 127,125 patients underwent this surgery. 92,624 patients received general anesthesia, whereas 25,570 patients underwent spinal anesthesia. The most common demographics are: 80+ y/o, female, white, non-hispanic, normal BMI, ASA class 3, non-smokers, non-diabetics, and not on immunosuppressive therapy. On multivariate regression analysis, patients who received spinal anesthesia, rather than general anesthesia, had 55% lower odds (95% CI: 0.20-0.90; p=0.035) of wound disruption [table 2].
Conclusion:
Patients undergoing a repair of an intertrochanteric fracture who received spinal anesthesia may have decreased risk of a wound disruption than those receiving general anesthesia.

A32

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Spinal Anesthesia and its Association with Reoperation Likelihood Following Intertrochanteric Fracture Repair: A Retrospective Cohort Study

Introduction:
Intertrochanteric fractures are common in the elderly and often require surgical fixation. While both general and spinal anesthesia are widely used for operative management, their effect on postoperative outcomes, particularly the risk of reoperation, remains unclear. This study sought to assess the relationship between spinal anesthesia and unplanned reoperation in patients who underwent an intertrochanteric fracture repair.
Methods:
The study was performed using the National Surgical Quality Improvement Program (NSQIP) database of open treatment of femoral fractures between the trochanters, occurring between 2010-2022. Inclusion criteria was age ≥18 years. Patients were divided into two cohorts based on if they underwent general or spinal anesthesia. The primary outcome was 30-day unplanned
reoperation. Potential confounders included demographics such as age and sex, and baseline health status like BMI and smoking status. Univariate analyses were performed to assess differences between the two cohorts, while multivariable regression analysis adjusted for confounders assessed the relationship between anesthesia modality and 30-day unplanned reoperation.
Results:
During the study period, 127,125 patients underwent this surgery. 92,624 patients received general anesthesia, whereas 25,570 patients received spinal anesthesia. The most common demographics were: older than 80 years old, female, white, non-Hispanic, normal BMI, ASA class 3, non-smokers, non-diabetics, and not on immunosuppressive therapy. On multivariable
regression analysis, patients who received spinal anesthesia, compared to general anesthesia, had 11% lower odds (95% CI: 0.80-1.00; p=0.048) of undergoing an unplanned reoperation [table 2].
Conclusion:
Patients undergoing a repair of an intertrochanteric fracture who received spinal anesthesia may have decreased risk of an unplanned reoperation than those receiving general anesthesia.

A33

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Obstructive Sleep Apnea is Associated with Increased Risk of Procedure-Related and Hospital-Acquired Complications in Patients Undergoing Elective Spine Procedures

Introduction
The increasing volume of spine procedures in the United States has intensified efforts to identify risk factors for adverse surgical outcomes. Obstructive sleep apnea (OSA) is a recognized perioperative risk factor across surgical fields, yet its effect on postoperative complications in elective spine surgery remains incompletely defined. This study evaluated the impact of OSA on postoperative complications following elective spine procedures.
Methods
We performed a retrospective cohort study using the National Inpatient Sample (2010-2021). Patients were identified using ICD-9/10 procedure codes for spinal fusion, laminectomy, or discectomy. Patients undergoing non-elective surgery, interfacility transfer, or emergency department admission were excluded. Patients were stratified by OSA status. Confounders included age, race, sex, smoking history, Elixhauser comorbidity index, hospital size, insurance status, and hospital control, location, and teaching status. Univariate analysis and multivariable logistic regression were used to assess associations with procedure-related and hospital-acquired complications
Results
Among 1,090,857 patients, 96,480 (8.8%) had OSA. Patients with OSA had higher rates of procedure-related complications (5.0% vs. 3.4%) and hospital-acquired complications (10.0% vs. 7.1%). On multivariable analysis, OSA was independently associated with increased odds of procedure-related complications (OR 1.17, 95% CI 1.13-1.21, $p<0.001$) and hospital-acquired complications (OR 1.27, 95% CI 1.23-1.30, $p<0.001$). Additional predictors included higher comorbidity burden, Medicare insurance, and treatment at larger hospitals.
Conclusion
OSA is independently associated with higher risk of perioperative complications following elective spine procedures. These findings highlight the importance of perioperative risk stratification and suggest that improved screening and optimization of patients with OSA may reduce postoperative morbidity.

A34

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National Analysis of Hospital Charges and Length of Stay in Patients with Obstructive Sleep Apnea After Elective Spinal Fusion and Decompression

Background
The increasing volume of spine procedures in the United States has heightened interest in factors leading to prolonged hospitalization and rising healthcare costs. Obstructive sleep apnea (OSA) is a recognized perioperative risk factor, yet its impact on resource utilization in elective spine surgery remains underexplored. This study assessed the association of OSA with hospital length of stay (LOS) and total charges following elective spine procedures.
Methods
The National Inpatient Sample (2010-2021) was used to identify patients undergoing spine procedures (fusions, laminectomies, and discectomies) via ICD-9/10 codes, excluding non-elective admissions, interfacility transfers, and emergency department admissions. Patients were stratified by OSA status. Univariate analysis and multivariable linear regression assessed associations between OSA and two outcomes: LOS and total hospital charges (inflation-adjusted), with adjustments for age, sex, race, smoking, Elixhauser Comorbidity Index, insurance status, and hospital size, control, and teaching status. Marginal means were used to interpret effect size.
Results
Of 1,090,857 patients included, 96,480 (8.8%) had OSA. Patients with OSA had longer LOS (3.63 vs. 3.09 days, $p<0.001$) and higher total charges ($107,149 vs. $94,260, $p < 0.001$). After adjustment, OSA was associated with increased LOS ($\hat{I}^2 = 0.09$, 95% CI 0.08-0.09, $p<0.001$) and higher charges ($\hat{I}^2 = 0.10$, 95% CI 0.09-0.10, $p<0.001$). Marginal means showed a 9.1% increase in LOS ($\exp(\hat{I}^2) = 1.091$, 95% CI 1.087-1.095) and a 10.3% increase in hospital charges ($\exp(\hat{I}^2) = 1.103$, 95% CI 1.099-1.107). High comorbidity burden and rural hospitals were also significant predictors of resource use.
Conclusion
OSA is independently associated with longer hospital stays and higher inpatient costs following elective spine procedures. These findings warrant preoperative risk stratification and resource optimization in patients with OSA as value-based care models expand.

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Obstructive Sleep Apnea Is Associated with Increased Risk of Non-Routine Discharge Following Elective Spine Surgery

Introduction
Increased US spinal procedure volume has intensified interest in factors influencing postoperative care. While obstructive sleep apnea (OSA) is a known perioperative risk, its impact on post-acute care transitions after elective spine surgery remains unclear. This study examined whether OSA is associated with increased likelihood of non-routine discharge following elective spine procedures.
Methods
We performed a retrospective cohort study using the National Inpatient Sample (2010 - 2021). Adult patients undergoing elective spine surgery were identified using ICD-9 and ICD-10 procedure codes. Patients were excluded if surgery was non-elective, if admitted through the emergency department, or if transferred from another acute care facility. Patients were stratified by OSA status. The primary outcome was discharge disposition (home vs. non-routine). Univariate analyses and multivariable logistic regression were used to assess the association between OSA and discharge disposition, adjusting for age, sex, race, comorbidity burden, insurance, and hospital characteristics.
Results
Among 1,090,857 patients, 96,480 (8.8%) had OSA. Non-routine discharge was more common among patients with OSA than those without (36% vs. 26%, $p < 0.001$). After adjustment, OSA remained independently associated with higher odds of non-routine discharge (OR 1.34, 95% CI 1.32 - 1.36, $p<0.001$). Additional strong predictors included advanced age (OR for age $\geq$75: 5.30, 95% CI 5.13 - 5.49, $p<0.001$), high comorbidity burden (OR 2.06, 95% CI 2.03-2.08, $p<0.001$), and Medicaid or Medicare insurance. Treatment at large hospitals was associated with increased odds of non-routine discharge, while rural or urban non-teaching hospitals were associated with reduced odds.
Summary
OSA is a significant independent predictor of non-routine discharge following elective spine surgery, suggesting opportunities exist to improve perioperative planning or manage patient expectations.

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Trends in US Adult Supplement Use for Bone Health in the Past Decade

Introduction: Musculoskeletal pain is common in the U.S. with ~37 million annual hospital visits; additionally, according to the US Centers for Disease Control and Prevention (CDC), almost 15 million Americans live with arthritis-related joint pain. Supplements such as vitamin D, calcium, and vitamin K have been shown to lower pain in the bones.
Hypothesis: Supplements are used less by males, minorities, and younger people.
Methods: This retrospective cohort study used the National Health, and Nutrition Examination Survey (NHANES) data, specifically from the years 2009/10 through 2015/16. This survey collects information on the health and nutrition of the U.S population. Participants are sampled intentionally and the sample is nationally representative. We analyzed vitamin D, calcium, and vitamin K use as well as more general information from questions on whether respondents take supplements for healthy joints or bone health. Supplement use was stratified by sex, race/ethnicity (White, Black, Mexican American, Other Hispanic, Other), and age (20-39, 40-64, ≥65). Use between groups was assessed by Chi2-tests with $p<0.05$ considered statistically significant. Analyses were performed using R.
Results: In 2015-2016 calcium was used by 49.7% of males and 59.8% of females; this was 49.7% versus 61.1% for vitamin D, and 5.5% versus 11.0% for supplements for bone health (all $p<0.05$). There were no sex differences in terms of the use of vitamin K or supplements for healthy joints. Regarding race/ethnicity, the highest use of supplements was seen for White respondents (65.2% calcium, 65.6% vitamin D, 34.7% vitamin K); this was 43.3%, 45.0%, and 23.5% for Black respondents, respectively; all $p<0.05$. Regarding age, the highest use of supplements was seen (as expected) in those aged ≥65; $p<0.05$.
Conclusion: Supplements for bone and joint health are less often used by males, various minority groups, and younger patients.

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Impact of Severity of Allergy to Beta-lactam Antibiotics on the Perioperative Use of Cephalosporins and Revision Rates following Total Shoulder Arthroplasty

Prosthetic joint infection (PJI) after total shoulder arthroplasty (TSA) is a devastating complication. Cephalosporins are considered the standard of care for antibiotic prophylaxis during TSA procedures;however, reported Î²-lactam allergies may result in the use of less effective alternatives. The aim of this study is to evaluate the relationship between reported Î²-lactam allergies, antibiotic choice, and revision rates in TSA.

A retrospective review was conducted on TSA procedures performed at a single institution between 2015-2025. Information was collected regarding reported allergies to antibiotics including allergy severity and specific reactions. Additionally, all antibiotics administered during the procedures, intraoperative reactions to administered antibiotics, surgical complications, and subsequent revision procedures were collected.

Data from 4,232 TSAs were collected. 23% of patients had a reported antibiotic allergy and 15% had a Î²-lactam allergy. Cephalosporins were administered in 94% of all TSAs, but use declined with increasing Î²-lactam allergy severity, dropping from 90% in mild cases to 44% in severe cases, with corresponding increases in clindamycin and vancomycin use. Higher allergy severity predicted reduced cephalosporin use and increased alternative antibiotic use. Lack of cephalosporin prophylaxis was associated with increased all-cause revision odds.

The severity of reported Î²-lactam allergies strongly influences perioperative antibiotic selection despite evidence that most reported allergies are unreliable, unnecessarily increasing patient risk for PJI. Lack of cephalosporin prophylaxis was associated with increased revision rates, underscoring the clinical and economic value of appropriate antibiotic use. Given the high prevalence of mislabeled Î²-lactam allergies, established delabeling strategies using allergy testing or test-dosing in the operating room may offer a safe and effective means to increase first-line antibiotic use.

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Regional Anesthesia Reduces Operation Time in Acromioclavicular Joint Reconstruction

Introduction: Acromioclavicular joint separations are common shoulder injuries in athletes, with surgical reconstruction being indicated for more severe injuries based on the Rockwood classification system. This study evaluated the relationship between anesthesia type and operation time in acromioclavicular joint reconstruction and provides insights to maximizing patient outcomes post operation.
Methods: A retrospective cohort study was conducted using the National Surgical Quality Improvement Program (NSQIP) database, filtering for patients undergoing ACR between 2011- 2022 aged ≥18 years. Anesthesia was subdivided into two categories: General and Regional. Primary outcome was the length of the operation in minutes. Confounders considered during analysis included basic demographics, baseline health status, and procedure characteristics. Differences in the anesthesia cohort were analyzed through univariate analysis and the relationship between regional anesthesia and duration of operation was further analyzed through a multivariable regression, adjusting for confounders.
Results: This study identified 12,296 cases of ACR. Within the anesthesia subtypes, there were 11,671 and 316 individuals in general and regional anesthesia cohorts, respectively. White, non-Hispanic males aged 18-39 with independent functional status, ASA class 2, obesity, no smoking, no diabetes, or immunosuppressive therapy predominated in both anesthesia subtypes [Table 1]. The adjusted multivariable regression indicated that when compared to general anesthesia, regional anesthesia (-0.20; 95% Cl -0.27 to -0.13; $p<0.001$) cohort demonstrated a reduction in the time for the procedure to occur [Table 2].
Conclusion: Regional anesthesia use in ACR was associated with reduced operation times. These findings indicate a benefit of using regional anesthesia that should be considered to improve patient outcomes following ACR
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BMI Category and Need for Postoperative Transfusions Following Acromioclavicular Joint Reconstruction

Introduction: Acromioclavicular joint separations are common shoulder injuries in athletes, with surgical reconstruction being indicated for more severe injuries based on the Rockwood classification system. This study evaluated the relationship between BMI groups and the need for post operative transfusions in patients undergoing Acromioclavicular Joint Reconstruction (ACR).
Methods: A retrospective cohort study was conducted using the National Surgical Quality Improvement Program (NSQIP) database, filtering for patients undergoing ACR between 2011- 2022 aged ≥18 years. BMI was subdivided into four categories: Normal, Obese, Overweight, and Underweight. The primary outcome was the need for postoperative transfusions. Confounders considered during analysis included basic demographics (BMI, race, sex), baseline health status, and procedure characteristics. Differences in the BMI cohorts were analyzed through univariate analysis, and the relationship between BMI and need for postoperative transfusion was further analyzed through a multivariable regression, adjusting for confounders.
Results: The study identified 12,296 cases of ACR. Within the BMI subtypes, there were 1,966, 5,221, 4,430, and 167 individuals in the normal, obese, overweight, and underweight categories, respectively. White, non-Hispanic males aged 18-39 with independent functional status, ASA class 2, no smoking, no diabetes, or immunosuppressive therapy predominated in all subtypes, except obesity where aged 50-59 years predominated [Table 1]. The adjusted multivariable regression indicated that when compared to normal BMI, obese (OR:0.15; 95% Cl: 0.06 to 0.36; $p<0.001$) and overweight (OR: 0.38; 95% Cl:0.17 to 0.85; $p = 0.020$) cohorts demonstrated a significantly decreased need for a postoperative transfusion [Table 2].
Conclusion: Individuals with overweight and obese BMIs were shown to have a reduced need for post operative transfusions when undergoing ACR.

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BMI Category and Length of Stay Following Acromioclavicular Joint Reconstruction

Introduction: Acromioclavicular joint separations are common shoulder injuries in athletes, with surgical reconstruction being indicated for more severe injuries based on the Rockwood classification system. This study evaluated the relationship between BMI groups and length of stay in patients undergoing Acromioclavicular Joint Reconstruction (ACR).
Methods: A retrospective cohort study was conducted using the National Surgical Quality Improvement Program (NSQIP) database, filtering for patients undergoing ACR between 2011-2022 aged ≥18 years. BMI was subdivided into four categories: Normal, Obese, Overweight, and Underweight. The primary outcome was the length of stay post ACR. Confounders considered during analysis included basic demographics (age, sex, race, ethnicity), baseline health status, and procedure characteristics. Differences in the BMI cohorts were analyzed through univariate analysis, and the relationship between BMI and length of stay was further analyzed through a multivariable regression, adjusting for confounders.
Results: The study identified 12,296 cases of ACR. Within the BMI subtypes, there were 1,966, 5,221, 4,430, and 167 individuals in the normal, obese, overweight, and underweight categories respectively. White, non-Hispanic males aged 18-39 with independent functional status, ASA class 2, no smoking, no diabetes, or immunosuppressive therapy predominated in all subtypes, except obesity where aged 50-59 years predominated. The adjusted multivariable regression indicated that when compared to normal BMI, obese and overweight cohorts had a shorter length of stay while the underweight cohort had a longer length of stay.
Conclusion: Individuals with overweight and obese BMIs were shown to have a shorter length of stay when undergoing ACR while underweight individuals had a longer length of stay. This suggests more significant complications or slower recovery due to malnutrition in patients undergoing ACR.