

A1

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Functional Gastrointestinal Disorder and Emetophobia Misdiagnosed as Anorexia Nervosa - A Case Report

Functional Gastrointestinal Disorders (FGIDs) are disorders of brain-gut interaction, characterized by altered motility, visceral hypersensitivity, gut microbiota dysregulation, immune dysfunction, and central nervous system (CNS) processing abnormalities. Emetophobia, an intense fear of vomiting, is associated with avoidant/restrictive food intake disorder (ARFID) and shares clinical features with anxiety, depression, and obsessive-compulsive disorder (OCD), complicating diagnosis. The brain-gut axis, modulated by serotonin (5HT), the vagus nerve, inflammatory cytokines, and gut microbiota-derived metabolites, plays a critical role in FGID pathophysiology and psychiatric comorbidities.

A 24-year-old Hispanic female with OCD, depression, and anxiety presented with a three-year history of progressive food restriction, weight loss (38 lbs in three months), BMI of 16.4, and malnutrition. Despite initial concerns for anorexia nervosa, she lacked body image disturbance and reported fear-driven dietary restriction due to postprandial vomiting and diarrhea. Gastrointestinal (GI) workup, including imaging, serum studies, and biopsies, was unremarkable. She was diagnosed with FGID (intestinal motility disorder) and comorbid emetophobia.

Management included pantoprazole 40 mg daily, ondansetron 4 mg IM PRN, sertraline 50 mg daily, clonazepam 0.25 mg daily, and structured psychotherapy. She exhibited significant improvement over two weeks and was discharged. At one-month follow-up, she gained 28 lbs (BMI 20.1) with resolution of FGID symptoms.

This case highlights the diagnostic challenge of differentiating FGIDs and emetophobia from primary eating disorders. The bidirectional brain-gut axis underscores the intersection of FGIDs and psychiatric disorders, necessitating a multidisciplinary approach for accurate diagnosis and effective treatment. Addressing both GI and psychiatric components is critical to preventing misdiagnosis and optimizing clinical outcomes.

A2

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Monitored Anesthetic Care is Associated with Shorter Length of Hospital Stay Following Total Hip Arthroplasty

Introduction: In the U.S., more than 450,000 total hip arthroplasties (THA) are performed each year. Anesthesia is an essential component of surgery; various modalities may differentially affect postoperative outcomes. The goal of this study was to assess anesthesia modality as a potential risk factor for increased hospital length of stay (LoS).

Methods: A retrospective cohort study was performed using the American College of Surgeons (ACS) National Surgical Quality Improvement Program (NSQIP) database. Cases involving primary THA performed between 2012-2020 were identified. Patients were assigned to cohorts based on anesthesia modality: monitored anesthesia care (MAC)/intravenous (IV) sedation or general anesthesia (GA). The primary outcome was hospital LoS. Potential confounders include patient demographics, baseline health status, and surgical parameters. Cohort differences were characterized using univariate analyses. Multivariable regression analysis adjusting for confounders was used to assess the effects of anesthesia modality on procedure-related complications.

Results: The analysis included 173,668 patients who underwent THA, with 40,408 (23.3%) receiving MAC/IV sedation and 133,260 (76.7%) receiving GA. In the GA group, the mean LoS was 2.16 days (SD 2.25). In the MAC/IV sedation group, the mean LoS was 2.69 days (SD 2.94). In both cohorts, the highest proportion of patients were aged 60-69 years, female, obese, White, non-Hispanic, ASA classification of 2, clean wounds, non-smokers, no immunosuppressive therapy, without diabetes, designated as elective cases, and had independent functional status prior to surgery. On multivariable regression analysis, MAC/IV Sedation compared to general anesthesia was associated with 0.835 times odds (95% CI 0.827 to 0.844; $p < 0.001$) of having longer LoS.

Conclusion: Compared to patients receiving GA, those receiving MAC/IV for THA had lower risk of longer hospital length of stay.

A3

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Incidence and Risk Factors of Revision Surgery in Patients Undergoing Endoscopic Lumbar Discectomy

Lumbar disc herniation is a common cause of lower back pain, with endoscopic lumbar discectomy emerging as a preferred treatment due to its minimally invasive nature. Despite high success rates, 5%-15% of patients require revision surgery, yet the factors contributing to reoperation remain poorly understood. This retrospective study analyzed 392 patients who underwent single or multi-level endoscopic discectomy between 2020 and 2023, comparing revision (n=47) and non-revision (n=345) groups. Patient demographics, smoking status, body mass index (BMI), preoperative radiographic parameters (Pfirrmann disc degeneration, Modic changes), surgical levels, and patient-reported outcomes (VAS Leg, VAS Back, ODI) were assessed.

Key findings include a significantly higher revision risk for patients who underwent three-level discectomies ($p=0.001$) and those whose index surgery involved the L3-4 level, with a 1.8-fold increased likelihood of revision ($p=0.049$). While smoking status trended higher in the revision group, this difference was not statistically significant. Notably, preoperative VAS Leg scores were significantly higher in the revision group ($p=0.0084$), suggesting greater baseline radicular pain as a predictor of surgical failure. Although the revision group also had higher preoperative VAS Back and ODI scores, these differences did not reach statistical significance.

Neither preoperative Pfirrmann grades nor Modic changes were predictive of revision, despite their established association with recurrent disc herniation. At six months post-revision surgery, VAS Leg and Back scores improved, though they remained higher than those of non-revision patients following their index procedures. These results highlight the multifactorial nature of revision risk, emphasizing the need for careful patient selection and consideration of surgical level and symptom severity to optimize outcomes.

A4

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Unintentional Weight Loss is Associated with Higher Risk of Mortality Among Patients Undergoing Surgery for Distal Radius Fractures

INTRODUCTION

Unintentional weight loss may be a sign of chronic disease, malnourishment, and/or other pathology. This study sought to assess the relationship between unintentional weight loss and 30-day mortality among patients who received ORIF for distal radius fracture (DRF).

METHODS

A retrospective cohort study using NSQIP was performed involving patients who underwent ORIF for DRF between 2012 and 2020. The primary exposure, unintentional weight, was defined as >10% loss of body weight within 6-months preceding the surgical procedure. Patients with and without unintentional weight loss were assigned to two different cohorts. Potential confounders were basic demographics, baseline health status, and surgical characteristics. Inclusion criteria was age <18 years. Univariate analyses employed chi-square testing to assess for cohort differences. Multivariable regression analysis adjusting for potential confounders was performed to assess unintentional weight loss as a risk factor for 30-day mortality.

RESULTS

28,685 patients received ORIF for DRF, of which 57 had unintentional weight loss. The highest proportion of patients in both cohorts had female sex, white race, non-Hispanic ethnicity, independent functional status, normal weight, non-smoking status and no diabetes. Also, most patients in both cohorts were admitted from home, received surgery on an elective basis, in an outpatient setting, and received general anesthesia. Patients with versus without unintentional weight loss had older age and higher ASA classification. On multivariable regression analysis adjusting for potential confounders, patients with versus without unintentional weight loss had 8.12 times higher odds of 30-day mortality.

CONCLUSION

Patients with compared to those without unintentional weight loss who undergo ORIF for DRF have a higher risk of mortality following surgery. Further studies into possible medical optimization strategies, may help to reduce mortality risks.

A5

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Comparative Outcomes between Monitored Anesthesia Care and General Anesthesia on Procedure-Related Complications for Distal Radius Fracture Surgery

Introduction

Understanding the impact of different anesthetic modalities on post-surgical outcomes is critical to maximize patient outcomes. This study compares complications among patients undergoing open reduction and internal fixation (ORIF) for distal radius fracture (DRF) under monitored anesthesia care (MAC) versus general anesthesia.

Methods

A retrospective cohort study was performed using NSQIP data (2012–2021) for patients ≥ 18 years undergoing ORIF for DRF. The primary exposure was anesthesia type, categorized by MAC or general. The outcome focused on complications, including mechanical complications, periprosthetic infection, myocardial infarction, sepsis, septic shock, pneumonia, pulmonary embolism, death and surgical wound infections. Demographics, baseline health status, and procedure characteristics (Table 1) were potential confounders. Univariate analyses with chi-squared testing were used to evaluate for cohort differences. Multivariable regression adjusting for potential confounders was performed to assess the impact of MAC on complications.

Results

Among 30,688 patients undergoing ORIF for DRF, 3,476 (11.3%) received MAC as their anesthetic modality. Both exposure groups were predominantly aged 60–69 years, female, White, non-Hispanic, with normal BMI, independent functional status, non-smoking habits, and no diabetes [Table 1]. Group procedure characteristics were also similar, where most patients were admitted from home, received an elective procedure, and obtained the surgery in an outpatient setting [Table 1]. Multivariate regression showed MAC was linked to significantly lower odds of complications (OR 0.44, 95% CI 0.21–0.82; $p=0.019$) compared to general anesthesia.

Conclusion

Patients receiving MAC when undergoing ORIF for DRF had a reduced risk of complications compared to those receiving general anesthesia. Future studies should investigate patient characteristics that favor MAC to further reduce complications and optimize patient outcomes.

A6

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Neuraxial Anesthesia is Associated with Decreased Length of Stay Following ORIF of Distal Radius Fracture

Introduction:

Although many anesthesia modalities are available for distal radius fracture repair, neuraxial anesthesia is potentially associated with improved surgical outcomes. The goal of this study was to determine the relationship between anesthesia modality and total length of stay among patients receiving open reduction and internal fixation (ORIF) of distal radius fracture.

Methods:

A retrospective cohort study using NSQIP data (2012–2021) analyzed ORIF patients receiving neuraxial or general anesthesia. Potential confounders were basic demographics (age, sex, race, ethnicity), baseline health status (functional status, ASA classification, BMI, smoking, diabetes), and procedure characteristics (admission source, in/out-patient setting, emergency case designation). Chi-square testing assessed differences between anesthesia modalities. Adjusted log-linear regression was performed to assess neuraxial anesthesia impact on total length of stay.

Results:

Of the 27,290 patients that underwent ORIF of distal radius fracture 78(0.3%) received neuraxial anesthesia. In both cohorts the highest proportion of patients were female, White, non-Hispanic, independent functional status, non-smokers, and non-diabetic, being admitted from home for elective surgery. Patients receiving neuraxial versus general anesthesia were more likely to be older (+80 vs. 60-69), have lower BMI (normal vs. obese), and be operated on in an inpatient setting [Table 1]. Log- linear analysis, adjusted for potential confounders, showed patients receiving neuraxial anesthesia had 0.41 times decreased rate ratio (95% CI 0.19 to 0.64; $p < 0.001$) of their length of stay compared to those receiving general anesthesia [Table 2].

Conclusion:

In ORIF for distal radius fracture procedures, patients administered neuraxial anesthesia have an expected length of stay 41% that of patients who received general anesthesia. Further studies may describe additional benefits of anesthesia modalities.

A7

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Preoperative Transfusion is Associated with Higher Risk of Discharge to an Institution Among Patients Undergoing Total Shoulder Arthroplasty

Introduction:

Medical optimization prior to surgery may involve preoperative blood transfusion, which could have associated complications. This study assesses the relationship between preoperative blood transfusion and discharge destination among patients who underwent total shoulder arthroplasty (TSA).

Methods:

A retrospective cohort study was performed using the National Surgical Quality Improvement Program (NSQIP) database of TSA cases occurring between 2012-2021. Inclusion criteria was ≥ 18 years. Preoperative transfusion, the primary exposure, was defined as transfusion of ≥ 1 unit of whole or packed red blood cells within 72 hours prior to operative start time. Patients were divided into two cohorts based on occurrence of preoperative transfusion. The primary outcome was defined as discharge to either home or an institution postoperatively. Potential confounders included basic demographics, baseline health status, and procedure characteristics. Univariate analyses assessed differences between the two cohorts. Multivariable regression, adjusted for confounders, assessed the relationship between preoperative transfusion and discharge destination.

Results:

During the study, 38,260 TSA patients included 87 (0.2%) who received preoperative transfusion. The majority in both cohorts were aged 70–79, female, White, non-Hispanic, independent in function, ASA class 3, obese, non-smokers, and non-diabetic [Table 1]. On multivariable regression analysis adjusting for potential confounding factors, patients with versus without preoperative transfusion had 4.77 times higher odds (95% CI 2.55 to 7.94; $p < 0.001$) of being discharged to an institution following TSA [Table 2].

Conclusion:

Compared to patients without, those with preoperative blood transfusion who undergo TSA have a higher risk of being discharged to an institution. Further studies on preoperative transfusion reasons and perioperative support may optimize patient outcomes.

A8

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Preoperative Transfusion is Associated with Higher Risk of Mortality Among Patients Undergoing Surgery for Femoral Shaft Fracture

Introduction:

Patients may require preoperative blood transfusion which may carry associated complications. This study sought to assess the relationship between preoperative transfusion and 30-day mortality among patients undergoing surgical fixation (SF) for femoral shaft fractures.

Methods:

A retrospective cohort study was performed using the NSQIP database involving cases of SF for femoral shaft fractures that occurred between 2012 and 2021. Patients 18 years and older were split into two cohorts depending on whether or not they received a preoperative transfusion ≥ 1 unit of whole or packed red blood cells in the 72-hour period prior to surgery. Potential confounders included basic demographics, health status, and procedure characteristics. Chi square tests identified cohort differences and multivariable regression adjusted for confounders to determine the impact of preoperative transfusion on 30-day mortality.

Results:

Among 6,812 cases of ORIF for femoral shaft fracture, 373 (5.48%) had preoperative transfusion. In both cohorts, the highest proportion of patients had age 80-89 years, White race, non-Hispanic ethnicity, female sex, normal BMI, no chronic immunosuppression, no diabetes, no smoking, ASA classification of 3, independent function status prior to surgery, and elective case designation. Also, most patients presented from home and received general anesthesia [Table 1].

On multivariable regression analysis adjusting for potential confounders, patients with versus without preoperative transfusion had 1.86 times higher odds (95% CI 1.22 to 2.80; $p=0.003$) of 30-day mortality following SF for femoral shaft fracture [Table 2].

Conclusion:

Patients who received preoperative transfusions had nearly double the risk of 30-day mortality following SF for femoral shaft fracture. Further studies into medical management may help to reduce mortality, especially among patients who must receive a transfusion during the preoperative period.

A9

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Unintentional Weight Loss is Associated with Higher Risk of Institutional Discharge Destination Among Patients Undergoing Surgery for Distal Radius Fractures

Introduction:

Unintentional weight loss is potentially associated with poor surgical outcomes. This study sought to assess the relationship between unintentional weight loss and institutional discharge destination among patients who received open reduction and internal fixation (ORIF) for distal radius fracture (DRF).

Methods:

A retrospective cohort study using NSQIP was performed involving patients who underwent ORIF for DRF between 2012 and 2020. The primary exposure, unintentional weight loss, was defined as >10% loss of body weight within 6-months preceding the surgical procedure. Patients with and without unintentional weight loss were assigned to two different cohorts. Potential confounders were basic demographics, baseline health status, and surgical characteristics. Inclusion criteria was age 18 years. Univariate analyses employed chi-square testing to assess for cohort differences. Multivariable regression analysis adjusting for potential confounders assessed unintentional weight loss as a risk factor for institutional discharge destination.

Results:

28,685 patients received ORIF for DRF, of which 57 (0.2%) had unintentional weight loss. The highest proportion of patients in both cohorts had female sex, white race, non-Hispanic ethnicity, independent functional status, normal weight, non-smoking status and no diabetes. Most patients in both cohorts were admitted from home, received surgery on an elective basis, in an outpatient setting, and received general anesthesia. Patients with unintentional weight loss had older age and higher ASA [Table 1]. On multivariable regression analysis adjusting for potential confounders, patients with unintentional weight loss had 2.94 times higher odds (95% CI 0.97 to 8.18; $p=0.048$) of being discharged to an institution [Table 2].

Conclusion:

Patients with compared to those without unintentional weight loss who undergo ORIF for DRF have a higher risk of being discharged to an institution following surgery.

A10

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Combined Dislocation of the Naviculocuneiform and Calcaneocuboid joints: A Case report and Review of the Literature

Case

A 37-year-old male presented to the emergency department after his right foot was run over by a construction lift resulting in traumatic dislocation of the naviculocuneiform and calcaneocuboid joints in addition to fracture of the fibula with associated ligamentous disruption. The patient underwent staged treatment with closed reduction and percutaneous pinning followed by open reduction and bridge plate fixation, achieving an excellent clinical outcome with extended follow-up of 34 months.

Methods

Review of the 14 case reports have been described in the literature and summarized in table 1. The injury mechanisms included crush injuries (n=3), high-speed traffic accidents (n=1), other traffic accidents (n=2), falls from a 2-foot stool (n=1) or 6 meters (n=1), sports injuries (n=1), tripping on a pothole (n=1), and motor vehicle accidents (n=2). Postoperative complications were reported in four cases, including surgical site infection (n=1), an osseous fragment adjacent to the N-C1 joint (n=1), and an infection necessitating incision and drainage with amikacin 50 mg every 12 hours for five days (n=1). At the final follow-up, post-traumatic arthritis was observed in two cases, and AOFAS scores were documented in four cases.

Conclusion

Combined dislocation of the naviculocuneiform and calcaneocuboid joints represents a rare and poorly described clinical entity. Joint reduction and temporizing stabilization followed by definitive fixation once soft-tissue trauma is improved can produce a favorable clinical result.

A11

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The Impact of History of Gastric Bypass History on Discharge Destination Following Total Hip Arthroplasty

Introduction: Literature has implicated obesity as a risk factor for complications following total hip arthroplasty (THA). Gastric bypass surgery (GBS), a common intervention for obesity, may impact postoperative outcomes including institutional discharge disposition, leading to higher costs and resource utilization within the healthcare system. This study explores the relationship between history of gastric bypass surgery and ins discharge disposition among patients undergoing THA.

Methods: A retrospective cohort study of THA cases from the National Inpatient Sample database (2010-2021) was conducted. Patients were categorized based on a history of gastric bypass, with discharge destination (institution vs. home) defined as the primary outcome. Univariate analyses were performed to compare cohorts. Multivariable regression was used to adjust for demographics (age, sex, race/ethnicity, insurance status), baseline health status (smoking status, Charlson Comorbidity Index, inflammatory arthritis, osteoporosis, hip fracture), and surgical facility characteristics (hospital size, hospital location/teaching status, hospital ownership status).

Results: Of 819,733 cases fulfilling study inclusion criteria, 10,160 (1.24%) had a history of GBS. A high proportion of patients among both cohorts were 60-69 years old, female gender, and White race/ethnicity. Many procedures were performed in large, private non-profit, and urban teaching hospitals. Compared to patients without history of GBS, those with history of GBS had 1.26 higher (95% CI: 1.20-1.32, $p<0.001$) odds of discharge to an institutional facility.

Discussion and Conclusion: Patients with a history of gastric bypass are more likely to be discharged to rehabilitation facilities following THA. Future studies may help develop tailored perioperative management for this patient population.

A12

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Serum Albumin May Predict Acute Kidney Injury Among Patients Undergoing Total Shoulder Arthroplasty

Introduction:

Serum albumin measurement is a low-cost test assessing nutritional status and organ function. It has been cited as a predictor of adverse surgical outcomes, morbidity, and mortality. This study examined the relationship between preoperative serum albumin levels and postoperative acute kidney injury (AKI) in total shoulder arthroplasty (TSA) patients.

Methods:

A retrospective cohort study was conducted using NSQIP data (2012-2021). Inclusion: age ≥ 18 years. Patients were grouped by preoperative albumin: severe hypoalbuminemia (<3 mg/dL), mild hypoalbuminemia (3-3.49 mg/dL), normal (3.5-4.49 mg/dL), and hyperalbuminemia (≥ 4.5 mg/dL). The primary outcome was AKI within 30 days postoperatively. Confounders included demographics (age, sex, race, ethnicity), baseline health (functional status, ASA class, BMI, smoking, diabetes, immunosuppressive therapy), and procedure characteristics (admission origin, surgical setting, anesthesia, transfusion, emergency designation). Univariate analyses assessed differences between cohorts, and multivariable regression examined the relationship between albumin and AKI.

Results:

Among 18,044 TSA patients, 13,744 had normal albumin, 1,055 mild hypoalbuminemia, 248 severe hypoalbuminemia, and 2,997 hyperalbuminemia. Most hypoalbuminemia and normal albumin patients were 70-79 years old, female, White, non-Hispanic, functionally independent, ASA class 3, obese, and had no smoking, diabetes, or immunosuppressive therapy. The hyperalbuminemia cohort had more patients aged 60-69, male, and ASA class <3 .

Adjusted multivariable regression showed severe hypoalbuminemia was associated with 3.90 times higher odds of AKI (95% CI 1.28-9.64; $p=0.007$) compared to normal albumin.

Conclusion:

TSA patients with severe hypoalbuminemia have an increased AKI risk. Further research on preoperative albumin management and perioperative support strategies may improve outcomes.

A13

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Title: Increased Postoperative Complications in Irritable Bowel Syndrome Patients Undergoing Primary Total Hip Arthroplasty: A Retrospective National Cohort Analysis

Introduction: Total hip arthroplasty (THA) is among the most common surgical procedures in the United States. Postoperative complications burden both patients and the healthcare system. This study assessed the relationship between irritable bowel syndrome (IBS) and postoperative outcomes in patients undergoing primary THA.

Methods: A retrospective cohort study was performed using the National Inpatient Sample database of primary THA cases from 2010 to 2021. The primary exposure was IBS diagnosis. Confounding variables included demographics (age, sex, race/ethnicity, insurance type), baseline health status (Charlson comorbidity index, smoking, inflammatory arthritis, osteoporosis, hip fracture), and surgical facility characteristics (hospital size, location/teaching status, ownership). The primary outcome was postoperative complications, including air embolism, blood incompatibility, falls/trauma, catheter-associated urinary tract infection, vascular-catheter-associated infection, poor glycemic control, acute kidney injury, blood loss anemia, and retained foreign objects. Univariate analyses assessed cohort differences, and multivariable regression identified complication risk in IBS patients.

Results: Our study identified 819,733 primary THA cases meeting inclusion criteria, of which 11,811 (1.44%) had IBS. Most patients in both cohorts were female, White, and had Medicare. Procedures were commonly performed in large, urban-teaching, private, non-profit hospitals. On multivariable regression, IBS patients had 1.04 times higher odds of postoperative complications (95% CI 1.00-1.09; $p < 0.05$) than non-IBS patients.

Discussion and Conclusion: IBS patients undergoing primary THA had a higher risk of hospital-acquired complications. Further research on risk stratification for THA candidates with IBS is needed to improve outcomes.

A14

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Regional Anesthesia is Associated with Lower Risk of Blood Transfusion in Total Hip Arthroplasty

Introduction:

Total hip arthroplasties (THA) place significant financial burden on the healthcare system that continues to increase with an aging population. The use of regional anesthesia (RA) for orthopedic procedures is a growing area of research that shows promise as an alternative to general anesthesia (GA). This study aimed to assess the effect of anesthesia modality on risk of blood transfusions among patients who underwent THA.

Methods:

The National Surgical Quality Improvement Program (NSQIP) database was queried for cases of primary THA performed between 2012 to 2020. The main exposure variable was anesthesia modality. Cases were divided into two cohorts: RA or GA. The primary outcome was transfusion and defined as occurring during the intraoperative or postoperative period and within 72 hours of incision. Potential confounders included basic demographics, baseline health status, and surgical parameters. Univariate analyses utilized chi square to identify cohort differences. Multivariable regression analysis controlling for confounding was used to assess anesthesia modality on odds of transfusion.

Results:

Of the 138,195 patients identified during the study period, 133,260 (96.4%) patients received GA, and 4,935 (3.5%) patients received RA. In both cohorts, the highest proportion of patients had age 60-69 years, female sex, obesity, White race, non-Hispanic ethnicity, and ASA class 2 [Table 1]. 208 (4.2%) of RA patients and 10,887 (8.2%) of GA patients received blood transfusion. On multivariable regression analysis adjusting for potential confounding, patients who had RA versus GA had 0.59 times lower odds (95% CI 0.51 to 0.69; $p < 0.001$) of receiving blood transfusion [Table 2].

Conclusions:

Patients who receive RA versus GA for THA have lower risk of blood transfusions. Further studies on strategies to minimize the need for blood transfusion among patients who require general anesthesia may reduce resource utilization and optimize outcomes.

A15

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Increased Postoperative Risks in Interstitial Lung Disease Patients Undergoing Total Hip Arthroplasty: A Retrospective National Cohort Analysis

Introduction: Total hip arthroplasty is among the most common surgical procedures in the U.S. Postoperative complications pose a burden on patients and the healthcare system. This study assessed the impact interstitial lung disease (ILD) on postoperative outcomes in patients undergoing primary total hip arthroplasty (THA).

Methods: A retrospective cohort study was performed using the National Inpatient Sample database (2010-2021) to identify primary THA cases. The primary exposure was ILD diagnosis. Confounding variables included demographics (age, sex, race/ethnicity, insurance type), baseline health status (Charlson comorbidity index, smoking, inflammatory arthritis, osteoporosis, hip fracture), and surgical facility characteristics (hospital size, hospital location/teaching status, ownership status). Outcomes included procedure-related complications, hospital-acquired complications, and admission mortality. Univariate analyses assessed differences between cohorts, and multivariable regression, adjusting for confounders, assessed postoperative risk.

Results: Among 819,733 THA cases meeting inclusion criteria, 1,320 (0.16%) had ILD. Many patients in both cohorts were female, White, and Medicare-insured. Procedures were commonly performed in large, urban-teaching, and private, non-profit hospitals. On multivariable regression, ILD patients had 2.16 times higher (95% CI 1.87-2.50; $p < 0.001$) odds of procedure-related complications, 1.28 times higher (95% CI 1.14-1.44; $p < 0.001$) odds of hospital-acquired complications, and 3.05 times higher (95% CI 1.74-5.34; $p = 0.001$) odds of admission mortality compared to non-ILD patients.

Conclusion: Patients with ILD undergoing THA had a higher risk of procedure-related complications, hospital-acquired complications, and admission mortality as compared with non-ILD counterparts. Further research on stratification strategies are needed to improve outcomes in this population.

A16

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Impact of Non-Alcoholic Fatty Liver Disease on Reoperation Risk Following Total Hip Arthroplasty

Total hip arthroplasty (THA) is among the most common invasive surgical procedures in the United States. Non-Alcoholic Fatty Liver Disease (NAFLD) is a prevalent metabolic disorder that may influence postoperative outcomes. This study aimed to evaluate the relationship between NAFLD on the risk of reoperation among patients undergoing total hip arthroplasty.

Methods:

A retrospective cohort study was conducted using the National Inpatient Sample database of primary THA occurring between 2010 and 2021. Patients were categorized based on the presence of NAFLD. The primary outcome was reoperation and admission mortality. Potential confounders included basic demographics (age, sex, race/ethnicity, insurance status), baseline health status (Charlson comorbidity index, smoking status, inflammatory arthritis, osteoporosis, hip fracture), and surgical facility characteristics (hospital size, location/teaching status, and ownership status). Univariate analyses were used to contrast cohort variations. Multivariable analysis were used to identify reoperation risk and admission mortality for patients with NAFLD undergoing THA. Adjusted odds ratios (ORs) and 95% confidence intervals (CIs) were reported.

Results:

Our study identified 819,733 patients who underwent THA and fulfilled inclusion criteria, 3,755 (0.46%) had NAFLD. The highest proportion of patients in both cohorts had were 60-69 years old, female, White, and Medicare insurance. A large proportion of the procedures occurred in a large, urban teaching, and private, non-profit hospitals. Multivariate regression analysis shows patients with NAFLD have 1.10 times higher (95% CI 1.01-1.21; $p=0.039$) odds of reoperation. There was no statistical significance in admission mortality ($p=0.106$).

Discussion and Conclusion:

Compared to patients without NAFLD, those with NAFLD who underwent THA had a higher risk of re-operative risk. Further research on risk mitigation for THA candidates with NAFLD is required to improve outcomes.

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Higher Costs and Prolonged Hospitalization in Patients with Prior Gastric Bypass Surgery Undergoing Primary Total Hip Arthroplasty: A National Database Analysis

Introduction: Total hip arthroplasty (THA) is one of the most commonly performed surgical procedures in the United States. Higher healthcare costs and longer hospital lengths of stay (LOS) can increase the burden on the healthcare system. This study aimed to assess the relationship between prior gastric bypass surgery (GBS) on length of stay and cost among patients who underwent primary THA.

Methods: A retrospective cohort study was performed using the National Inpatient Sample database of primary THA from 2010-2021. Primary exposure was history of GBS. Confounds were basic demographics (age, gender, race/ethnicity, insurance status), baseline health status (Charlson comorbidity index, smoking, inflammatory arthritis, osteoporosis, hip fracture), and facility characteristics (hospital size, location/teaching status, ownership). The primary outcomes studied were hospital LOS and cost. Univariate analyses assessed differences between cohorts. Multivariable log-linear regression was used to evaluate the association between prior GBS on LOS and admission cost among patients who underwent THA.

Results: Our study identified 819,733 cases of THA meeting inclusion criteria, of which 10,160 (1.24%) had prior GBS. Many patients in both cohorts were 60-69 y/o, female, White, and on Medicare. Most procedures were performed in large, urban-teaching and private, non-profit hospitals. On multivariable analysis, prior GBS patients had 1.04 times higher (95% CI: 1.03, 1.06; $p < 0.001$) odds of longer stays and 1.06 times higher (95% CI: 1.05, 1.07; $p < 0.001$) odds of higher costs compared to patients without GBS.

Discussion and Conclusion: Patients with prior GBS undergoing primary THA experience significantly longer hospital stays and higher admission costs compared to no prior GBS, even after adjusting for confounds. Future research should focus on preoperative risk stratification and targeted interventions to improve outcomes for THA candidates with prior GBS.

A18

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Learning Alongside Language Learning Models: Accuracy of ChatGPT for Literature Citations in Spinal Surgery

Background: AI tools like ChatGPT are increasingly used in orthopedic research, offering potential as research aids by referencing open-access sources. However, concerns about the legitimacy of AI-generated citations, due to frequent "hallucinations," persist. This study assesses the accuracy of citations generated by ChatGPT v3.5 and v4.0 for spinal surgery, evaluating the responsiveness to varying prompt specificity. Methods: In August 2024, three queries with increasing specificity were entered into ChatGPT v3.5 and v4.0, requesting outlines with 30 cited sources for seven spinal procedures: ACDF, PLIF, laminectomy, kyphoplasty, foraminotomy, disc replacement, and microdiscectomy. Citations were classified as existent or nonexistent, and a Chi-square analysis assessed differences in citation accuracy.

Results: A total of 420 citations were generated (210 for each language model). Nonexistent citations occurred in 27.1% of GPT-3.5 outputs and 44.3% of GPT-4.0 outputs ($p=.007$). Laminectomy had the highest rate of nonexistent citations (100% in GPT-4.0). ACDF showed a notable discrepancy, with GPT-4.0 producing three times as many nonexistent citations as GPT-3.5 (60% vs 20%; $p=.0015$). Hallucination rates for kyphoplasty, foraminotomy, disc replacement, and microdiscectomy were similar between the two models, but microdiscectomy showed a significant difference (23.3% vs 46.7%; $p=.05$). GPT-4.0 failed to generate any verifiable citations for laminectomy.

Conclusion: ChatGPT v3.5 and v4.0 vary in citation reliability, with GPT-4.0 showing a significantly higher hallucination rate. Nearly half of GPT-4.0's citations were nonexistent, and even valid sources were more often misattributed. Laminectomy was the most problematic, with GPT-4.0 failing to generate any verifiable sources. These findings emphasize the need for rigorous fact-checking, as ChatGPT-generated references are often unreliable, and should not be used without thorough human verification.

A19

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Age-Dependent Variation in Cytokine Type and Concentration in Knee Synovial Fluid Following Meniscal Injury

Purpose: To investigate the age-dependent variation in cytokine types and concentrations in knee synovial fluid following meniscal injury.

Methods: Patients undergoing arthroscopic knee surgery for isolated meniscal injury were prospectively enrolled between July 2011 and April 2024. Synovial fluid was aspirated from the operative knee and concentrations of 10 biomarkers were measured. Those at least 9 years following surgery were invited to complete patient-reported outcome (PRO) surveys. Multivariable linear regression assessed pairwise relationships between age at surgery, log-normalized biomarker concentrations, and PROs, while adjusting for relevant covariates. Conditional process analysis was used to further explore age-biomarker relationships with symptom duration as a moderator and baseline Outerbridge grade as a mediator.

Results: Moderator analysis found age to be positively associated with IL-6, VEG-F, and IL-1Ra in chronic meniscal injuries. Mediator analysis found an indirect positive relationship between age and MIP-B, VEGF, and MMP-3, and an indirect negative relationship between age and TIMP-1 and TIMP-2. Pre-operative TIMP-1 was positively associated with 10-year KOOS-PS and elevated in treatment responders.

Conclusion: Age at surgery was associated with higher concentrations of pro-inflammatory biomarkers and lower concentrations of anti-inflammatory biomarkers in the synovial fluid prior to meniscal surgery. Anti-inflammatory markers were associated with improved long-term PROs. These findings suggest an age-related intensification of the pro-inflammatory response and inhibition of the anti-inflammatory response that may contribute to long-term functional decline in older patients after meniscus surgery.

A20

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Systematic Review And Meta-Analysis Of Hypoalbuminemia And Total Knee, Hip, Shoulder, And Joint Arthroplasty

Introduction: Preoperative serum albumin is widely associated with post-total joint arthroplasty(TJA) complications; however, effect sizes significantly vary. As current literature is limited in retrospective design, heterogeneity, and small sample size, we assessed the predictive value of preoperative hypoalbuminemia on post-TJA readmission, reoperation, and mortality.

Methods: PubMed, Embase, Ovid, CENTRAL, the trial register, and SCOPUS were searched. Retrospective, prospective, observational studies, or randomized controlled trials including primary TJA patients with preoperative albumin levels and outcomes of interest were identified. We performed subgroup analyses of adult total hip(THA), knee(TKA), and shoulder arthroplasty(TSA).

Results: Twenty-one studies with 605,942 patients were analyzed. Hypoalbuminemia(<3.5 g/dL) showed 3.93, 2.20, and 1.99-fold odds of mortality(OR=3.93, 95% CI=2.56-6.05), reoperation levels(OR=2.20, 95% CI=1.73-2.81), and readmission(OR=1.99, 95% CI=1.66-2.39). Reoperation, readmission, and mortality respectively showed significant heterogeneity(I²=90%; 78%; 95%).

Hypoalbuminemia showed 2.01, 1.88, and 1.30-fold odds of readmission among TKA(OR=2.01, 95% CI=1.62-2.50), TSA(OR=1.88, 95% CI=0.58-6.12), and THA(OR=1.30, 95% CI=1.19-1.42), respectively. Hypoalbuminemia showed 3.60, 2.67, and 1.70-fold odds of reoperation among TSA(OR=3.60, 95% CI=1.84-7.03), TKA(OR=2.67, 95% CI=1.38-5.16), and THA(OR=1.70, 95% CI=1.22-2.38) patients. Hypoalbuminemia showed 14.57, 6.06, and 3.96-fold odds of mortality among TSA(OR=14.57, 95% CI=2.10-101.14), THA(OR=6.06, 95% CI=2.05-17.90), and TKA(OR=3.96, 95% CI=1.78-8.83) patients.

Conclusion: Preoperative albumin can predict readmission, reoperation, and mortality among primary TJA procedures, but sub-procedures have large variable effect sizes. Furthermore, the vast heterogeneity among TJA analyses indicates that solely using a preoperative albumin threshold requires further prospective evaluation.

A21

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Characterizing Online Patient Education Materials on Phakomatoses with Analysis of Artificial Intelligence Chatbot Responses

Introduction: Phakomatoses are a group of congenital neurocutaneous syndromes characterized by tumor formation across organ systems with additional cutaneous and neurologic features. Due to systemic complications, these conditions are managed through multidisciplinary care. These conditions are rare, and effective counseling at diagnosis is improved by providing access to patient educational material. We therefore sought to characterize the presence and readability of currently available online medical information in a question-and-answer (Q&A) format on phakomatoses.

Methods: We searched UpToDate and patient-centered support organizations for information in a Q&A format on six of the most common phakomatoses: neurofibromatosis type 1, NF2-related schwannomatosis, tuberous sclerosis complex, von Hippel Lindau disease, ataxia telangiectasia, and Sturge-Weber syndrome. We then queried an artificial intelligence (AI) chatbot, ChatGPT 4.0, to ask a set of 10 questions for each syndrome. 60 ChatGPT responses were examined using sentence-level analytics (words and sentences per response) and readability analytics (Flesch Reading Ease and Flesch Kincaid Grade Level).

Results: UpToDate had patient information available for one syndrome, neurofibromatosis type 1. All six phakomatoses had comprehensive patient education from patient-centered support organizations, defined as ≥ 10 Q&A responses, though sometimes across many weblinks. Analysis of ChatGPT 4.0 transcripts revealed an average of 348.6 words per response and 23.05 sentences per response. On average, Flesch Reading Ease across responses was 28.43 and Flesch Kincaid Grade Level was 12.34.

Discussion: Online patient education materials on phakomatoses are limited and AI-generated responses are above the recommended reading level for patient education materials. Our results reveal challenges with obtaining accessible medical information online and highlight a need for additional education materials on phakomatoses.

A22

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Cord Blood Troponin I Levels: Biomarker Evidence of Fetal Cardiac Injury in Intrahepatic Cholestasis of Pregnancy

Objective: The purpose was to determine whether cord blood troponin I levels are increased in fetuses born to mothers diagnosed with intrahepatic cholestasis of pregnancy (ICP).

Study Design: A prospective case-control study was performed at a single institution (2017-2019), enrolling 87 pregnant patients with ICP (TBA $\geq 11\mu\text{mol/L}$) as cases and 122 randomly selected asymptomatic pregnant patients (TBA $< 11\mu\text{mol/L}$) as controls. Cord blood Troponin I was collected at delivery in both groups using a commercially available chemiluminescent immunoassay. Values $\leq 0.04\text{ng/ml}$ were negative; $> 0.04\text{ng/ml}$ were positive. Fisher exact and t-tests compared social and obstetrical variables ($p < 0.05$ significant). A stratification by TBA range $< 40\mu\text{mol/L}$, $40\text{--}100\mu\text{mol/L}$, and $> 100\mu\text{mol/L}$ assessed the relationship between ICP severity (by fetal demise risk, with TBA $> 100\mu\text{mol/L}$ most at risk) and likelihood of positive Troponin I. Finally, logistic regression determined if TBA $\geq 11\mu\text{mol/L}$ predicted elevated Troponin and fetal acidosis.

Results: Demographics and obstetrical outcomes are in Table 1. Mean gestational age at delivery: 38.96 ± 1.47 (controls) vs. 37.71 ± 1.59 weeks (cases, $p < 0.001$). Mean TBA: $5.2 \pm 1.28\text{ng/ml}$ (controls) vs. $43.2 \pm 40.62\text{ng/ml}$ (cases, $p < 0.001$). Cord blood Troponin I was positive in 15/122 (12.3%) controls and 20/87 (22.99%) cases ($p < 0.001$). Stratified by TBA < 40 , $40\text{--}100$, > 100 , higher TBA correlated with positive Troponin I ($p = 0.002$, Table 2). Adjusting for gestational age, maternal age, and BMI, higher TBA predicted positive Troponin I (aOR 1.015, 95% CI 1.004-1.026, Table 3).

Conclusion: Stratified by TBA, analysis confirmed positive Troponin I was more likely with higher TBA. TBA $\geq 11\mu\text{mol/L}$ predicted positive Troponin I. Though no stillbirths in our cohort, findings confirm potential fetal cardiac injury from high TBA exposure via elevated cord blood Troponin I at birth.

A23

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Enhancing PrEP Uptake Among African American Women- A Tailored Approach

The US healthcare system remains disadvantaged in preventing HIV in African American women, though it is one of the most advanced health systems on the planet. This initiative was intended to improve the delivery of PrEP for Black women at Kings County Hospital by filling current preventive care gaps in this vulnerable population. This pilot project developed a culturally sensitive, patient-centered model of PrEP education based on the Plan-Do-Study-Act (PDSA) model. Interventions included one-on-one counseling, outreach and collaboration with community groups. These interventions aimed to tackle three primary challenges: medical mistrust, HIV stigma and limited healthcare access. The project's goal was to boost PrEP enrollments by 20% over 12 months. The results exceeded expectations, with 14 of 26 patients (53.8%) choosing to begin PrEP, a 32% increase over hospital data. This success illustrates the importance of targeted interventions to improving PrEP adoption in vulnerable groups. The work was confined to Kings County Hospital. Its major lessons include the need to spread culturally specific interventions beyond health care and maintain them through continuous training and community collaboration. It suggests bringing PrEP training to everyday care to achieve long-term success by broadening outreach beyond the hospital setting and developing follow-up systems to ensure patient compliance. The findings will be shared through hospital reports, journal articles, public health meetings and community outreach. The work offers a model for healthcare access and outcomes for African American women that can be replicated elsewhere.

Keywords: Pre-Exposure Prophylaxis, African American women, HIV Prevention, Health Disparities, Individualized Interventions, Cultural Aptitude, Kings County Hospital, PDSA model.

A24

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Implementation of a High Protein, Low Carbohydrate Snack Intervention to Reduce Nocturnal Hypoglycemia.

Approximately one in nine adult Americans are diabetic of which a third experience low blood glucose levels at night. This dangerous condition (hypoglycemia) is often underdiagnosed. Research suggests that consumption of a protein snack can decrease the risk of glucose instability. The project was conducted in a hospital, in an inpatient medical surgical unit. Each year, 180,000 patients, 60,000 who experience nocturnal hypoglycemia or glycemic instability are treated. The proportion of adult hospitalizations with diabetes at the project site increased from 17.1% in 2000 to over 30% in 2023. Studies such as Abbie et al. (2020) and Riley (2024) have shown that snacking at night with a high-protein snack can stabilize glycemic variability, thus reducing morning hypoglycemia events. Roach et al. (2022) conducted a systematic review to evaluate if consuming a bedtime snack could improve hypoglycemia in diabetics. The clinical framework that guided the project was the PDSA model. The project was limited by manual data collection, use of single clinical site, and lack of variety in the high protein nighttime snack. Implications were that the outcomes of this intervention project support earlier evidence-based research showing that nocturnal hypoglycemia is preventable with a high protein low carbohydrate snack. Recommendations include repeating this or similar projects before implementing a high protein snack as part of a new standard of care. For sustainability, results will be shared with the central office and system-wide so that other facilities in the system will have the option to test, modify, and implement the new protocol. Conclusion of the project resulted in 89% decrease in nocturnal hypoglycemic events in the project unit. Project dissemination consists of presenting a comprehensive analysis to senior leadership in the hospital's Med-surge unit and central office.

A25

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Higher Postoperative Risks in Patients with Interstitial Lung Disease Undergoing Total Knee Arthroplasty

Background:

Total knee arthroplasty (TKA) is one of the most commonly performed procedures to improve mobility and quality of life in patients with advanced knee osteoarthritis. Patients with interstitial lung disease (ILD) undergoing surgery, both pulmonary and non-pulmonary, face significantly higher perioperative risks, including increased postoperative medical complications, prolonged hospital stays, and mortality. However, limited research exists on the impact of ILD on postoperative outcomes following TKA.

Methods:

We performed a retrospective cohort study utilizing the Healthcare Cost and Utilization Project (HCUP) National Inpatient Sample (NIS) database. Admissions for total knee arthroplasty (TKA) between 2010 and 2021 were identified using ICD-9 and ICD-10 procedure codes. Patients with an associated diagnosis code for ILD were assigned to the ILD cohort, the primary exposure group. Confounding variables included patient demographics, baseline health status.

The primary outcomes studied were same-admission procedure-related complications and admission mortality. Univariate and multivariable logistic regression analyses were performed to assess associations between ILD and primary outcomes, adjusting for confounding variables.

Results:

A total of 1,358,310 patients were included in the analysis, of whom 1,356 (0.1%) had ILD and 1,356,954 (99.9%) did not. Compared to non-ILD patients, ILD patients had 1.58 times higher (95% CI: 1.26 - 1.98, $p < 0.001$) odds of procedure-related complications. No significant difference in same-admission mortality was observed between ILD and non-ILD patients ($p = 0.867$).

Conclusions:

Patients with ILD undergoing TKA have a significantly higher risk of procedure-related complications, emphasizing the need for thorough preoperative risk assessment and perioperative management. Future research should explore strategies to mitigate surgical risks in ILD patients undergoing TKA.

A26

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Higher Economic Burden Among Patients with Interstitial Lung Disease Undergoing Primary Total Hip Arthroplasty: Insights from a National Database

Introduction: Total hip arthroplasty (THA) is one of the most commonly performed surgical procedures in the United States. Higher healthcare costs and longer hospital lengths of stay can lead to increased burdens on the healthcare system. This study sought to assess the relationship between interstitial lung disease (ILD) on lengths of stay and costs among patients who underwent primary THA.

Methods: A retrospective cohort study was performed using the National Inpatient Sample database of primary THA occurring between 2010 and 2021. The primary exposure was diagnosis of ILD. Confounding variables were basic demographics, baseline health status, and surgical facility characteristics. The primary outcomes studied were hospital length of stay and admission cost. Univariate analyses were performed to assess differences between cohorts. Multivariable log-linear regression was used to evaluate the association between ILD and hospital length of stay and admission cost among patients who underwent THA.

Results: Our study identified 819,733 cases of THA that fulfilled study inclusion criteria, of which 1,320 (0.16%) had a diagnosis of ILD. Many patients in both cohorts had female sex, White race, and Medicare insurance. Many of the procedures were performed in large, urban-teaching, and private, non-profit hospitals. On multivariable analysis, ILD patients had 1.14 times higher (95% CI 1.11-1.17; $p<0.001$) odds of longer stays and 1.07 times higher (95% CI 1.04-1.10; $p<0.001$) odds of higher costs compared to non-ILD patients.

Conclusion: Patients with ILD undergoing THA experience significantly longer hospital stays and higher admission costs compared to those without ILD, even after adjusting for confounding factors. Future research should focus on preoperative risk stratification and targeted interventions to improve outcomes for THA candidates with ILD.

A27

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Improving Medication Reconciliation in a Geriatric Psychiatry Clinic: A Quality Improvement Project

Adults aged 65 and older are at greater risk for adverse drug reactions due to physiological changes and more chronic conditions, and thus often take more prescription medications, OTCs, and other remedies. Medication reconciliation (MR) is often not standardized in healthcare facilities, and it has been seen that healthcare providers are not properly educated on MR. Due to a lack of standardization in combination with little education on the subject, MR is often not being performed properly or comprehensively. In turn, the poor quality and quantity of MR is not effective in preventing adverse drug reactions or inappropriate prescriptions in older adults. The purpose of this QI intervention is to reduce adverse drug reactions by enhancing the quality and quantity of MR practice by increasing the knowledge, skills, and attitudes about MR among healthcare providers and creating a standard approach to the MR process. A quasi-experimental design was employed to assess the knowledge, attitude, and behaviors of participants after a lesson on MR was given. A convenience sample was used in an outpatient clinic. The lesson included the importance of MR, information on adverse drug reactions in older adults, and how to perform MR by introducing the Medication Reconciliation Guideline. After the lesson a questionnaire was given and the participants used the guideline in the clinic for 4 to 6 weeks, after which an altered questionnaire was deployed. The data revealed that post-intervention there was a 20% increase in participant knowledge of MR and a 17% increase in their likelihood to change their behaviors to increase and improve MR. The data also showed that there was a 46% increase in the amount of times MR was performed at each patient appointment. As evidenced, the educational intervention along with a standard guideline may increase healthcare workers' knowledge, and awareness of MR and modify behaviors, thereby reducing adverse drug reactions in older adults.

A28

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Increased Institutional Discharge Disposition in Chronic Obstructive Pulmonary Disease Patients Undergoing Primary Total Hip Arthroplasty: A Nationwide Analysis

Introduction: Total hip arthroplasty (THA) is among the most common surgical procedures in the United States. The need for institutional care following THA can significantly increase the burden on the healthcare system, leading to higher costs and resource utilization. This study sought to assess the relationship between Chronic Obstructive Pulmonary Disease (COPD) on institution discharge disposition among patients who underwent primary THA.

Methods: A retrospective cohort study using the National Inpatient Sample (2010–2021) assessed COPD as the primary exposure. Confounders included demographics, health status, and facility characteristics. The primary outcome was institutional discharge disposition. Univariate analyses were performed to assess differences between cohorts. Multivariable regression analysis adjusted for confounding variables was performed to identify institutional discharge disposition of patients with COPD undergoing THA.

Results: Our study identified 819,733 cases of primary THA that fulfilled study inclusion criteria, of which 59,845 (7.30%) had a diagnosis of COPD. Many patients in both cohorts had female sex, White race, and Medicare insurance. Most of the procedures were performed in large, urban-teaching, and private, non-profit hospitals. On multivariable regression analysis, compared to patients without COPD, those with COPD had 1.33 times higher (95% CI 1.30-1.36; $p < 0.001$) odds of institutional discharge disposition.

Conclusion: Compared to patients without COPD, those with COPD undergoing primary THA demonstrated a significantly higher risk of requiring institutional discharge. This finding signifies the need for targeted preoperative optimization and discharge planning tailored to this high-risk population. Further research is essential to explore interventions that reduce institutional discharge rates for THA patients with COPD.

A29

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Can Elevated International Normalized Ratio (INR) Predict Reoperation for Patients Undergoing Total Shoulder Arthroplasty?

Introduction:

Preoperative international normalized ratio (INR) is used to assess coagulation. Elevated INR has been linked to bleeding complications and major cardiovascular events. This study evaluates the relationship between preoperative INR and reoperation rates in patients undergoing total shoulder arthroplasty (TSA).

Methods:

A retrospective cohort study of TSA cases (2012-2021) was performed using the National Surgical Quality Improvement Program (NSQIP) database. Patients aged ≥ 18 years were grouped by preoperative INR: ≤ 1 , 1.01-1.24, 1.25-1.49, and ≥ 1.5 . Underweight patients (BMI < 18.5) were excluded due to insufficient sample size for confounding control. The primary outcome was reoperation within 30 days. Potential confounders included demographics (age, sex, race, ethnicity), baseline health status (functional status, ASA classification, BMI, smoking within one year, diabetes, recent immunosuppressive therapy), and procedure characteristics (admission origin, surgical setting, anesthesia modality, preoperative transfusion). Univariate and multivariable regression analyses with confounding adjustment assessed the relationship between INR and reoperation.

Results:

Among 15,397 TSA patients, INR cohorts contained 10,274 (≤ 1), 4,342 (1.01-1.24), 430 (1.25-1.49), and 351 (≥ 1.5) patients. Most were aged 70-79 years, White, non-Hispanic, independent in function, ASA class 3, obese, and without smoking, diabetes, or immunosuppressive therapy. The INR ≥ 1.5 cohort was predominantly male, while others were mostly female [Table 1]. On multivariable analysis, INR 1.01-1.24 had 1.50 times higher odds (95% CI 1.12-2.00; $p=0.006$) of reoperation compared to INR ≤ 1 [Table 2].

Conclusion:

Slightly elevated preoperative INR may increase reoperation risk in TSA. Further research on the link between preoperative INR and reoperation rates is needed, particularly in underweight patients. Future studies optimizing coagulation and perioperative strategies may improve outcomes.

A30

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Preoperative International Normalized Ratio (INR) and its Association with Procedure-Related Complications in Total Shoulder Arthroplasty

Introduction: Preoperative international normalized ratio (INR) is used to assess coagulation. Elevated INR has been linked to bleeding complications and major cardiovascular events. This study evaluates the relationship between preoperative INR and procedure-related complications (PRCs) in patients undergoing total shoulder arthroplasty (TSA).

Methods: A retrospective cohort study of TSA cases (2012-2021) was conducted using the National Surgical Quality Improvement Program (NSQIP) database. Patients aged ≥ 18 years were grouped by preoperative INR: ≤ 1 , 1.01-1.24, 1.25-1.49, and ≥ 1.5 . The primary outcome was PRCs, including mechanical complications, periprosthetic joint infection, myocardial infarction, sepsis, septic shock, pneumonia, pulmonary embolism, and surgical wound infections. Potential confounders included demographics (age, sex, race, ethnicity), baseline health (functional status, ASA classification, BMI, smoking status within one year, history of diabetes, recent immunosuppressive therapy), and procedure characteristics (admission origin, surgical setting, anesthesia modality, preoperative transfusion). Univariate and multivariable regression analyses with adjustment for confounding were used to compare cohorts and assess the relationship between INR and PRCs.

Results: Among 15,397 TSA patients, INR cohorts contained 10,274 (≤ 1), 4,342 (1.01-1.24), 430 (1.25-1.49), and 351 (≥ 1.5) patients. Most were aged 70-79 years, White, non-Hispanic, independent in function, ASA class 3, obese, and without smoking, diabetes, or immunosuppressive therapy. The INR ≥ 1.5 cohort was predominantly male, while others were mostly female. On multivariable analysis, INR 1.01-1.24 was associated with 1.34 times higher odds (95% confidence interval [CI] 1.04-1.72, $p=0.022$) of PRCs compared to INR ≤ 1 .

Conclusion: Mildly elevated preoperative INR may increase PRC risk in TSA. Future studies on optimizing coagulation management and perioperative strategies may improve outcomes.

A31

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Preoperative International Normalized Ratio (INR) and its Association with Readmission in Total Shoulder Arthroplasty

Introduction: Preoperative international normalized ratio (INR) is used to assess coagulation. Elevated INR has been linked to bleeding complications and major cardiovascular events. This study evaluates the relationship between preoperative INR and readmission rates in patients undergoing total shoulder arthroplasty (TSA).

Methods: A retrospective cohort study of TSA cases (2012-2021) was conducted using the National Surgical Quality Improvement Program (NSQIP) database. Patients aged ≥ 18 years were grouped by preoperative INR: ≤ 1 , 1.01-1.24, 1.25-1.49, and ≥ 1.5 . The primary outcome was unplanned hospital readmission within 30 days after surgery. Potential confounders included demographics (age, sex, race, ethnicity), baseline health (functional status, ASA classification, BMI, smoking status within one year, history of diabetes, recent immunosuppressive therapy), and procedure characteristics (admission origin, surgical setting, anesthesia modality, preoperative transfusion). Univariate and multivariable regression analyses with adjustment for confounding were used to compare cohorts and assess the relationship between INR and readmission.

Results: Among 15,397 TSA patients, INR cohorts contained 10,274 (≤ 1), 4,342 (1.01-1.24), 430 (1.25-1.49), and 351 (≥ 1.5) patients. Most were aged 70-79 years, White, non-Hispanic, independent in function, ASA class 3, obese, and without smoking, diabetes, or immunosuppressive therapy. The INR ≥ 1.5 cohort was predominantly male, while others were mostly female. On multivariable analysis, patients with preoperative INR 1.01-1.24 (OR: 1.31, 95% CI 1.07 to 1.59; $p=0.009$) and INR 1.25-1.49 (OR: 1.82, 95% CI 1.19 to 2.70; $p=0.004$) had increased risk of unplanned readmission following TSA compared to patients with INR ≤ 1 [Table 2].

Conclusion: Elevated preoperative INR may increase risk of readmission in TSA. Future studies on optimizing coagulation management and perioperative strategies may improve outcomes.

A32

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Serum Albumin May Predict Prolonged Hospitalization for Total Shoulder Arthroplasty

Introduction: Serum albumin is a low-cost marker of nutritional status and organ function. Prior studies identified its role in predicting adverse surgical outcomes. This study assessed the relationship between preoperative serum albumin levels and surgical admission length of stay (LOS) in total shoulder arthroplasty (TSA).

Methods: A retrospective cohort study was conducted using the National Surgical Quality Improvement Program (NSQIP) database (2012-2021). Adults (≥ 18 years) were categorized into four cohorts based on preoperative albumin levels: severe hypoalbuminemia (<3 mg/dL), mild hypoalbuminemia (3-3.49 mg/dL), normal albumin (3.5-4.49 mg/dL), and hyperalbuminemia (≥ 4.5 mg/dL). The primary outcome was LOS. Confounders included demographics (age, sex, race, ethnicity), baseline health (functional status, ASA classification, BMI, smoking, diabetes, immunosuppressive therapy), and procedure characteristics (admission origin, surgical setting, anesthesia, transfusion, emergency status). Univariate analyses compared cohorts, and multivariable regression adjusted for confounders.

Results: Among 18,044 TSA cases, 13,744 had normal albumin, 1,055 had mild hypoalbuminemia, 248 had severe hypoalbuminemia, and 2,997 had hyperalbuminemia. Most in the hypoalbuminemia and normal albumin groups were aged 70–79 years, female, White, non-Hispanic, ASA class 3, and functionally independent. The hyperalbuminemia cohort had more males, ASA class <3 , and was younger (60–69 years). [Table 1].

On multivariable regression, compared to normal albumin, mild (OR 1.23, 95% CI 1.19 to 1.28; $p < 0.001$) and severe hypoalbuminemia (OR 1.58, 95% CI 1.47 to 1.71; $p < 0.001$) were associated with longer LOS, while hyperalbuminemia (OR 0.95, 95% CI 0.92 to 0.97; $p < 0.001$) was associated with shorter LOS. [Table 2].

Conclusion: Severe hypoalbuminemia was linked to prolonged LOS in TSA patients. Optimizing albumin levels preoperatively and perioperative support strategies may improve outcomes.

A33

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Severely Diminished Serum Albumin is Associated with Mechanical Complications in Patients Undergoing Total Shoulder Arthroplasty

Introduction: Serum albumin is a low-cost nutritional status and organ function marker. Prior studies have identified its role in predicting adverse surgical outcomes. This study assessed the relationship between preoperative serum albumin levels and mechanical complications in total shoulder arthroplasty (TSA).

Methods: A retrospective cohort study was conducted using the National Surgical Quality Improvement Program (NSQIP) database (2012-2021). Adults (≥ 18 years) were categorized into four cohorts based on preoperative albumin: severe hypoalbuminemia (<3 mg/dL), mild hypoalbuminemia (3-3.49 mg/dL), normal albumin (3.5-4.49 mg/dL) or hyperalbuminemia (≥ 4.5 mg/dL). The primary outcome was postoperative mechanical complications, including prosthesis loosening/dislocation/breakage, periprosthetic fracture/osteolysis, articular surface wear, and other unspecified failures. Confounders included demographics (age, sex, race, ethnicity), baseline health (functional status, ASA classification, BMI, smoking, diabetes, immunosuppression), and procedure characteristics (admission origin, surgical setting, anesthesia, transfusion, emergency status). Univariate and multivariable regression analyses were performed.

Results: Among 18,044 TSA cases, 13,744 had normal albumin, 1,055 mild hypoalbuminemia, 248 severe hypoalbuminemia, and 2,997 hyperalbuminemia. Most in the hypoalbuminemia and normal albumin groups were aged 70–79 years, female, White, non-Hispanic, ASA class 3, and functionally independent. The hyperalbuminemia group had more males, ASA class <3 , and was younger (60–69 years) [Table 1]. On multivariable regression, those with severe hypoalbuminemia had 3.90 times higher odds (95% CI 1.28–9.64; $p=0.007$) of mechanical complications compared to normal albumin [Table 2].

Conclusion: Severe hypoalbuminemia increased the risk of mechanical complications in TSA. Optimizing albumin levels preoperatively and implementing perioperative support strategies may improve outcomes.

A34

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Serum Albumin May Predict Bleeding Transfusion Among Patients Undergoing Total Shoulder Arthroplasty

Introduction: Serum albumin is a low-cost marker of nutritional status and organ function. Prior studies have cited its role in predicting adverse surgical outcomes. This study assessed the relationship between preoperative albumin levels and bleeding transfusion in total shoulder arthroplasty (TSA).

Methods: A retrospective cohort study was performed using the National Surgical Quality Improvement Program (NSQIP) database (2012-2021). Adults (≥ 18 years) were categorized into four cohorts based on preoperative albumin: severe hypoalbuminemia (<3 mg/dL), mild hypoalbuminemia (3-3.49 mg/dL), normal albumin (3.5-4.49 mg/dL), and hyperalbuminemia (≥ 4.5 mg/dL). The primary outcome was bleeding transfusion, defined as transfusion of ≥ 1 unit within 72 hours postoperatively. Confounders included demographics (age, sex, race, ethnicity), baseline health (functional status, ASA class, BMI, smoking, diabetes, immunosuppression), and procedure characteristics (admission origin, setting, anesthesia, transfusion, emergency status). Univariate and multivariable regression analyses were performed.

Results: Among 18,044 TSA cases, 13,744 had normal albumin, 1,055 mild hypoalbuminemia, 248 severe hypoalbuminemia, and 2,997 hyperalbuminemia. Most in the hypoalbuminemia and normal albumin groups were aged 70–79 years, female, White, non-Hispanic, ASA class 3, and functionally independent. The hyperalbuminemia cohort had more males, ASA class <3 , and was younger (60–69 years). [Table 1].

On multivariable regression, compared to normal albumin, severe (OR 4.43, 95% CI 2.86–6.70; $p < 0.001$) and mild hypoalbuminemia (OR 2.17, 95% CI 1.59–2.94; $p < 0.001$) were associated with higher bleeding transfusion risk. Hyperalbuminemia (OR 0.48, 95% CI 0.29–0.75; $p = 0.002$) was associated with lower risk. [Table 2].

Conclusion: Severe and mild hypoalbuminemia increased bleeding transfusion risk in TSA. Optimizing preoperative albumin levels and perioperative support strategies may improve outcomes.

A35

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Preoperative Transfusion is Associated with Higher Risk of Mortality Among Patients Undergoing Total Shoulder Arthroplasty

Medical optimization prior to surgery may involve preoperative blood transfusion, which could have associated complications. This study sought to assess the relationship between preoperative blood transfusion and 30-day mortality among total shoulder arthroplasty (TSA) patients.

Methods:

A retrospective cohort study was performed using the National Surgical Quality Improvement Program (NSQIP) database of TSA cases occurring between 2012-2021. Inclusion criteria was age >18 years. Preoperative transfusion, the primary exposure, was defined as transfusion of >1 unit of whole or packed red blood cells within 72 hours prior to operative start time. Two cohorts were made based on occurrence of preoperative transfusion. The primary outcome was 30-day mortality. Potential confounders included basic demographics (age, sex, race, ethnicity), baseline health status (functional status, ASA classification, BMI, smoking status within one year, history of diabetes), and procedure characteristics (admission origin, surgical setting, emergency procedure designation). Univariate analyses assessed differences between the two cohorts. Multivariable regression assessed the relationship between preoperative transfusion and 30-day mortality.

Results:

During the study period, 38,260 patients underwent TSA, of which 87 (0.2%) received preoperative transfusion. The highest proportion of patients were 70-79 years, female, White, non-Hispanic, independent, ASA class 3, obesity, no smoking history, and no diabetes. On multivariable regression analysis patients with preoperative transfusion had 7.93 times higher odds (95% CI 2.02 to 23.81; $p < 0.001$) of 30-day mortality following TSA.

Conclusion:

Compared to patients without, those with preoperative blood transfusion who undergo TSA have a higher risk of 30-day mortality. Further studies characterizing reasons for requiring preoperative transfusion, as well as supportive strategies during perioperative period, may optimize patient outcomes.

A36

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Preoperative Transfusion is Associated with Higher Risk of Bleeding Transfusion for Patients Undergoing Total Shoulder Arthroplasty

Introduction:

Medical optimization prior to surgery may involve preoperative blood transfusion, which could have associated complications. This study assesses the relationship between preoperative blood transfusion and the need for bleeding transfusions among patients who underwent total shoulder arthroplasty (TSA).

Methods:

A retrospective cohort study was performed using the National Surgical Quality Improvement Program (NSQIP) database of TSA cases occurring between 2012-2021. Inclusion criteria was age ≥ 18 years. Preoperative transfusion was defined as transfusion of ≥ 1 unit of whole or packed red blood cells within 72 hours prior to operative start time. Patients were divided into two cohorts based on occurrence of preoperative transfusion. Bleeding transfusion was defined as transfusion of ≥ 1 unit within 72 hours after operative start time, including intraoperatively. Potential confounders included basic demographics, baseline health status, and procedure characteristics. Univariate analyses were performed to assess differences between the two cohorts. Multivariable regression analysis, with adjustment for confounding, was performed to assess the relationship between preoperative transfusion and bleeding transfusion.

Results:

38,260 patients underwent TSA, of which 87 (0.2%) received preoperative transfusion. The highest proportion of patients in both cohorts had age 70-79 years, female sex, White race, ASA class 3, and obesity [Table 1]. On multivariable regression analysis, patients with preoperative transfusion had 7.50 times higher odds (95% CI 4.21 to 13.05; $p < 0.001$) of bleeding transfusion occurrence following TSA [Table 2].

Conclusion:

Patients with preoperative blood transfusion who undergo TSA have a higher risk of intra-/postoperative bleeding transfusion. Further studies characterizing reasons for requiring preoperative transfusion as well as supportive strategies during perioperative period may optimize patient outcomes.

A37

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Serum Albumin and its Association with Reoperation in Total Shoulder Arthroplasty

Introduction:

Measurement of serum albumin is used to assess overall nutritional status, liver, kidney, and heart function. Literature has cited its use as a predictor of adverse surgical outcomes, morbidity, and mortality. This study assesses the relationship between preoperative serum albumin levels and reoperation rates among patients who underwent total shoulder arthroplasty (TSA).

Methods:

A retrospective cohort study was performed using the National Surgical Quality Improvement Program (NSQIP) database of TSA cases occurring between 2012-2021. Inclusion criteria was age ≥ 18 years. Patients were divided into four cohorts based on preoperative serum albumin levels: severe hypoalbuminemia (<3 mg/dL), mild hypoalbuminemia (3-3.49 mg/dL), normal albumin (3.5-4.49 mg/dL) or hyperalbuminemia (≥ 4.5 mg/dL). The primary outcome was reoperation within 30 days. Confounders were accounted for. Univariate analyses compared the cohorts, while multivariable regression, adjusted for confounders, examined the link between preoperative albumin and reoperation.

Results:

During the study period, 18,044 patients underwent TSA. The highest proportion of patients in the hypoalbuminemia and normal albumin cohorts had age 70-79 years, female sex, White race, non-Hispanic ethnicity, independent functional status, ASA class 3, obesity, and no smoking, diabetes, or immunosuppressive therapy. However, the greatest proportion in the hyperalbuminemia cohort had age 60-69 years, male sex, and ASA class <3 [Table 1].

Multivariable regression, adjusted for confounders, found that TSA patients with preoperative hyperalbuminemia had a lower reoperation risk than those with normal albumin (OR: 0.62, 95% CI 0.38–0.96; $p=0.041$) [Table 2].

Conclusion:

Patients with increased preoperative albumin levels who undergo TSA have a decreased risk of unplanned reoperation. Further studies characterizing preoperative medical optimization and management of albumin levels may help optimize patient outcomes.

A38

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Elevated Preoperative International Normalized Ratio (INR) May Predict Institutional Discharge Among Patients Undergoing Total Shoulder Arthroplasty.

Introduction: Preoperative international normalized ratio (INR) is used for assessing coagulation function. Previous study cites elevated INR as a predictor of bleeding complications and major cardiovascular events. This study sought to assess the relationship between preoperative INR and postoperative discharge destination among patients who underwent total shoulder arthroplasty (TSA).

Methods: A retrospective cohort study was performed using the National Surgical Quality Improvement Program (NSQIP) database of TSA cases from 2012-2021. Inclusion criteria was age ≥ 18 years. Patients were divided into four cohorts based on preoperative INR value. The primary outcome was defined as discharge to home or institution postoperatively. Potential confounds included basic demographics, baseline health status, and procedure characteristics. Univariate analyses assessed differences between cohorts. Multivariable regression analysis, adjusting for confounds, assessed the relationship between preoperative INR and discharge destination.

Results: During the study period, 15,397 patients underwent TSA. The INR ≤ 1 , 1.01-1.24, 1.25-1.49, and ≥ 1.5 cohorts contained 10,274, 4,342, 430, and 351 patients, respectively [Table 1].

On multivariable regression analysis adjusted for potential confounds, patients with INR 1.01-1.24 (OR 1.46, 95% CI: 1.28, 1.66; $p < 0.001$), INR 1.25-1.49 (OR 1.90, 95% CI: 1.43, 2.51; $p < 0.001$), and INR ≥ 1.5 (OR 1.73, 95% CI: 1.24, 2.36; $p < 0.001$) had increased risk of discharge to an institution following TSA compared to patients with INR ≤ 1 [Table 2].

Conclusion: Patients with elevated preoperative INR who undergo TSA have an increased risk of discharge to an institution rather than home, indicating possible applications for INR as a preoperative predictor. Further study characterizing the preoperative management of coagulation function, as well as supportive perioperative strategies for patients with impaired function, may help optimize outcomes.

A39

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Elevated Preoperative International Normalized Ratio (INR) May Predict Longer Hospitalization for Total Shoulder Arthroplasty.

Introduction: Preoperative international normalized ratio (INR) is used for assessing coagulation function. Previous literature cites elevated INR as a predictor of bleeding complications and major cardiovascular events. This study sought to apply these principles to assess the relationship between preoperative INR and surgical admission length of stay (LOS) among patients who underwent total shoulder arthroplasty (TSA). **Methods:** A retrospective cohort study was performed using the National Surgical Quality Improvement Program (NSQIP) database of TSA cases from 2012-2021. Inclusion criteria was age ≥ 18 years. Patients were divided into four cohorts based on preoperative INR value. The primary outcome, LOS, was measured in days. Potential confounds included basic demographics, baseline health status, and procedure characteristics. Univariate analyses assessed differences between cohorts. Complete case analysis was performed using multivariable regression, adjusting for potential confounds, to evaluate the relationship between preoperative INR and LOS.

Results: During the study period, 15,397 patients underwent TSA. The INR ≤ 1 , 1.01-1.24, 1.25-1.49, and ≥ 1.5 cohorts contained 10,274, 4,342, 430, and 351 patients, respectively [Table 1].

On multivariable regression analysis, adjusted for potential confounds, patients with INR 1.01-1.24 (OR 1.07, 95% CI: 1.04, 1.09; $p < 0.001$), INR 1.25-1.49 (OR 1.15, 95% CI: 1.08, 1.21; $p < 0.001$), and INR ≥ 1.5 (OR 1.18, 95% CI: 1.11, 1.25; $p < 0.001$) had longer surgical admission LOS following TSA compared to patients with INR ≤ 1 [Table 2].

Conclusion: Patients with elevated preoperative INR undergoing TSA have an increased risk of prolonged surgical admission length of stay, indicates possible applications for INR as a preoperative predictor. Further study characterizing the preoperative management of coagulation function, as well as supportive perioperative strategies for patients with impaired function, may optimize outcomes.

A40

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Can Serum Albumin Predict Procedure-Related Complications in Total Shoulder Arthroplasty?

Introduction: Serum albumin, a low-cost test, evaluates nutritional and organ function and predicts adverse surgical outcomes. This study examines the link between preoperative serum albumin levels and procedure-related complications (PRC) in total shoulder arthroplasty (TSA) patients. **Methods:** A retrospective cohort study was performed using the National Surgical Quality Improvement Program (NSQIP) database of TSA cases occurring between 2012-2021. Inclusion criteria was age ≥ 18 years. Patients were categorized by preoperative albumin levels: severe hypoalbuminemia (<3 mg/dL), mild hypoalbuminemia (3–3.49 mg/dL), normal (3.5–4.49 mg/dL), and hyperalbuminemia (≥ 4.5 mg/dL). The primary outcome was procedure-related complications, including mechanical issues, periprosthetic joint infection, myocardial infarction, sepsis, septic shock, pneumonia, pulmonary embolism, and wound infections. Univariate analysis compared cohorts, while multivariable regression, adjusted for confounders, examined the link between preoperative albumin levels and PRCs. **Results:** During the study, 18,044 patients underwent TSA. Most in the hypoalbuminemia and normal albumin cohorts were 70–79 years old, female, White, non-Hispanic, independent, ASA class 3, obese, and without smoking history, diabetes, or immunosuppressive therapy. In contrast, the hyperalbuminemia cohort had the highest proportion of patients aged 60–69, male, and ASA class <3 [Table 1]. Multivariable regression, adjusted for confounders, showed increased PRC risk in TSA patients with severe (OR: 2.75, 95% CI 1.45–4.87; $p < 0.001$) and mild (OR: 1.55, 95% CI 1.01–2.30; $p = 0.035$) hypoalbuminemia compared to those with normal albumin [Table 2]. No association was found between preoperative hyperalbuminemia and PRCs. **Conclusion:** Patients with low preoperative albumin undergoing TSA face a higher risk of procedure-related complications. Further research on albumin management and perioperative support for these patients may improve outcomes.

A41

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Serum Albumin and its Association with Readmission for Patients Undergoing Total Shoulder Arthroplasty

Introduction:

Serum albumin, a low-cost test, evaluates nutritional status and organ function. It is cited as a predictor of adverse surgical outcomes, morbidity, and mortality. This study examines the relationship between preoperative serum albumin levels and readmission rates in total shoulder arthroplasty (TSA) patients.

Methods:

A retrospective cohort study was performed using the National Surgical Quality Improvement Program (NSQIP) database of TSA cases occurring between 2012-2021. Inclusion criteria was age ≥ 18 years. Patients were categorized by preoperative albumin levels: severe hypoalbuminemia (<3 mg/dL), mild hypoalbuminemia (3–3.49 mg/dL), normal (3.5–4.49 mg/dL), and hyperalbuminemia (≥ 4.5 mg/dL). The primary outcome was unplanned hospital readmission within 30 days post-surgery. Potential confounders included basic demographics, baseline health status, and procedure characteristics. Univariate analyses compared cohorts, while multivariable regression examined the link between preoperative albumin and readmission.

Results:

During the study, 18,044 patients underwent TSA. Most in the hypoalbuminemia and normal albumin cohorts were 70–79 years old, female, White, non-Hispanic, independent, ASA class 3, obese, and without smoking history, diabetes, or immunosuppressive therapy. However, the greatest proportion in the hyperalbuminemia cohort aged 60-69 years, male, and ASA class <3 [Table 1].

Multivariable regression, adjusted for confounders, showed increased readmission risk in patients with severe (OR: 2.50, 95% CI 1.50–3.98; $p < 0.001$) and mild (OR: 1.45, 95% CI 1.05–1.98; $p = 0.021$) hypoalbuminemia compared to those with normal albumin [Table 2].

Conclusion:

Patients with low preoperative albumin undergoing TSA have a higher risk of unplanned readmission. Further research on preoperative albumin management and perioperative support for hypoalbuminemic patients may improve outcomes.

A42

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Elevated Preoperative International Normalized Ratio (INR) May Predict Bleeding Transfusion Among Patients Undergoing Total Shoulder Arthroplasty.

Introduction: Preoperative international normalized ratio (INR) is used to assess coagulation function. Previous studies cite elevated INR as a predictor of bleeding complications and major cardiovascular events. This study assessed preoperative INR and the need for bleeding transfusion among patients undergoing total shoulder arthroplasty (TSA).

Methods: A retrospective cohort study was performed using the National Surgical Quality Improvement Program (NSQIP) database of TSA from 2012-2021. Patients were divided into four cohorts based on preoperative INR value. The primary outcome of study was bleeding transfusion. Potential confounders were basic demographics, baseline health status, and procedure characteristics. Univariate analyses assessed differences between the four cohorts. Multivariable regression assessed the relationship between preoperative INR and bleeding transfusion.

Results: In the study period, 15,397 patients had TSA. The INR ≤ 1 , 1.01-1.24, 1.25-1.49, and ≥ 1.5 cohorts contained 10,274, 4,342, 430, and 351 patients, respectively [Table 1].

On multivariable regression analysis adjusted for potential confounding factors, patients with preoperative INR 1.01-1.24 (OR 1.77, 95% CI: 1.43, 2.18; $p < 0.001$), INR 1.25-1.49 (OR 3.25, 95% CI: 2.19, 4.72; $p < 0.001$), and INR ≥ 1.5 (OR 2.09, 95% CI: 1.23, 3.37; $p = 0.004$) had increased risk of bleeding transfusion following TSA compared to patients with INR ≤ 1 [Table 2].

Conclusion: Patients with elevated preoperative INR undergoing TSA have increased risk of intra- or post-operative bleeding transfusion, indicating possible application of INR as a preoperative predictor of bleeding complications in TSA. Further studies characterizing management of coagulation function and supportive perioperative strategies for patients with impaired function may optimize outcomes.

A43

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Preoperative Transfusion May Predict Prolonged Hospitalization for Patients Undergoing Total Shoulder Arthroplasty

Medical optimization prior to surgery may involve preoperative blood transfusion, which may have associated complications. This study assessed the relationship between preoperative blood transfusion and surgical admission length of stay (LOS) among total shoulder arthroplasty (TSA) patients.

Methods:

A retrospective cohort study was performed using the National Surgical Quality Improvement Program (NSQIP) database of TSA cases occurring between 2012-2021. Age criteria was >18 years. Preoperative transfusion, the primary exposure, was defined as transfusion of >1 unit of whole or packed red blood cells within 72 hours prior to operative start time. Patients were divided into two cohorts based on occurrence of preoperative transfusion. The primary outcome, LOS, was measured in days. Potential confounders included basic demographics (age, sex, race, ethnicity), baseline health status (functional status, ASA classification, BMI, smoking status within one year, history of diabetes), and procedure characteristics (admission origin, surgical setting, anesthesia modality, emergency procedure designation). Univariate analyses and complete case analysis using multivariable regression were performed to evaluate the relationship between preoperative transfusion and LOS.

Results:

During the study period, 38,260 patients underwent TSA, of which 87 (0.2%) received preoperative transfusion. The highest proportion of patients were 70-79 years, female, White, non-Hispanic, independent functional status, ASA class 3, obesity, no smoking history, and no diabetes. On multivariable regression analysis patients with preoperative transfusion had longer LOS (OR 2.38, 95% CI 2.10 to 2.69; $p < 0.001$) following TSA.

Conclusion:

For patients undergoing TSA, preoperative transfusion is associated with prolonged hospital length of stay. Further studies characterizing reasons for requiring preoperative transfusion and supportive strategies during perioperative period, may optimize patient outcomes.

A44

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Elevated International Normalized Ratio (INR) is Associated with Higher Risk of 30-Day Mortality Rates Among Patients Recovering from Surgery for Femoral Shaft Fracture

Introduction:

Patients with an elevated international normalized ratio (INR) may have increased perioperative risks, including higher mortality rates. This study examines the relationship between preoperative INR levels and 30-day mortality among patients recovering from open reduction and internal fixation (ORIF) for femoral shaft fractures.

Methods:

A retrospective cohort study using the National Surgical Quality Improvement Program (NSQIP) database (2012–2021) included patients aged ≥ 18 years undergoing ORIF. The primary exposure was an elevated INR (≥ 1.25) within 72 hours preoperatively. Patients were grouped by INR status. Potential confounders included demographics, health status, and procedural characteristics. Chi-square tests assessed cohort differences, and multivariable regression adjusted for confounders to determine the impact of elevated INR on 30-day postoperative mortality risk.

Results:

Among 5,580 ORIF cases, 665 (11.9%) had an elevated INR (≥ 1.25) preoperatively. In both cohorts, most patients were aged 80–89, White, non-Hispanic, female, had normal BMI, no chronic immunosuppression, no diabetes, no smoking history, ASA classification of 3, independent functional status prior to surgery, and elective case designation. Additionally, most patients presented from home and received general anesthesia [Table 1]. On multivariable regression adjusting for potential confounders, patients with an elevated INR had 1.81 times higher odds (95% CI 1.17 to 2.74; $p=0.006$) of 30-day mortality following ORIF for femoral shaft fracture compared to patients with an INR < 1.25 [Table 2].

Conclusion:

Patients with an elevated INR before surgery had a significantly increased risk of 30-day mortality following ORIF. Further studies into risk stratification and perioperative anticoagulation management may help reduce mortality risk, particularly among patients presenting with coagulopathy before surgery.

A45

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Unintentional Weight Loss is Associated with Higher Risk of Institutional Discharge Destination Among Patients Undergoing Surgery for Distal Radius Fractures

Introduction

Unintentional weight loss is potentially associated with poor surgical outcomes. This study sought to assess the relationship between unintentional weight loss and institutional discharge destination among patients who received ORIF for distal radius fracture (DRF).

Methods

A retrospective cohort study using NSQIP was performed involving patients who underwent ORIF for DRF between 2012 and 2020. The primary exposure, unintentional weight loss, was defined as >10% loss of body weight within 6-months preceding the surgical procedure. Patients with and without unintentional weight loss were assigned to two different cohorts. Potential confounders were basic demographics, baseline health status, and surgical characteristics. Inclusion criteria was age >18 years. Univariate analyses employed chi-square testing to assess for cohort differences. Multivariable regression analysis adjusting for potential confounders was performed to assess unintentional weight loss as a risk factor for institutional discharge destination.

Results

During the study period, 28,685 patients received ORIF for DRF, of which 57 (0.2%) had unintentional weight loss. The highest proportion of patients in both cohorts had female sex, white race, non-Hispanic ethnicity, independent functional status, normal weight, non-smoking status and no diabetes. Also, most patients in both cohorts were admitted from home, received surgery on an elective basis, in an outpatient setting, and received general anesthesia. Patients with versus without unintentional weight loss had older age and higher ASA. On multivariable regression analysis adjusting for potential confounders, patients with versus without unintentional weight loss had 2.94 times higher odds (95% CI 0.97 to 8.18; $p = 0.048$) of being discharged to an institution.

Conclusion

Patients with compared to those without unintentional weight loss who undergo ORIF for DRF have a higher risk of being discharged to an institution following surgery.

A46

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Increased Institutional Discharge Disposition in Chronic Obstructive Pulmonary Disease Patients Undergoing Primary Total Hip Arthroplasty: A Nationwide Analysis

Introduction: Total hip arthroplasty (THA) is among the most common surgical procedures in the United States. The need for institutional care following THA can significantly increase the burden on the healthcare system, leading to higher costs and resource utilization. This study sought to assess the relationship between Chronic Obstructive Pulmonary Disease (COPD) and institution discharge disposition among patients who underwent primary THA.

Methods: A retrospective cohort study was performed using the National Inpatient Sample database of primary THA occurring between 2010 and 2021. The primary exposure was a diagnosis of COPD. Confounding variables were basic demographics, baseline health status, and surgical facility characteristics. The primary outcome studied was institutional discharge disposition. Univariate analyses were performed to assess differences between cohorts. Multivariable regression analysis that adjusted for confounding variables was performed to identify institutional discharge disposition of patients with COPD undergoing THA.

Results: Our study identified 819,733 cases of primary THA that fulfilled study inclusion criteria, of which 59,845 (7.30%) had a diagnosis of COPD. Many patients in both cohorts had female sex, White race, and Medicare insurance. Most procedures were performed in large, urban-teaching, and private, non-profit hospitals. On multivariable regression analysis, compared to patients without COPD, those with COPD had 1.33 times higher (95% CI 1.30-1.36; $p < 0.001$) odds of institutional discharge disposition.

Discussion and Conclusion: Compared to patients without COPD, those with COPD undergoing primary THA demonstrated a significantly higher risk of requiring institutional discharge. This finding signifies the need for targeted preoperative optimization and discharge planning tailored to this high-risk population. Further research is essential to explore interventions that reduce institutional discharge rates for THA.

A47

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Obstructive Sleep Apnea Increases Risk of Medical Complications After Primary Total Hip Arthroplasty

Introduction:

Obstructive sleep apnea (OSA) is associated with a plethora of comorbidities, including obesity, cardiovascular disease, diabetes, asthma, and GI dysfunction, all of which may increase the risk of complications post-total hip arthroplasty (THA). This study aimed to evaluate post-operative complications among OSA patients who underwent primary THA.

Methods:

A retrospective cohort study was conducted using the National Inpatient Sample database of primary THA cases between 2010-2021 with OSA diagnosis as primary exposure. Potential confounders included demographics, pre-operative health status, and surgical facility characteristics. The primary outcomes were procedure-related complications which includes acute myocardial infarctions, pneumonia, sepsis, septicemia, septic shock, surgical site complications (e.g., bleeding and infection), pulmonary embolism, deep vein thrombosis, periprosthetic joint infection, and mechanical complications. Univariate analyses were performed to assess potential cohort differences. A multivariable regression analysis, adjusted for confounding variables, assessed postoperative complications risk of THA patients with OSA.

Results:

Of 819,733 THA cases that met study inclusion criteria, 94,835 (11.57%) had an OSA diagnosis. Many patients in both cohorts were 60-69 years old, had White race, Medicare insurance, and Charlson comorbidity index of 0. Many of the procedures were performed in large, urban-teaching, and private, non-profit hospitals. Overall, patients with OSA had 1.04 times higher (95% CI: 1.01-1.07, $p=0.016$) odds to have a procedure related complication after primary THA.

Discussion/Conclusion:

Patients with OSA who underwent THA were at greater risk for procedure-related complications. Future research to understand the risk stratification in patients with OSA undergoing primary THA is crucial to efficiently optimize outcomes.

A48

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Co-author(s):

A Retrospective Nationwide Analysis of the Impact of Sleep Apnea on Admission Costs Following Total Hip Arthroplasty

Introduction: Total hip arthroplasty (THA) is one of the most frequently performed surgeries in the United States. Obstructive sleep apnea (OSA) may influence postoperative outcomes, potentially increasing the burden on patients and the healthcare system. This study aimed to evaluate the association between SA and postoperative costs and discharge disposition in patients undergoing primary THA.

Methods: A retrospective cohort study was performed using the National Inpatient Sample database of primary THA occurring between 2010 and 2021. The primary exposure was diagnosis of OSA. Confounding variables were basic demographics, baseline health status, and surgical facility characteristics. The primary outcome studied was admission cost. Univariate analyses were performed to assess differences between cohorts. Multivariable log-linear regression was used to evaluate the association between OSA and admission cost among patients who underwent THA.

Results: Our study identified 819,733 cases of THA that fulfilled study inclusion criteria, of which 94,835 (11.57%) had a diagnosis of OSA. Many patients in both cohorts were 60-69 years old, had White race, Medicare insurance, and Charlson comorbidity index of 0. Many of the procedures were performed in large, urban-teaching, and private, non-profit hospitals. On univariate analysis, OSA patients had higher average admission costs compared to non-OSA patients (\$65,108 vs. \$64,853; $p < 0.001$). On adjusted multivariable analysis, OSA patients had 1.01 times higher (95% CI 1.01-1.01; $p < 0.001$) odds of higher costs compared to non-OSA patients.

Conclusion: Patients with obstructive sleep apnea undergoing total hip arthroplasty have significantly higher admission costs compared to those without sleep apnea. These findings highlight the need for targeted perioperative management strategies to optimize resource utilization and outcomes in this population.

A49

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Assessing the Relationship Between Obstructive Sleep Apnea and Discharge Destination Following Total Hip Arthroplasty

Introduction: Discharge destination plays a crucial role in healthcare costs and resource utilization following total hip arthroplasty (THA), with institutional discharge often imposing higher costs and placing additional strain on healthcare systems. Evaluating these factors influencing discharge disposition is essential to optimizing care pathways and resource allocation. This study aims to explore the association between obstructive sleep apnea (OSA)—a prevalent yet underdiagnosed condition—and the likelihood of institutional discharge after THA, providing insights into its impact on post-discharge outcomes and healthcare burden.

Methods: We conducted a retrospective cohort study using the National Inpatient Sample (NIS) database, identifying THA cases performed between 2010 to 2021. Patients aged ≥ 18 years were categorized based on a preoperative diagnosis of OSA. The primary outcome studied was institutional discharge. Potential confounding variables included demographics, baseline health status, and surgical facility characteristics. Univariate analyses were performed to assess differences between cohorts. Multivariable regression analysis, adjusted for confounding, was used to assess the association between sleep apnea and institutional discharge disposition.

Results: Of the 819,733 THA patients selected, 94,835 (11.57%) had OSA. The highest proportion of patients across both cohorts had White race/ethnicity and were 60-69 years old. Most of the procedures were performed in large, urban-teaching, and private, non-profit hospitals. On multivariable regression analysis, patients with OSA had 1.13 times higher (95% CI, 1.11-1.15; $p < 0.001$) odds of institutional discharge compared to patients without.

Discussion: Patients diagnosed with OSA have increased odds of institutional discharge following THA. These findings highlight the need for further research into specific institutional discharge destinations post-THA to optimize post-operative care.

A50

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History of Gastric Bypass Surgery Increases Risk of Complications Following Total Hip Arthroplasty

Introduction: Among the most common surgical procedures in the United States is total hip arthroplasty (THA). A common bariatric surgery is gastric bypass surgery (GBS), which is indicated by obesity, which itself increases the risk of requiring THA. This study sought to assess the relationship between history of GBS and postoperative outcomes in patients who underwent primary THA

Methods: A retrospective cohort analysis was conducted on patients receiving primary THA between 2010-2021 with data from the National Inpatient Sample database. The primary exposure was a history of GBS. Confounding variables included basic demographics, insurance type, baseline health status, and surgical facility characteristics. Univariate analyses were performed to compare the two cohorts. Multivariable regression analysis adjusting for confounding variables was performed to identify postoperative complication risk of patients with a history of GBS undergoing THA.

Results: Of 819,733 cases fulfilling study inclusion criteria, 10,160 (1.24%) had a history of GBS. A high proportion of patients among both cohorts were 60-69 years old, had female gender, and White race/ethnicity. Many procedures were performed in large, private non-profit, and urban teaching hospitals. On multivariable regression, compared to patients without a history of GBS, those with a history of GBS had 1.58 times higher odds (95% CI 1.46-1.70, $p < 0.001$) of procedure-related complications and 1.17 times higher odds (95% CI 1.12-1.23, $p < 0.001$) of hospital-acquired complications. No significant difference was found in admission mortality ($p=0.368$)

Discussion and Conclusion: Undergoing THA with a history of GBS increases the risk for procedure-related complications and hospital-acquired complications but does not affect admission mortality. To improve patient outcomes, further research is needed on risk stratification for THA candidates with a history of GBS.

A51

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Association Between Chronic Obstructive Pulmonary Disease and Procedure-Related Complications in Primary Total Hip Arthroplasty Patients

Introduction: Total hip arthroplasty (THA) is a common surgical procedure that replaces the hip joint with a prosthetic implant to relieve pain and improve mobility. Chronic obstructive pulmonary disease (COPD) is a common chronic respiratory condition involving inflammation and limited ventilation. This study investigated the association between COPD and procedure-related complications (PRC) in patients undergoing primary THA.

Methods: This retrospective cohort study examined primary THA cases in the National Inpatient Sample (NIS) database between 2010 and 2021. Adult patients (≥ 18) were separated into two cohorts based on the presence or lack of a COPD diagnosis. The primary outcome, PRC, includes acute myocardial infarctions, pneumonia, sepsis, septicemia, septic shock, surgical site complications (e.g., bleeding and infection), pulmonary embolism, deep vein thrombosis, periprosthetic joint infection, and mechanical complications. Univariate analyses were performed to identify potential differences between the two cohorts. Multivariable regression analysis was then used to examine the relationship between COPD and procedure-related complications, with adjustments made for confounding variables such as basic demographics, baseline health status, and procedure characteristics.

Results: Of 819,733 THA procedure patients during the study period, 59,845 (7.3%) had a prior diagnosis of COPD, and 759,888 (92.7%) had no COPD diagnosis. The greatest percentage of patients in both cohorts had female gender, and were 60-69 years old. A majority of the procedures occurred in large, urban teaching, and private, non-profit hospitals. On adjusted multivariable regression, compared to those without COPD, those with COPD had 1.11 times higher (95% CI 1.08 to 1.15; $p < 0.001$) odds of PRC.

Conclusion: Our findings suggest that patients with COPD have a higher risk of PRC following primary THA when compared to patients without COPD.

A52

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Chronic Obstructive Pulmonary Disease as a Predictor of Increased Costs and Prolonged Hospitalization in Primary Total Hip Arthroplasty: A National Database Study

Introduction:

Total hip arthroplasty (THA) is among the most common invasive surgical procedures in the United States. This study aimed to evaluate the impact and assess the relationship between Chronic Obstructive Pulmonary Disease (COPD) and the costs and duration of stays for patients undergoing total hip arthroplasty.

Methods:

A retrospective cohort study was conducted using the National Inpatient Sample database of primary THA occurring between 2010 and 2021. Patients were categorized based on the presence of COPD. The primary outcomes were admission cost and length of stay. Potential confounders included basic demographics, baseline health status, and surgical facility characteristics. Univariate analyses were performed to contrast cohort variations. Multivariable analyses, adjusted for confounding variables, were conducted to assess the risk of increased length of stay and admission cost for patients with COPD undergoing primary THA.

Results:

Our study identified 819,733 patients who underwent primary THA and fulfilled inclusion criteria, 59,485 (7.30%) of which had COPD. The highest proportion of patients in both cohorts were 60-69 years old, had female sex, White race, and Medicare insurance. A large proportion of the procedures occurred in large, urban teaching, private non-profit hospitals. On multivariable regression analysis, compared to those without COPD, those with COPD have 1.01 times higher (95% CI 1.00-1.02; $p<0.001$) odds of increased cost as well as 1.06 times higher (95% CI 1.05-1.07; $p<0.001$) odds of a prolonged length of stay.

Conclusion:

Compared to patients without COPD, those with COPD who underwent primary THA had higher odds of increased cost and length of stay. Further research on cost mitigation and time efficiency for THA candidates with COPD is required to improve outcomes.

A53

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Preoperative Transfusion is Associated with Higher Risk of Readmission Among Patients Undergoing Surgery for Femoral Shaft Fracture

Introduction:

Preoperative blood transfusion may be necessary for surgical optimization but carries potential complications. This study assesses the relationship between preoperative transfusion and 30-day hospital readmission among patients undergoing open reduction and internal fixation (ORIF) for femoral shaft fractures.

Methods:

A retrospective cohort study using the National Surgical Quality Improvement Program (NSQIP) database (2012-2021) included patients aged ≥ 18 years undergoing ORIF for femoral shaft fractures. The primary exposure was preoperative transfusion ≥ 1 unit of whole or packed red blood cells within the 72-hour preoperative period. Patients were divided into two cohorts based on preoperative transfusion status. Confounders included basic demographics, baseline health, and procedure characteristics. Univariate analyses employing chi-square testing were used to identify differences between cohorts. Multivariable regression analysis adjusting for potential confounders was utilized to identify the risk of preoperative transfusion on 30-day hospital readmission.

Results:

Among 6,812 ORIF cases, 373 (5.48%) received a preoperative transfusion. In both cohorts, most patients were aged 80-89 years, White, non-Hispanic, female, normal BMI, no chronic immunosuppression, no diabetes, no smoking, ASA classification of 3, independent function status prior to surgery, elective case designation, presented from home, and received general anesthesia [Table 1]. Multivariable regression analysis showed that preoperative transfusion was associated with 1.57 times higher odds (95% CI 1.06 to 2.26; $p=0.02$) of 30-day readmission [Table 2].

Conclusion:

Patients who received preoperative transfusion had an increased risk of 30-day hospital readmission following ORIF for femoral shaft fracture. Further studies into risk stratification and medical management may help to reduce readmission, especially among patients who need a transfusion during the preoperative period.

A54

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Preoperative Transfusion is Associated with Higher Risk of Urinary Tract Infection Among Patients Recovering from Surgery for Femoral Shaft Fracture

Introduction:

Patient may require preoperative blood transfusion which may carry associated complications. This study examines the relationship between preoperative transfusion and Urinary Tract Infection (UTI) among patients recovering from open reduction and internal fixation (ORIF) for femoral shaft fractures.

Methods:

A retrospective cohort study using the National Surgical Quality Improvement Program (NSQIP) database (2012–2021) included patients aged ≥ 18 years undergoing ORIF. The primary exposure was transfusion of ≥ 1 unit of whole or packed red blood cells within 72 hours preoperatively. Patients were grouped by transfusion status. Potential confounders included demographics, health status, and procedural characteristics. Chi-square tests assessed cohort differences, and multivariable regression adjusted for confounders to determine the impact of transfusion on 30-day postoperative UTI risk.

Results:

Among 6,812 ORIF cases, 373 (5.48%) received a preoperative transfusion. In both cohorts, most patients were aged 80–89, White, non-Hispanic, female, had normal BMI, no chronic immunosuppression, no diabetes, no smoking, ASA classification of 3, independent function status prior to surgery, and elective case designation. Also, most patients presented from home and received general anesthesia [Table 1]. On multivariable regression adjusting for potential confounders, patients who received a preoperative transfusion had 2.04 times higher odds (95% CI 1.22 to 3.27; $p=0.005$) of developing a UTI following ORIF for femoral shaft fracture compared to patients who did not receive a preoperative transfusion. [Table 2]

Conclusion:

Patients who received preoperative transfusions had more than doubled their risk of having a UTI following ORIF. Further studies into risk stratification and medical management may help to reduce UTI occurrence during recovery, especially among patients who must receive a transfusion during the preoperative period.

A55

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Preoperative Transfusion is Associated with Longer Hospital Length of Stay Among Patients Undergoing Surgery for Femoral Shaft Fracture

Introduction:

Preoperative blood transfusion may aid surgical optimization but carries risks, including hospital-related complications and increased healthcare costs due to prolonged hospitalization. This study evaluates the association between preoperative transfusion and hospital length of stay in patients undergoing open reduction and internal fixation (ORIF) for femoral shaft fractures.

Method:

A retrospective cohort study using the National Surgical Quality Improvement Program (NSQIP) database (2012-2021) included patients aged ≥ 18 years undergoing ORIF for femoral shaft fractures. The primary exposure was preoperative transfusion ≥ 1 unit of whole or packed red blood cells within the 72-hour preoperative period. Patients were divided into two cohorts based on preoperative transfusion status. Confounders included demographics, baseline health, and procedure characteristics. Univariate analyses employing chi-square testing were used to identify differences between cohorts. Log-linear regression analysis adjusting for potential confounders was used to identify the association of preoperative transfusion and hospital length of stay.

Result:

Among 6,812 ORIF cases, 373 (5.48%) had preoperative transfusion. In both cohorts, most patients were aged 80-89 years, White, non-Hispanic, female, normal BMI, no chronic immunosuppression, no diabetes, no smoking, ASA classification of 3, independent function status prior to surgery, elective case designation, presented from home, and received general anesthesia [Table 1]. Log-linear regression analysis showed that preoperative transfusion was associated with 1.31 (95% CI 1.22 to 1.41; $p < 0.001$) times longer hospital stay [Table 2].

Conclusion:

Patients with preoperative transfusion had a longer hospital stay following ORIF for femoral shaft fracture. Further studies into risk stratification and medical management may help to reduce postoperative length of stay, especially among patients who require a preoperative transfusion.

A56

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Oocyte Cryopreservation on TikTok: An analysis of top 50 videos

Introduction

Oocyte cryopreservation is a safe and effective option for individuals looking to preserve their reproductive potential. This procedure is increasingly common among women of reproductive age, with information readily available on popular social media platforms like TikTok.

Objective

To analyze TikTok videos on oocyte cryopreservation, focusing on their creators, content, and audience engagement.

Methods

TikTok was searched for “egg freezing,” and the top 50 results were independently reviewed and analyzed. Collected data included the video source (physician vs. non-physician), along with engagement metrics such as likes, comments, views, shares, and saves. Video content was assessed using the DISCERN questionnaire.

Results

Of the 50 videos analyzed, 13 (26%) were created by physicians, while 37 (74%) were created by non-physicians. Physician-created videos received fewer average views, comments, saves, and shares but garnered more likes compared to those from non-physicians. Overall, physician-produced content scored higher across all DISCERN categories and was rated significantly higher in quality (3.59 vs. 3.14, $p=.038$).

Discussion

TikTok users are more likely to view and engage with non-physician content, largely due to its greater availability. However, physician-produced videos are more educational and of higher quality. This highlights an opportunity for professional societies and IVF clinics to expand their social media presence and share expert insights on oocyte cryopreservation.

A57

Dan Kamen B.A.

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Reassessing the Role of Epithelial IL-23 Signaling in Intestinal Inflammation

Background: Interleukin-23 (IL-23) is a key pro-inflammatory cytokine primarily released by dendritic cells and macrophages, crucial for both the differentiation and maintenance of Th17 cells. Research into the specific role of epithelial IL-23 signaling has linked the protective role of epithelial IL-23 signaling in intestinal inflammation. However, our findings have raised questions regarding these results.

Methods: A murine model lacking the IL-23 receptor in villus and crypt epithelial cells (IL-23VilCre) of the intestines was established using Cre recombinase. Subsequently, IL-23VilCre and mice without the Cre recombinase were exposed to Dextran Sodium Sulfate (DSS) water to induce colitis, with weight loss and colon length serving as metrics for evaluating inflammation severity.

Results: Contrary to previous findings suggesting a protective effect of epithelial IL-23 signaling in intestinal inflammation, our results demonstrated no significant differences in weight loss or colon length between IL-23VilCre mice and mice with IL-23 receptor in the intestinal epithelial intact. These findings indicate a discrepancy between our results and previous literature regarding the role of epithelial IL-23 signaling in intestinal inflammation.

Discussion: Our findings present notable discrepancies compared to previous literature, prompting questions regarding the involvement of epithelial IL-23 signaling in intestinal inflammation.

A58

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Infectious Patellar Tenosynovitis: A Rare Case of Patellar Tendon Abscess and Traumatic Rupture

Introduction: Infectious tenosynovitis of the patellar tendon is a rare condition, with only two cases previously reported in literature. We present a case of a 63-year-old diabetic male who developed infectious patellar tenosynovitis complicated by an intratendinous abscess and subsequent traumatic rupture after a fall. The patient presented with progressive left knee pain, swelling, and an inability to extend the knee. His history was significant for a draining wound inferior to the patella treated with a short course of antibiotics two months prior.

Imaging: MRI from an outside facility revealed bony erosion of the tibial tuberosity and inflammatory changes of the patellar tendon but did not demonstrate a rupture. However, radiographs indicated patellar alta and signs suggestive of tendon rupture, with possible avulsion fracture or erosive changes at the tibial tuberosity for which infectious or neoplastic processes were not excluded. A non-contrast CT scan identified a central low-attenuation focus within the tendon and erosive changes at the tibial tuberosity. Definitive evaluation with contrast-enhanced MRI delineated a large intratendinous abscess extending into the subcutaneous fat, tibial tuberosity osteomyelitis, and clear discontinuity of the tendon, consistent with a tendon rupture.

Treatment: The patient underwent incision and drainage with intraoperative cultures yielding *Staphylococcus aureus*. Following a course of vancomycin, antibiotic therapy was narrowed to IV cefazolin for 6 weeks due to osteomyelitis and patellar tendon repair was successfully performed 3 weeks after debridement.

Conclusion: This case highlights the importance of considering infectious etiologies in tendon injuries, particularly in patients with risk factors such as diabetes and prior soft tissue infections. It also highlights the role of MRI with contrast in differentiating infectious, traumatic, and neoplastic processes, ensuring timely diagnosis and appropriate management.

A59

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Informing healthcare approaches for sexually minoritized men with HIV and methamphetamine use.

Background: Methamphetamine use has surged among US sexual minority men (SMM), complicating HIV care engagement. Methamphetamine use is associated with poor adherence to antiretroviral therapy (ART), leading to elevated HIV viral load and faster disease progression. To inform HIV care strategies, this study investigated the association between methamphetamine use severity and suboptimal (<90%) past month self-reported ART adherence among SMM LWH.

Methods: Using online screener data from 7,276 SMM with self-reported HIV from an mHealth ART adherence intervention, we conducted multivariable Poisson regressions controlling sociodemographic variables and other substance use to investigate the association between methamphetamine use severity and ART adherence. Methamphetamine use severity was calculated using NIDA-Modified ASSIST. Self-reported ART adherence was measured using a visual analog scale (0-100%).

Results: Moderate (RR=2.34, 95%CI 2.16-2.54) and severe (RR=2.88, 95%CI 2.65-3.12) methamphetamine use were significantly associated with suboptimal ART adherence compared to non-use. Older age (RR=0.99, 95%CI 0.98-0.99), and being foreign-born (RR=0.75, 95%CI 0.67-0.85) were associated with better ART adherence. Latino (RR=1.16, 95%CI 1.08-1.24) and Black (RR=1.32, 95%CI 1.23-1.41) SMM reported suboptimal ART adherence more than their white counterparts. In stratified models, younger age and moderate-to-severe methamphetamine use was associated with suboptimal ART adherence across race and ethnicity.

Conclusions: Results support the need for culturally competent methamphetamine screening within HIV and primary care settings to improve adherence. Stimulant use severity predicts suboptimal adherence. However, stratified models by race and ethnicity did not further explain this phenomenon. Addressing stimulant use and structural barriers to treatment are critical for improving ART adherence among SMM LWH.

A60

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Serum Albumin May Predict Hospital-Related Complications in Total Shoulder Arthroplasty

Introduction:

Serum albumin measurement is a low-cost test assessing nutritional status and organ function. This study examined the relationship between preoperative serum albumin levels and hospital-related complications (HRC) in total shoulder arthroplasty (TSA) patients.

Methods:

A retrospective cohort study was performed using NSQIP data from 2012-2021. Inclusion: age ≥ 18 years. Patients were grouped by preoperative albumin: severe hypoalbuminemia (<3 mg/dL), mild hypoalbuminemia (3-3.49 mg/dL), normal (3.5-4.49 mg/dL), and hyperalbuminemia (≥ 4.5 mg/dL). The primary outcome was HRC, including acute kidney failure and urinary tract infection. Confounders included demographics (age, sex, race, ethnicity), baseline health (functional status, ASA class, BMI, smoking, diabetes, immunosuppressive therapy), and procedure characteristics (admission origin, surgical setting, anesthesia, transfusion, emergency designation). Univariate analyses assessed differences between cohorts, and multivariable regression examined the relationship between albumin and HRC.

Results:

Among 18,044 TSA patients, 13,744 had normal albumin, 1,055 mild hypoalbuminemia, 248 severe hypoalbuminemia, and 2,997 hyperalbuminemia. Most hypoalbuminemia and normal albumin patients were 70-79 years old, female, White, non-Hispanic, functionally independent, ASA class 3, obese, and had no smoking, diabetes, or immunosuppressive therapy. The hyperalbuminemia cohort had more patients aged 60-69, male, and ASA class <3 .

Adjusted multivariable regression showed severe hypoalbuminemia patients had 2.93 times higher odds (95% CI 1.43-5.51; $p=0.002$) of HRC than those with normal albumin. This association was not significant for mild hypoalbuminemia or hyperalbuminemia.

Conclusion:

TSA patients with severe hypoalbuminemia have a higher HRC risk. Further studies on preoperative albumin management and perioperative support strategies may improve outcomes.

A61

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Diminished Serum Albumin is Associated with Institutional Discharge Among Patients Undergoing Total Shoulder Arthroplasty

Introduction:

Serum albumin measurement is a low-cost test assessing nutritional status and organ function. This study examined the relationship between preoperative serum albumin levels and postoperative discharge destination in total shoulder arthroplasty (TSA) patients.

Methods:

A retrospective cohort study was performed using NSQIP data from 2012-2021. Inclusion: age ≥ 18 years. Patients were grouped by preoperative albumin: severe hypoalbuminemia (<3 mg/dL), mild hypoalbuminemia (3-3.49 mg/dL), normal (3.5-4.49 mg/dL), and hyperalbuminemia (≥ 4.5 mg/dL). The primary outcome was discharge to home or an institution. Confounders included demographics (age, sex, race, ethnicity), baseline health (functional status, ASA class, BMI, smoking, diabetes, immunosuppressive therapy), and procedure characteristics (admission origin, surgical setting, anesthesia, transfusion, emergency designation). Univariate analyses assessed differences between cohorts, and multivariable regression examined the relationship between albumin and discharge destination.

Results:

Among 18,044 TSA patients, 13,744 had normal albumin, 1,055 mild hypoalbuminemia, 248 severe hypoalbuminemia, and 2,997 hyperalbuminemia. Most hypoalbuminemia and normal albumin patients were 70-79 years old, female, White, non-Hispanic, functionally independent, ASA class 3, obese, and had no smoking, diabetes, or immunosuppressive therapy. The hyperalbuminemia cohort had more patients aged 60-69, male, and ASA class <3 .

Adjusted multivariable regression showed severe (OR 3.82, 95% CI 2.71-5.38; $p < 0.001$) and mild (OR 1.91, 95% CI 1.58-2.30; $p < 0.001$) hypoalbuminemia patients had higher institutional discharge risk compared to normal albumin. Hyperalbuminemia patients (OR 0.54, 95% CI 0.43-0.68; $p < 0.001$) had lower risk.

Conclusion:

TSA patients with lower preoperative albumin levels have higher institutional discharge risk. Further studies on albumin management and perioperative support may improve outcomes.

A62

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Trends and Emerging Directions in Pediatric Orthopedics: A Bibliometric Analysis

Background: Despite notable progress, broad insight into the future scientific landscape of pediatric orthopedics is lacking. This study aims to analyze the bibliometric trends in pediatric orthopedics to identify key topics, contributors, and emerging areas shaping its future.

Methods: A bibliometric analysis of Web of Science data (1974–2024) assessed citation trends, keyword co-occurrence, and collaboration networks in pediatric orthopedics. Key metrics, including top documents, journals, and geographic contributions, were visualized using Biblioshiny and VOSviewer.

Results: The analysis included 218 publications from 114 sources (1974–2024), with a 6.38% annual growth rate, highlighting increasing interest in pediatric orthopedics. Key themes from keyword analysis included "pediatric trauma," "scoliosis," and "growth plate injuries," with emerging topics like "genomic approaches" and "biomechanics."

The most cited study, Varni et al. (2002), accrued 412 citations, while recent works, such as Woods et al. (2021), showed high annual impact (28.25 citations/year). The United States and Europe led contributions, with strong academic collaboration. Leading journals included Journal of Pediatric Orthopedics and Clinical Orthopedics and Related Research. These findings highlight significant trends and emerging priorities in pediatric orthopedics.

Conclusion: These findings demonstrate the dynamic growth and evolving focus of pediatric orthopedic research, driven by foundational studies and emerging innovations. Strengthening global collaboration and prioritizing cutting-edge topics will be key to advancing the field.

A63

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Trends in Cervical Laminoplasty: Medicare Projections Through 2060

Introduction:

Cervical laminoplasty is a motion-preserving procedure used to treat cervical spondylotic myelopathy (CSM) and ossification of the posterior longitudinal ligament (OPLL). While its use has evolved over time, limited research has projected future trends in utilization.

Methods:

Medicare Part-B National Summary data (2005–2022) was used to assess cervical laminoplasty volumes, adjusting for Medicare Advantage enrollment. Procedures were identified using CPT codes 63051 and 63050. Four forecasting models—log-linear, Poisson, negative binomial regression, and ARIMA—were evaluated, with Poisson regression selected for optimal predictive accuracy. Projections were generated for annual procedure volumes from 2023 to 2060.

Results:

Cervical laminoplasty procedures increased from 811 in 2005 to 2,437 in 2022, a 200.7% growth. The highest annual increase occurred between 2020 and 2021 (21.2%), following a 14.6% decline during the COVID-19 pandemic. The Poisson model estimated an average annual growth rate of 5.0%, with projected volumes reaching 15,528 by 2060 (95% CI: 13,992–17,234), a 537% increase from 2022. The most rapid growth is expected between 2023 and 2024 (5.1%), followed by biennial increases of ~10.5%.

Conclusions:

Cervical laminoplasty utilization has grown significantly and is projected to continue increasing. The findings highlight the need for healthcare systems to allocate resources for rising demand. Further research should examine shifts in indications and the role of motion-preserving procedures in shaping future trends.

A64

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Trends in Urethral Diverticula: A Bibliometric Analysis

Introduction:

Urethral diverticulum is a challenging and under-researched condition with significant implications for patient health. While interest in its etiology, diagnosis, and treatment is growing, gaps remain in the literature. This study provides a bibliometric analysis of urethral diverticula research to highlight key trends and areas for future investigation.

Methods:

The Web of Science (WoS) Core Collection was queried on January 8, 2025, using terms related to urethral diverticula. Only English-language articles and review articles were included, while abstracts, meeting notes, and editorials were excluded. Relevant articles were identified through manual review and analyzed using the Bibliometrix package in R and VOSviewer for bibliometric mapping.

Results:

A total of 357 articles published between 1970 and 2024 were included, with 4,719 total citations and an average of 13.22 citations per article. The most cited article had 126 citations. Research originated from 397 institutions in 35 countries, with the United States (133 articles, 37.3%) leading in publication volume, followed by China (10.4%) and the United Kingdom (6.16%). The Journal of Urology was the most frequent publication source (42 articles, 11.8%). The most commonly used keywords included “women,” “stress urinary incontinence,” and “management.” Trends in the literature focused on diagnostic methodology, management strategies, and clinical presentations.

Conclusions:

Research on urethral diverticula has expanded over the years, but key knowledge gaps remain. Understanding publication trends can guide future studies and improve clinical approaches to diagnosis and treatment.