

Systematic Review of Surgical Care in the Incarcerated Population

Identifying Knowledge Gaps for Future Research

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Objective: This study, examining literature up to December 2023, aims to comprehensively assess surgical care for incarcerated individuals, identifying crucial knowledge gaps for informing future health services research and interventions.

Background: The US prison system detains around 2 million individuals, mainly young, indigent males from ethnic and racial minorities. The constitutional right to healthcare does not protect this population from unique health challenges and disparities. The scarcity of literature on surgical care necessitates a systematic review to stimulate research, improve care quality, and address health issues within this marginalized community.

Methods: A systematic review, pre-registered with the International Prospective Register of Systematic Reviews (CRD42023454782), involved searches in PubMed, Embase, and Web of Science. Original research on surgical care for incarcerated individuals was included, excluding case reports/series (<10 patients), abstracts, and studies involving prisoners of war, plastic surgeries for recidivism reduction, transplants using organs from incarcerated individuals, and nonconsensual surgical sterilization.

Results: Out of 8209 studies screened, 118 met inclusion criteria, with 17 studies from 16 distinct cohorts reporting on surgical care. Predominantly focusing on orthopedic surgeries, supplemented by studies in emergency general, burns, ophthalmology, and kidney transplantation, the review identified delayed hospital presentations, a high incidence of complex cases, and low postoperative follow-up rates. Notable complications, such as nonfusion and postarthroplasty infections, were more prevalent in incarcerated individuals compared with nonincarcerated individuals. Trauma-related mortality rates were similar, despite lower intraabdominal injuries following penetrating abdominal injuries in incarcerated patients.

Conclusion: While some evidence suggests inferior surgical care in incarcerated patients, the limited quality of available studies underscores the urgency of addressing knowledge gaps through future research. This is crucial for patients, clinicians, and policy-makers aiming to enhance care quality for a population at risk of surgical complications during incarceration and postrelease.

Keywords: healthcare, incarceration, inmate, prisoner, surgery, surgical outcomes, trauma

INTRODUCTION

The United States has witnessed a substantial increase in its incarcerated population, reaching over 1.9 million individuals in

2021, with the majority being indigent males and coming from racial and ethnic minority backgrounds.¹⁻³ With over 7 million people released from jail and prisons annually, the corrections system has a large impact on US communities.^{2,4} Additionally, the incarcerated population's unique constitutional right to healthcare places the provision of medical care at the crucial intersection of public health, healthcare disparities, and human rights.⁵

In 2004, 12.7% of incarcerated individuals underwent surgery. Demographic shifts since then reveal individuals over 55 years old now constitute about 15% of the prison populace, up from 5% in 2004.⁶⁻⁸ Surgical admissions in New York from 2004 to 2016 comprised 25% of inpatient hospitalizations among incarcerated individuals, contributing to over 40% of the annual in-hospital expenditures.⁹ Challenges in surgical care for incarcerated individuals include transportation logistics, complex hospitalization processes, limited treatment facility options, and uncertain surgical capabilities. The intricate nature of this care raises concerns about potential delays in diagnosis and treatment, contributing to adverse outcomes. In fact, post-mortem analysis of incarcerated individuals in Miami-Dade County revealed that one-quarter of deaths occurring in prison were attributable to acute traumatic or surgical conditions, with only one-third of them receiving surgical care before death.¹⁰ Despite these challenges, literature on the surgical care of incarcerated individuals is sparse.

Recognizing the complexities of delivering surgical care to incarcerated individuals, this study aims to review the surgical care among this population. We will cover issues of

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presentation with complex surgical cases, access to minimally invasive surgeries, prolonged hospital stays, and postsurgical complications in incarcerated individuals compared with demographically similar nonincarcerated patients. Furthermore, the present study aims to review existing literature on surgical care among incarcerated individuals, with hopes of spurring future health services research and interventions to improve the treatment and management of surgical conditions in this unique population.

METHODS

This study, adhering to the Bureau of Justice's definition of incarceration, analyzes previously published studies and does not need Institutional Review Board review. Incarceration encompasses individuals held in jails, prisons, or private facilities. Jail, for shorter-term holding (sentences ≤ 1 year), is distinct from prison, designed for longer-term sentences (over 1 year).¹¹ This International Prospective Register of Systematic Reviews (CRD42023454782) involved collaboration with a clinical librarian and follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. A meta-analysis was not pursued due to the limited number of available studies, the diverse nature of surgical pathology, the broad spectrum of reported surgical procedures, and the absence of validated approaches for identifying incarcerated individuals. Consequently, the results are synthesized in narrative format following Synthesis Without Meta-analysis guidelines.¹²

Search Strategy and Study Selection

We systematically searched PubMed, Embase, and Web of Science to identify articles published up to September 2023 using specific MeSH headers "prisoner," "inmate," "incarceration," "surgery," and "jail." Titles and abstracts of retrieved studies were screened independently by 3 authors (T.D., A.G., and C.S.) using Covidence, a web-based collaboration software platform. Studies reporting surgical care of incarcerated individuals were included without geographical or temporal restrictions. We identified 2 additional studies, one¹³ published after the search that we included and the search is in Supplemental Table 4, <http://links.lww.com/AOSO/A345>. We excluded studies on foreign body ingestions, case reports, case series (<10 patients), editorials, letters to the editor, abstracts, and articles where there were ethical concerns by the first or last author. We omitted studies on prisoners of war, prison plastic surgeries for recidivism reduction and social integration, organ transplants utilizing organs from incarcerated individuals, and non-consensual surgical sterilization from our analysis. Our focus is on findings aligning with contemporary ethical frameworks.

Data Extraction

Two authors (T.D. and A.L.) independently reviewed and abstracted data from studies meeting inclusion criteria. Disagreements in study classification were resolved through discussion with a third reviewer. Data templates ensured consistent extraction, covering study characteristics (first author, year of publication, country of origin, study type, years evaluated, single or multicenter, institutional review board [IRB] approval, type of consent, and data source), participants (number included, age, race, ethnicity, comorbidities, state *vs* federal incarceration, prison or jail, and duration of imprisonment), surgical factors (operative indications and acuity, and utilization of minimally invasive surgery), and outcomes (surgery specific and study specific postoperative outcomes).

Narrative Synthesis

We categorized studies by operative acuity (elective or nonelective) and further stratified nonelective surgeries into trauma (orthopedic and nonorthopedic), burn surgery, and emergency general surgery. Due to variations in study design, sample, and outcomes, we opted for a narrative synthesis of themes and results for each study or group. We evaluated the risk of bias through Risk Of Bias In Non-randomized Studies—of Exposure (ROBINS-E) tool.¹⁴ The ROBINS-E tool offers a systematic framework for evaluating biases in observational studies of exposures (incarceration), rather than interventions. It assesses 7 key domains: confounding, exposure, sampling, interventions, missing data, outcome measurement, and reported results.

RESULTS

A total of 8209 titles and abstracts were screened, leading to a full-text review of 118 studies. Seventeen studies published between 1989 and 2023 with 16 unique cohorts met the inclusion criteria (Fig. 1). Fifteen studies were from the United States, and 12 had IRB approval. Notably, 3 studies were exempted from IRB review (waived consent),^{15–17} and 2 studies did not report their IRB status^{18,19} (Supplemental Table 1, <http://links.lww.com/AOSO/A345>). Among the 12 studies with IRB approval, 6 included a waiver of consent,^{13,20–24} while 6 did not report the status of consent waivers.^{25–30} Four studies identified incarcerated patients through International Classification of Diseases (ICD) codes: Y92:14_x (prison as location of injury) or E849.7 (injury occurring in residential institution),^{17,18,21,23} 4 used admission or discharge locations,^{16,23,27,28} 8 used prison referral or electronic medical record review,^{13,19,22,24–26,29,30} 1 used prison billing data,¹⁵ and 1 used prospective identification during consultation.²⁰ Using the ROBINS-E tool risk of bias assessment, 70.6% of the studies had high or very high concerns for bias (Fig. 2).

Patient Characteristics

Most cohorts had a minimum of 80% males. Incarcerated patients ranged from 28 to 58 years old and nonincarcerated matched controls spanned ages 35 to 62 years. In 4 out of 17 studies with a comparator group, incarcerated individuals tended to be younger than their nonincarcerated counterparts. Racial and ethnic data were available in 11 studies; 3 had >50% with unknown/other races (Supplemental Table 2, <http://links.lww.com/AOSO/A345>). In surgical care-seeking incarcerated individuals, White patients (13–74%) were most common, while constituting approximately 32% of the prison population.² This skew was pronounced in spinal fusion surgery, with 74% Whites, 4% Blacks, and 22% Hispanics.²²

Comorbidities were noted in 58.8% of studies. Substance use disorders ranged from 9 to 57%,^{16,18,20,23,25} psychiatric illness ranged from 15 to 30%,^{16,18,20,23,25} hepatitis B or C virus (HBV/HCV) ranged from 6.4 to 25%,^{16,20,28} and cirrhosis ranged from 1.5 to 13%.^{16,20,21} Incarcerated patients had lower rates of chronic medical conditions such as diabetes, congestive heart failure, prior stroke, hypertension, and chronic obstructive pulmonary disease.^{21,30}

Elective Surgeries

Four studies reported elective surgeries (2 orthopedic procedures,^{22,28} 1 renal transplantation,²⁶ and 1 ophthalmology²⁴). One study did not distinguish between acute and elective general surgery procedures (Table 1).¹³ Nonunion postelective spinal fusion was significantly higher in incarcerated individuals (37% *vs* 7%; $P = 0.01$), and reoperation rates

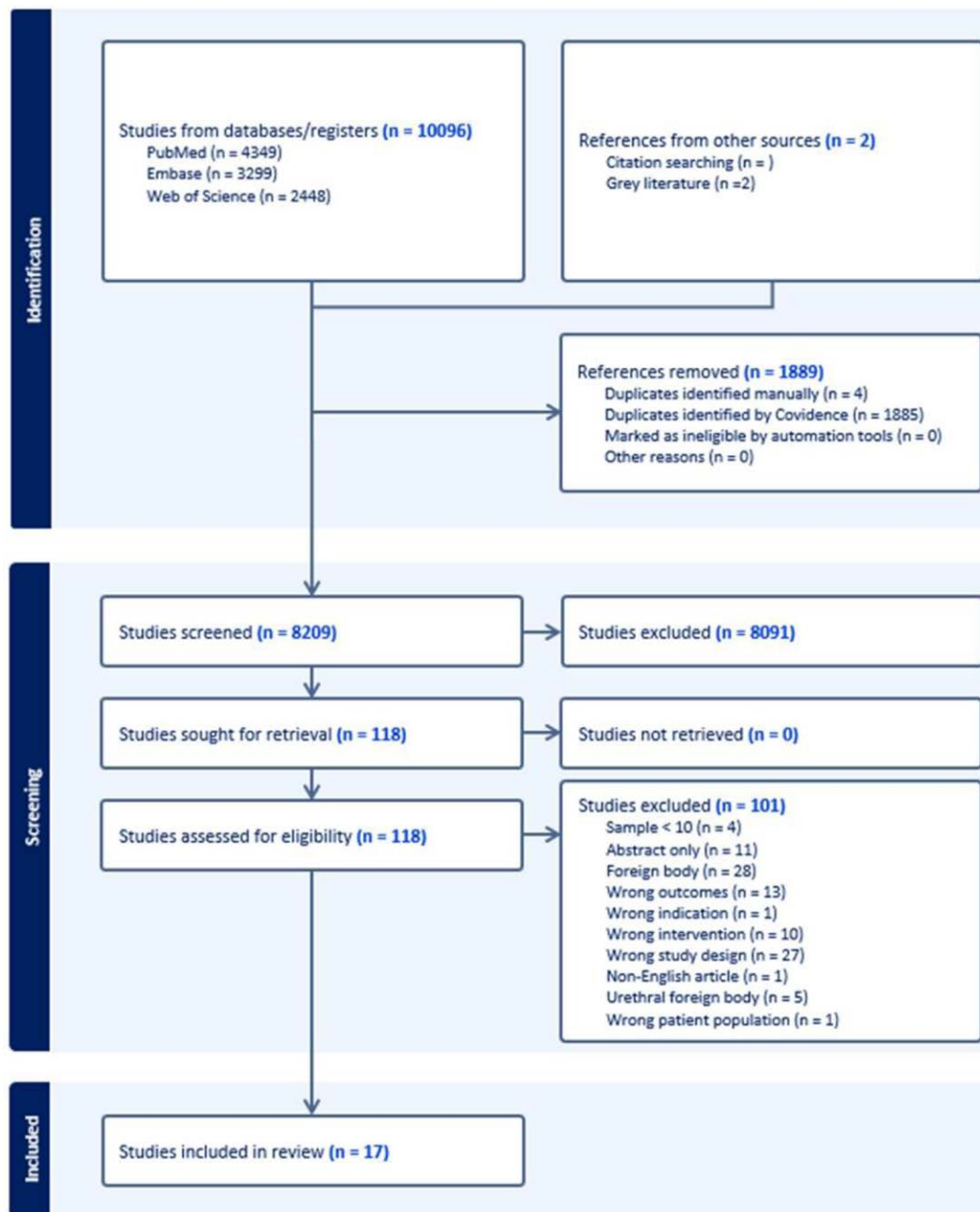


FIGURE 1. Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) Flow Diagram. Derivation of the studies included in the systematic review.

were lower for incarcerated patients with nonunion (30% *vs* 83%; $P = 0.04$) compared to matched (age and sex) comparator group.²² In hip and knee arthroplasty, incarcerated individuals had higher surgical site infection rates (16.7% *vs* 3.5%; $P = 0.03$) and were more likely to require joint revision (20.8% *vs* 5.8%; $P = 0.03$) compared to an unmatched comparator group of male undergoing total knee and hip replacement for arthritis.²⁸ Kidney transplantation in 12 incarcerated individuals showed 100% graft survival at 1 year and 60% at 5 years; no perioperative mortality was observed, but 1 incarcerated patient died before transplantation.²⁶ In glaucoma, it is more prevalent in Black patients than White (79% *vs* 13.4%), 26% had interventions, and 43% opted for minimally invasive clinic procedures with low complication rates (Supplemental Table 3, <http://links.lww.com/AOSO/A345>).²⁴

Nonelective surgeries

Twelve studies reported on nonelective surgeries: 1 on emergency general surgery,¹⁶ 8 on trauma,^{15,17,19,21,23,25,29,30} 1 on both trauma and emergency general surgery²⁰ and 2 on burn surgery.^{18,27} For emergency general surgery, 3 studies described conditions,^{13,16,20} with only 1 comparing postoperative outcomes to nonincarcerated individuals (Supplemental Table 3, <http://links.lww.com/AOSO/A345>).¹³ In a multicenter prospective study, among 430 incarcerated patients, the most common consult was for soft tissue infections (13%), including 3 cases of necrotizing fasciitis. Common procedures included incision and drainage (6.3%), followed by laparoscopic cholecystectomy (4.2%), laparotomy (3%), amputation (2.3%), laparoscopic appendectomy (1.6%), endoscopy (1.4%), and inguinal herniorrhaphy (0.9%). The median length of stay was 4 days (interquartile range, [IQR] 2–8). Overall, 12.8% experienced sepsis, organ failure, surgical

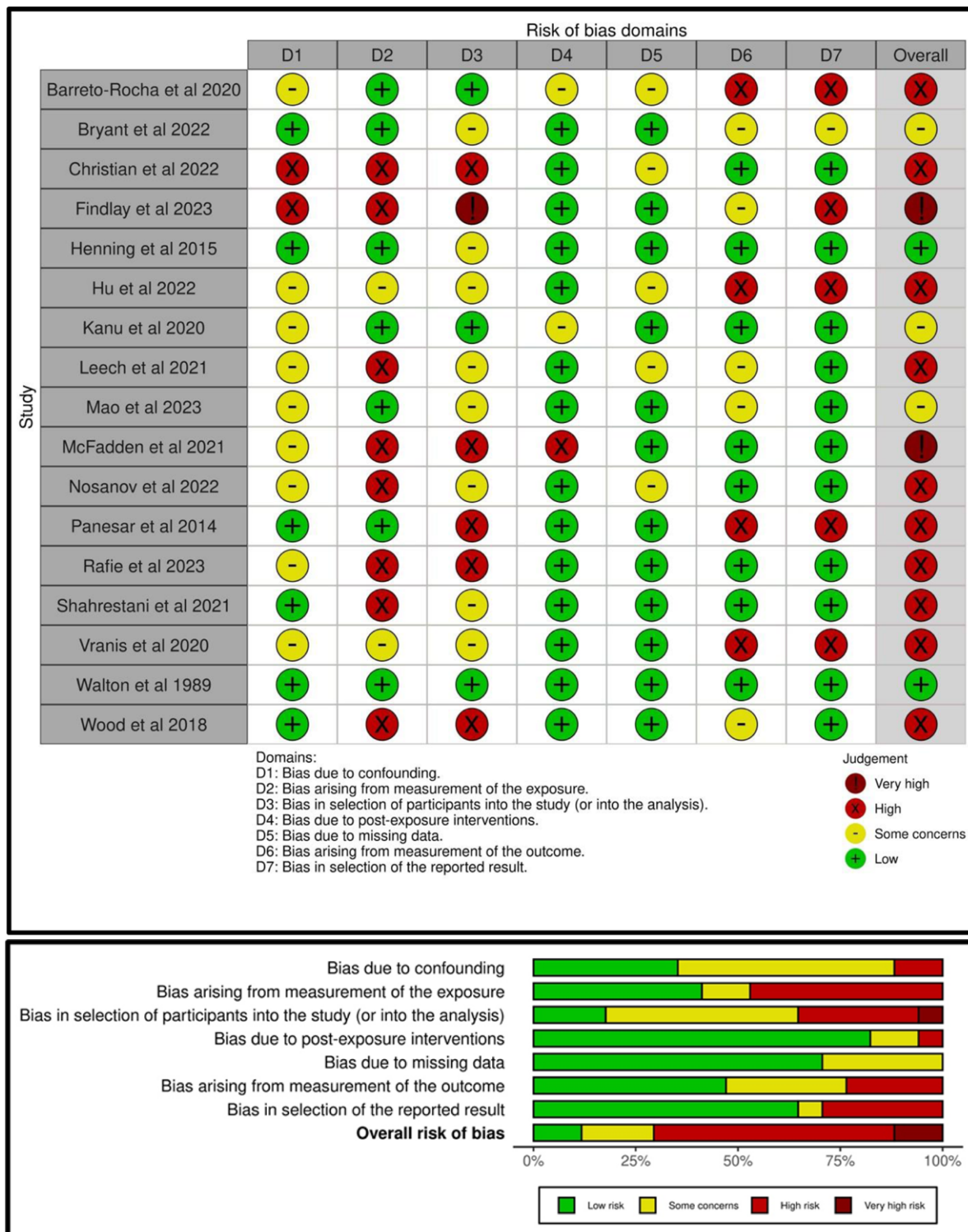


FIGURE 2. ROBINS-E: risk of bias in each domain (D1–D7). Domain 1 is confounding bias. Domain 2 is from the measurement of the exposure (incarceration) bias. Domain 3 is bias in the selection of participants into the study, Domain 4 is bias due to postexposure interventions. Domain 5 is bias due to missing data. Domain 6 is bias due to measurement of the outcome. Domain 7 is bias due to selective reporting. ROBINS indicates risk of bias in non-randomized studies.

site infection, or ileus, with a 1.2% mortality rate. Postoperative follow-up was infrequent, with 22% returning to the emergency department within 90 days and 10% requiring readmission.²⁰

In a California population-based study, incarcerated individuals with peptic ulcer disease, biliary disease, small bowel obstruction, appendicitis, and diverticulitis were more likely to present with perforations, abscess formation, hemorrhage,

or fistulization. Additionally, they were less likely to undergo laparoscopic surgery for cholecystectomies compared with nonincarcerated individuals (odds ratio [OR], 0.57; 95% confidence interval [CI] = 0.44–0.73).¹⁶ The tendency toward open cholecystectomies among incarcerated patients in California was supported by analysis of the American College of Surgeons National Surgical Quality Improvement Program database,

TABLE 1.
Summary of Studies

Acuity of Surgery	Surgical Specialty	Studies	
Elective surgeries	Ophthalmologic surgery	Kanu et al ²⁴	
	Orthopedic surgery	Findlay et al ²² Wood et al ²⁸	
	Transplant surgery	Panesar et al ²⁶	
Nonelective surgeries	Burn surgery	Nosanov et al ¹⁸ Rafie et al ²⁷	
	Emergency general surgery	Leech et al ¹⁶ Mao et al ¹³ Bryant et al ²⁰	
		Neurosurgery	Shahrestani et al ¹⁷
		Nonorthopedic trauma surgery	Bryant et al ²⁰ McFadden et al ²³ Walton et al ¹⁹ Barreto-Rocha et al ¹⁵
	Orthopedic trauma surgery		Bryant et al ²⁰ Christian et al ²¹ Henning et al ²⁵ Hu et al ²⁰ Vranis et al ²⁹

revealing a higher rate of open cholecystectomies (6.3% *vs* 5.6%).¹³ In Texas, examining 30-day morbidity rates after general surgery procedures, incarcerated patients exhibited higher morbidity in National Surgical Quality Improvement Program datasets (8.2% *vs* 5.4%), but these differences were not significant in Vizient Clinical datasets (1.9% *vs* 2.6%).¹³

Trauma and Burn Surgery

Blunt trauma (58%) was the primary mechanism among incarcerated patients,²³ with over 90% of injuries involving head injuries, soft tissue injuries, facial fractures, orthopedic injuries, and spine injuries.²⁰ Following trauma, about 70% of surgical procedures following trauma in incarcerated individuals addressed soft tissue and orthopedic injuries, whereas 17% were exploratory laparotomies, and 7% addressed vascular surgeries.^{19,20}

Orthopedic Trauma

Extremity fractures, particularly hand/wrist injuries, were more common among incarcerated individuals compared with the nonincarcerated population.¹⁵ However, facial trauma was observed in 60% of incarcerated individuals treated at the tertiary hospital in New York City.²⁵ After injury, incarcerated patients showed delayed presentations (average time: 8.5 days *vs* 4 days for nonincarcerated individuals).³⁰ Incarcerated patients were less likely to undergo surgery but had higher rates of surgical fixation for scaphoid (50% *vs* 30%)¹⁵ and nonthumb metacarpal fractures (40% *vs* 19%).³⁰ The rates of postoperative infection (4% *vs* 0%) and nonunion were statistically similar compared with unmatched nonincarcerated comparator group. However, functional outcomes were clinically worse with high rates of prolonged immobilization (14% *vs* 5%) and stiffness (58% *vs* 48%) after repair.^{29,30} Among incarcerated individuals with scaphoid fractures (*n* = 13), surgery was performed in 50% of cases, and half of these cases were complicated by nonunion.¹⁵

Nonorthopedic Trauma and Burn Surgery

In a prospective study of 513 incarcerated patients, 2% underwent exploratory laparotomy, constituting 17% of all surgical procedures.²⁰ For incarcerated patients with anterior abdominal wall stab wounds, there was a lower likelihood of undergoing

diagnostic laparoscopy (7% *vs* 11%) and exploratory laparotomy (42% *vs* 67%) compared with unmatched nonincarcerated counterparts.²³ Twenty-five percent of chest stab wounds resulted in major injuries 67% of these injuries led to hemopneumothorax, managed with tube thoracostomy, and the remaining 33% were injuries to the heart or aorta requiring thoracotomy, of which, 2 (18%) were done in the emergency room.¹⁹ Individuals with major chest stab wounds involving the heart or vascular structures experienced a mortality rate of 82%.¹⁹ Postoperative complications, encompassing surgical site infections, sepsis, ileus, or mortality, were observed in 3.7% of incarcerated patients, with a mortality rate of 0.6% among incarcerated trauma patients presenting to the emergency department.²⁰ In contrast, a secondary analysis of Trauma Quality Improvement Program datasets revealed a trauma-associated mortality rate of 5.1%, akin to the 6% observed in unmatched nonincarcerated individuals.²¹ The median hospital length of stay varied from 1 to 8.7 days across the studies. While not all studies included a comparator group, 2 of the studies showed a shorter hospital length of stay for incarcerated patients.^{17,21} The discrepancy in the length of stay may be influenced by the presence of prison infirmaries, but these distinctions and granularities are notably lacking in current studies.

One study with propensity-score-matched nonincarcerated controls found no difference in surgical outcomes and complications for incarcerated patients with subdural hematomas. Incarcerated patients had shorter hospital length of stay (8.7 ± 15.8 days *vs* 10.9 ± 13.1 days; *P* = 0.0052). The overall mortality rate was comparable in both groups (8.1% *vs* 10.2%). Nevertheless, incarcerated females with subdural hematoma experienced significantly higher mortality (40% *vs* 6.4%; *P* = 0.0017) and higher 30-day readmission compared with incarcerated males (20% *vs* 7.4%; *P* = 0.041).¹⁷ However, in the absence of clinical context surrounding the injuries of male and female incarcerated patients the conclusions drawn from these findings are limited.

Two studies on burn injuries revealed that more than 70% of patients presented with scald or flame injuries. Incarcerated patients had a lower likelihood of having an inhalation injury (14.9% *vs* 23.5%), a smaller total body surface area burned (2% *vs* 3.8%), and had similar likelihood of undergoing surgical debridement and grafting (42.9% *vs* 40.8%) compared with unmatched nonincarcerated controls.¹⁸ There was no significant difference in hospital length of stay with a median of 4 days (IQR, 1–12) for both groups. There was no reported mortality among incarcerated individuals whereas the mortality rate in nonincarcerated patients was 4.5%. In a study from the UK of 68 incarcerated individuals, there were similar burn patterns with 26% of them undergoing surgical intervention. Additionally, the study documented 2 instances of mortality in incarcerated individuals, both of whom had sustained inhalation injuries.²⁷

DISCUSSION

To our knowledge, this systematic review represents one of the first comprehensive analyses of surgical care for incarcerated individuals. First, the surgical literature in this area is notably limited, with 15 out of 17 studies published within the last 5 years, and only 15 originating from the United States. Second, most literature is focused on trauma-related surgical care, highlighting a gap in our understanding of the quality, scope, and costs of elective surgery across surgical specialties. Third, incarcerated individuals undergoing surgery tend to be predominantly male, and young and possess comorbidity profiles that are not well captured from conventional surgical risk calculators. This review highlights the need for more comprehensive research to address these gaps effectively. Understanding surgical care inequities in the context of incarceration is essential for

improving the health outcomes of incarcerated individuals as well as broader public health and healthcare system efficiency.

Despite spending over \$9 billion US dollars per year by the state and federal governments on correctional health care,^{7,31} we have limited understanding of the quality of the surgical care received by incarcerated individuals. Integrating incarcerated individuals into research demands the negotiation of approvals from both the IRB and the Department of Corrections, in addition to obtaining support from incarcerated individuals and personnel in correctional and healthcare settings.³² The inherent challenge of aligning these stakeholders, often with divergent priorities, has likely impeded advancements in healthcare research in this complex environment. Despite the challenges in analyzing on-site healthcare delivery within prison systems, particularly in states with significant utilization of private prison systems such as Hawaii, Montana, and New Mexico, most incarcerated individuals (92%) are housed within county, state, or federal correctional systems.³³ Consequently, conducting research to examine the health outcomes of incarcerated individuals treated at hospitals is both feasible and informative. In our review, 35% of studies used administrative databases, relying on either the ICD codes or admission/discharge source to identify incarcerated individuals. Methodologically, this is highly appealing as it could efficiently identify large cohorts in de-identified data sources, which would simplify IRB requirements, enable population-based analyses, and interstate policy evaluations. While appealing, this approach to case identification is unvalidated, and it is possible that conditions such as incarcerated hernias are being misclassified as incarcerated individuals due to human errors. There is a clear need for methodological advancements in this field, particularly in validating the identification codes for case identification, because this could help assess the effectiveness of care delivery and ensure optimal utilization of taxpayer funds in light of policy changes in California, which received approval for the use of Medicaid in some incarcerated patients.³⁴

Second, while existing studies primarily focus on trauma-related care with a mix of operative and nonoperative patients, they are highly focused on orthopedic trauma, tend to have poorly defined longitudinal outcomes, and/or lack of comparisons to nonincarcerated individuals. Consequently, aside from postmortem analyses, there is minimal empirical data supporting that there are delayed presentations or disparities in the operative approach for surgical pathologies among incarcerated patients. Additionally, none of the identified trauma-related studies discussed prehospital care for incarcerated individuals, a crucial aspect considering the availability of healthcare services within correctional facilities. The capacity of correctional facilities to administer potentially lifesaving prehospital measures, such as hemorrhage control, tranexamic acid administration, and needle decompression of tension physiology is unknown. Given the potential range of prehospital trauma-based interventions, establishing partnerships between surgeons and correctional facility medical personnel is imperative for optimizing prehospital care. Collaborative relationships between all stakeholders ensure that the evolving needs and advancements in trauma-related care are effectively taught and administered within correctional settings, increasing the likelihood of optimal outcomes, in this high-risk group.

While there is an emphasis on trauma-related care, the lack of data on elective surgeries is notable. The Eighth Amendment prohibits withholding medical care as a cruel and unusual punishment. In this context, we identified only 4 studies, 3 from the United States, that focused on elective surgical care. These studies ranged from kidney transplantation to ophthalmologic procedures. Notably, despite cancer being a leading cause of death among incarcerated individuals, there are no published articles addressing oncologic resections or palliative cancer operations.¹ In Louisiana, incarcerated patients experienced an average delay of 57 days in the initiation of treatment after the

biopsy-proven melanoma.³⁵ While there are efforts to evaluate cancer care on the state level,³⁶ the generalizability of these findings is unknown. Moreover, in Connecticut, the incidence of cancer during incarceration exceeds that of the general population shortly after release from correctional facilities (standardized incidence ratio 1.34; 95% CI = 1.23–1.47).³⁷ This prompts an important question, like cancer, does incarceration correlate with increased incidence of surgical pathologies shortly after release? If so, are these occurring because of missed diagnosis or access to care in prison? Given the sheer number of individuals released from correctional facilities annually, the correlation between the immediate postrelease period and rates of emergent or major elective surgery warrants attention.

Third, our study shows that incarcerated surgical patients are quite distinct from nonincarcerated surgical patients. The majority (80% or more) are male, with a median age ranging from 28 to 58 years, and there are high rates of infectious disease (6.4–25%),^{16,20,28} cirrhosis (1.5–13%),^{16,20,21} substance use disorders (9–57%),^{16,18,20,23,25} and mental health diagnoses (15–30%).^{16,18,20,23,25} Nationally, 70–90% of the incarcerated population comes from racial and ethnic minorities and lower socioeconomic groups.^{1–3} Moreover, two-thirds of incarcerated individuals lack a high school diploma, and nearly half were either unemployed or homeless in the year before their arrest.³⁸ Several of these risk factors overlap with composite measures of community risk, such as the Social Vulnerability Index,³⁹ Area Deprivation Index,^{40,41} or Opportunity Index,⁴² but none of these community measures includes incarceration. Moreover, current surgical risk calculators do not incorporate community-level risk factors or many of the common comorbidities in the incarcerated patient population (HIV, cirrhosis, substance use disorders, and mental health diagnoses).⁴³ Consequently, surgeons managing higher rates of incarcerated patients should know that traditional surgical risk calculators may be less applicable to these special populations. This emphasizes the imperative to broaden the research scope and comprehensively understand the health and surgical care implications for incarcerated individuals.

Certain limitations must be acknowledged in interpreting these findings. First, most studies had small sample sizes, and although the analysis of large datasets offers valuable insights, the methodology for identifying these patients lacks validation. Second, many of the studies lacked critical variables, such as demographic details, pertinent surgical data (operative approach), well-defined postoperative complications, and long-term surgical outcomes. Third, studies on foreign bodies and ingestions were the most numerous and these were excluded because most were managed endoscopically. While some did require surgery due to perforated viscus, these tended to be smaller case series that focused more on foreign body ingestion rather than surgery, making it difficult to draw conclusions. Fourth, uncertainty persists regarding the true prevalence of surgical pathology and comorbidities, as they may be confounded by underdiagnosis and underreporting. Last, there is minimal data on elective surgery and clearly more studies evaluating surgical care in other specialties are needed to develop a comprehensive understanding of surgical care in incarcerated individuals.

In conclusion, the surgical care of incarcerated individuals has broad implications for healthcare stakeholders. Patients, often of lower socioeconomic status and at heightened risk of surgical complications, necessitate tailored interventions within correctional facilities and postrelease for equitable access and optimal outcomes. Surgeons, lacking empirical data on correctional settings, must establish collaborative partnerships with correctional medical personnel, especially focusing on prehospital care to enhance trauma-related interventions. Payors require a nuanced understanding of incarcerated populations' surgical needs for optimal resource allocation amid rising healthcare costs. Policymakers should

prioritize methodological advancements, validate case identification strategies, and advocate for comprehensive research facilitating cost-effective surgical care models. These findings emphasize the need for targeted interventions, informed policies, and collaborative initiatives to address gaps, ensuring the constitutional right to healthcare for incarcerated individuals seamlessly.

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