

## Trauma Surgery Insights: Demographics, Injury Patterns, And Treatment Outcomes At LRH, Peshawar

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### Abstract

**Background:** Traumatic injuries remain a major cause for infirmity and death globally, presenting appreciable difficulties for health frameworks. Understanding the epidemiological profile, management approaches, and clinical results of trauma patients is pivotal for optimizing consideration conveyance and improving endurance rates. With innovations in trauma specialty methods and the appearance of creative interventions, there is a developing need to survey their effect on patient recuperation and long term results. This study expects to illuminate the socio-demographic qualities, damage examples, treatment modalities, and results of trauma patients, giving important experiences into the advancing scene of trauma consideration.

**Objectives:** This study was conducted to look into the demographic profile, injury seriousness, treatment modalities, and results of trauma patients, with an exceptional spotlight on surveying the adequacy of developing trauma specialty strategies in improving patient recuperation and diminishing frailty and passing.

**Study design:** A Retrospective Study

**Place and duration of study.** Department of General Surgery, Lady Reading Hospital (LRH), Peshawar, from 05-October 2020 to 05-January 2021

**Methods:** Electronic restorative records of trauma patients admitted during this time frame were audited. Information identifying with patient demographics, damage qualities, treatment modalities, and results were analyzed for statistical evaluation was performed utilizing proper strategies to survey the relationship between treatment methods and patient results. Ethical endorsement was acquired from the hospital Study board.

**Results:** Among the 250 trauma patients audited, 85% experienced effective recuperation, while 15% didn't accomplish recuperation during the study time frame. The mean age of the patients was 48.7 years, with a standard deviation of 12.4 years. Male patients represented 60% of the study populace, while females represented 40%. Normal damage examples incorporated breaks,

head injuries, abdominal wounds, chest wounds, and soft tissue wounds. Surgical operations were directed in 80% of cases, while 20% were managed non-operationally. The normal length of hospital stay for recuperated patients was 7 days. Complication, like surgical site infections, pneumonia, DVT, and urinary track infections, were observed. Additionally, the mortality rate was 5%, essentially due to extreme traumatic brain injuries (TBI), hemorrhagic shock and multi-organ failure.

**Conclusion:** The major feature the effective surgical management in the greater part of trauma patients treated at LRH, Peshawar, from October 2020 to January 2021. In any case, noteworthy post-operativemortality rate underscore the continuous difficulties in trauma management. Additional exploration and execution of proof based practices are justified to streamline results and diminish complication and mortalitytrauma patients.

**Keywords:** Trauma, Surgery, Recovery, Morbidity

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#### Introduction:

The burden of traumatic injuries represents a significant global health burden, accounting for substantial morbidity and mortality worldwide. According to the World Health Organization (WHO), trauma accounts for about 9 percent of global deaths each year. More than 1.35 million people die from the road traffic accident every year from it (1). This also highlights the importance of the effective trauma management systems established consulting with statistics. Over the years, advances in trauma surgery have revolutionized how we approach traumapatients, include a whole range of strategies and interventions to stabilize patients and improve their chances of survival. From the original ideas of damage control surgery(DCS) to the modern era of definitive treatment, trauma surgery has been through an amazing period of evolution (2). The principles of damage control surgery, which first emerged in response to severe patient problems that had acute management challenges, have laid the foundation for today's trauma care paradigms (3).Modern trauma surgery strategies, however, including minimally invasive surgery (MIS), interventional radiology (IR), damage control orthopedics, enhanced recovery after surgery (ERAS) and patient-specific treatment strategies, hold promising paths forward for both reducing the burden of morbidity associated with traumatic injuries as well as improving patient outcomes. (4-7). These advances form an interdisciplinary approach that combines innovation in surgical techniques, imaging technologies, and perioperative care practices, enabling trauma patients to be managed more optimally. However, in spite of these advances in surgical techniques and specialized fields, there are still many problems facing the development of trauma surgery. The complexity of traumatic injuries, differences in patient presentations, and inadequacies of healthcare infrastructure in certain settings are continuing to be barriers to provide timely comprehensive medical care for our traumatically injured patients. Moreover, differences in access to trauma care or variations between places where people live and works mean that for some groups there will always be poor outcomes (8). The Study on outcomes after trauma surgery aims to study the impact of some new strategies on trauma patients. We analyzed

a group of patients who had trauma at the Department of General Surgery, Lady Reading Hospital (LRH), Peshawar from October 2020 to January 2021. By detailing the demographic characteristics, injury patterns, modes of therapy, and outcomes for injured patients this study provide informative data that can contribute to a landscape of trauma care, and help in devising strategies for improving patient outcome even under resource-limited environments.

### **Methods:**

This retrospective study was conducted at the department of General Surgery, Lady Reading Hospital (LRH), Peshawar, from 05-October2020 to 05-January 2021. Digital health records of trauma people admitted during this time frame were studied. Information regarding patient demographics, damage attributes, management modalities, and results were compiled and scrutinized. Statistical study was executed using appropriate procedures to determine the relationship between cure approaches and patient outcomes. Ethical endorsement was achieved from the institutional review board of LRH prior to the initiation of the analysis.

### **Data Collection:**

Department health records of trauma people admitted to the Department of General Surgery, Lady Reading Hospital (LRH), Peshawar, from 05-October 2020 to 05-January 2021 were retrospectively inspected. Details on patient demographics, damage seriousness, remedy modalities, and outcomes was extracted for evaluation.

### **Statistical Examination:**

Using SPSS 14.0 for Illustrative data were utilized to summarize patient demographics and damage attributes. Inferential data, like chi-square tests and logistic regression examination, were employed to assess the relationship between cure modalities and patient outcomes, with meaning set at  $p < 0.05$ .

### **Results:**

Among the 250 trauma people surveyed, 85% experienced successful healing, while 15% did not accomplish healing during the examination timeframe. The average age of the people was 48.7 years, with a standard deviation of 12.4 years. Male people accounted for 60% of the study population, while females accounted for 40%. Common damage patterns included fractures, head injuries, abdominal trauma, chest trauma, and soft tissue injuries. Surgical interventions were performed in 80% of cases, while 20% were overseen non-operatively. The average length of medical center remain for recovered people was 7 days. Postoperative complications, such as surgical site infections, pneumonia, deep vein thrombosis, and urinary tract infections, were observed. Additionally, the mortality rate was 5%, primarily attributed to severe traumatic brain injury, hemorrhagic shock, and multi-organ failure.

Table 1: Patient Recovery Status

Recovery Status	Number of Patients
Successful Recovery	212
No Recovery	38

Table 2: Demographic Characteristics

Parameter	Value
Mean Age	48.7 years
Standard Deviation	12.4 years
Gender Distribution	
Male	150 (60%)
Female	100 (40%)

Table 3: Injury Patterns

Injury Pattern	Frequency
Fractures	120
Head Injuries	60
Abdominal Trauma	40
Chest Trauma	30
Soft Tissue Injuries	80

Table 4: Treatment Modalities

Treatment Modality	Number of Patients
Surgical Interventions	200
Non-operative Management	50

Table 5: Length of Hospital Stay

Outcome	Average Length of Stay (days)
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Successful Recovery	7
No Recovery	-

Table 6: Postoperative Complications and Mortality

Complication/Mortality	Percentage
Surgical Site Infections	10%
Pneumonia	8%
Deep Vein Thrombosis	5%
Urinary Tract Infections	7%
Mortality	5%

### Discussion:

Comparison with previous studies is necessary. In terms of patient demographics, the mean age of trauma patients in our study (48.7 years) compares to a wide age distribution among trauma populations in the previous literature (9). Similarly, the predominance of male patients observed in our study (60%) recapitulates the gender breakdown reported in trauma cohorts by relevant Studies. Emerging from our survey findings, the trauma patient syndrome was identified: fractures, head injuries, abdominal trauma, chest injuries, and soft tissue injuries are all shown to be typical types of damage which physicians have encountered. These conform roughly with injuries recorded for over 500 victims of road traffic accidents (RTA) during more than five years from January 1971 to September 1976 (10,11). However, variations in injury mechanisms and patterns may exist within different regions and settings of health care delivery, influencing both treatment approaches outcome measurements (12). Treatment protocols at our hospital were predominantly about surgical intervention (80%). This is also consistent with surgical outcomes Study: that surgery can have a significant impact in improving patient prognosis and reducing morbidity and mortality. (13) Length of hospital stay among the patients who recovered successfully (7 days) from trauma in our study is roughly equivalent to other reports in comparable trauma populations (15). This puts an underscore beneath the need to plan for discharge and recovery of patients in a timely manner, in order that hospital resources may be utilized more efficiently as well as benefiting patient care. In our study, the patients had postoperative complications such as surgical site infections, lung infections and urinary-tract infections. These are entirely compatible with the known risks of having surgical interventions in trauma patients who may become deeply bedridden during their time of treatment at hospitals over an extended period. (16) Similarly, the observed mortality rate of 5% goes along with preceding studies on trauma or surgery patients quoted in medical papers. (17) It emphasizes current questions about whether reducing mortality is achievable in critical injury people

undergoing operation. But it also underlines the falseness inherent as well as mountains of difficulty beneath such aspirations under actual conditions. Thus, while our study confirms existing literature on trauma demographics, injury patterns and modes of therapy, it also reminds us that more Study is needed and calls for QI programs aiming to improve patient care in every conceivable form and delivery system.

## Conclusion

The study explains who experiences trauma, the types of wounds that arise, how injuries are treated, and how cases are resolved. Comprehending the entirety of these distinctive components is imperative for fortifying trauma care procedures and guaranteeing the optimal outcomes for individuals affected, irrespective of the circumstances or therapeutic setting. To continue the field's life-saving mission, innovation and ongoing self-evaluation will be necessary.

**Disclaimer:** Nil

**Conflict of Interest:** Nil

**Funding Disclosure:** Nil

### Authors Contribution

**Viqar Aslam:** Concept & Design of Study:

**Muhammad Bilal:** Drafting:

**Raza Ullah:** Data Analysis:

**Waqar Alam Jan, Muhammad Ayaz, Alina Zaidi:** Revisiting Critically:

**Viqar Aslam:** Final Approval of version:

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