



Opinion

Volume 16 Issue 4 - April 2025
DOI: 10.19080/OAJS.2025.16.555941

Open Access J Surg

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Bridging the Gap: Trauma Care Pathway Beyond the ED



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Received: April 13, 2025; **Published:** April 22, 2025

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Abstract

Trauma remains a leading cause of mortality and morbidity globally, with low- and middle-income countries bearing the greatest burden. Pakistan's trauma care infrastructure, particularly post-emergency department (ED) management, suffers from systemic inefficiencies due to interdepartmental fragmentation and lack of ownership. This opinion piece, grounded in professional experience and real-world examples, proposes a standardized, resource-sensitive trauma care pathway centered around the creation of Acute Trauma Wards (ATWs). A structured trauma pathway can significantly reduce ED length of stay, improve clinical outcomes, and enhance interdepartmental collaboration. The model is scalable, feasible, and essential for transforming trauma care in Pakistan. The article ends with a call to action for leadership, collaboration, and reform.

Keywords: Trauma systems; Polytrauma; Emergency Medical Services; Continuity of patient care; Health system reforms; Health Policy Pakistan.

Abbreviations: ED: Emergency Department; ATWs: Acute Trauma Wards; WHO: World Health Organization; LMICs: Low- and Middle-Income Countries; EMS: Emergency Medical Services; LoS: Length of Stay; TTL: Trauma Team Lead; RTAs: Road Traffic Accidents.

Global Burden of Trauma

For over a decade, mortality, morbidity, and disability from trauma have remained an unrelenting public health crisis, impacting healthcare systems and contributing to financial and emotional repercussions, not just on the victim and their family, but also on the nation as a whole [1]. In 2019, the World Health Organization (WHO) recognized trauma as the leading cause of death among individuals aged 5-29 years [2]. Globally, injuries account for 8% of total deaths and contribute to 10% of all years lived with disability [1,2].

Alarming, low- and middle-income countries (LMICs) bear a disproportionate burden, accounting for 90% of trauma-related deaths, with a mortality rate of 27.5 per 100,000 compared to 8.3 in high-income countries [1,2]. The economic toll is steep, costing the global GDP an estimated 5% annually, with LMICs suffering the brunt due to productivity losses among the working-age population [3].

Pakistan's Trauma Crisis

The situation in Pakistan reflects this grim reality. In 2021 alone, 28,000 deaths were reported from road traffic accidents (RTAs) [4]. In a recent report, it is estimated that RTAs cost Pakistan up to \$12 billion annually [4]. Clearly, trauma management in the country demands urgent attention and system-wide reforms.

The Vastness of Trauma Care

Efficient trauma management is a multifaceted venture involving mitigation and targeted interventions, robust pre-hospital services, efficient emergency care, collaborative in-hospital management, Emergency Department (ED) aftercare, rehabilitation and re-employment. It requires a multiprofessional approach to develop and implement robust emergency medical services (EMS), trauma registries, trauma networks, and trauma care guidelines.

The Reality in Our Emergency Departments

It is important to highlight an often-overlooked aspect of trauma care: the ED aftercare of polytrauma and major trauma patients. As an emergency physician with over a decade of experience, I have seen firsthand how polytrauma and major trauma patients are often mishandled post-resuscitation. Despite initial stabilization in the ED many patients are left in limbo, caught in a tug-of-war between specialties unsure of "ownership." These interdepartmental disputes and lack of accountability often result in delayed decisions, prolonged ED stay, and compromised patient care.

Challenges and Lessons from Practice

Let me illustrate this with real-life scenarios from across the globe in various institutes:

Case 1

A middle-aged male with multiple non-operative fractures (three rib fractures, right wrist fracture, left olecranon fracture, right tib-fib fracture) is “cleared” by the general surgery team. Multiple specialty (surgery & allied) reviews were delayed, and the patient was ultimately discharged after spending seven hours on an ED trolley, without any clear care plan.

Case 2

A female patient with moderate head trauma and minor nasal trauma is subjected to redundant tests and prolonged multi-specialty reviews in the ED. Eventually, she is admitted by ENT after 6 hours, not because of acute medical need, but by process of elimination.

Case 3

A young male with high-impact trauma, bilateral hemopneumothoraxes, pelvic fracture, and a subdural hematoma waits hours while sub-specialties debate which injury “qualifies” for admission. The delay risks deterioration, while the ED team does their best with limited resources.

These stories are all too common in many parts of the world, especially in LMICs. EDs in Pakistan are often manned by overworked junior doctors with limited trauma training. Delays in definitive care, missed diagnoses, and fragmented management are widespread, contributing directly to poor outcomes.

The Model That Works

In trauma centres where I’ve worked, including those transitioning to regional trauma hubs, these patients are managed under a different model. Polytrauma patients are immediately transferred to a dedicated (acute) trauma ward, admitted under a trauma team led by a specialised trauma surgeon, orthopaedic surgeon or even a general surgeon. These teams, supported by trauma-trained nurses, residents, and bed managers, ensure streamlined assessments and decisions. Such systems lead to:

- Reduced ED Length of Stay (LoS) to under 4 hours
- Timely investigations and interventions within 24-48 hours
- Better interdepartmental collaboration
- Lower morbidity
- Reduced hospital LoS

Where no acute trauma ward exists, the reasons are often a mix of ignorance of trauma systems, bed shortages, fragmentation due to subspecialties, and clinician hesitancy, particularly if the primary injury is not within their specialty. But most importantly, it is the lack of an institutional trauma pathway that fuels this dysfunction.

A National Trauma Pathway Proposal

I propose that every hospital in Pakistan adopt a standardized, resource-sensitive trauma care model, with a dedicated polytrauma care pathway and clinical governance mechanisms (Figure 1).

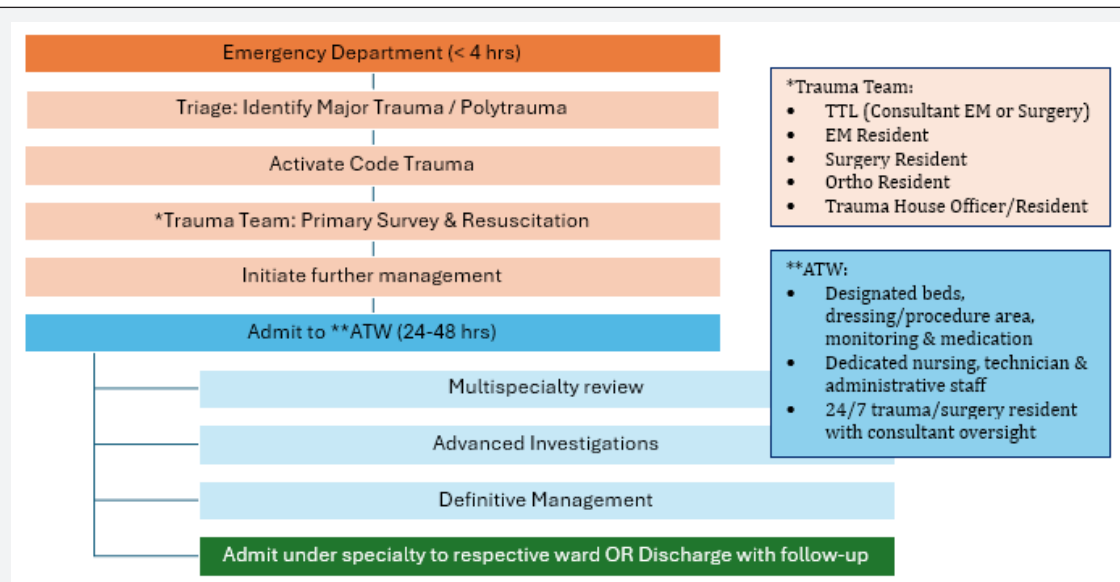


Figure 1: Proposed Trauma Care Model for Pakistan: ED aftercare

Key: ED (Emergency Department), ATW (Acute Trauma Ward), TTL (Trauma Team Lead)

Trauma care pathway

- Early identification at triage as polytrauma/major trauma
- Activation of Code Trauma
- Team-based primary survey (led by Emergency Medicine or Surgical lead) and simultaneous resuscitation
- Initiating early management (investigations, supportive, symptomatic care etc)
- Prompt admission to an Acute Trauma Ward (ATW) under the on-call trauma team (max 48-hour stay)
- Definitive admission to respective ward under a single specialty, or discharge with follow-up from the ATW

Acute Trauma Ward (ATW): minimum standards

- Designated beds, a procedure/dressing area, monitoring, emergency meds
- Dedicated nursing, technician, and administrative staff
- Round-the-clock trauma resident with consultant oversight

ATW team composition

- Trauma lead (Surgeon)
- Trauma and ortho residents
- House officer(s)
- Specialty liaisons as needed

Governance and quality control

- Weekly trauma review meetings to discuss main cases of the week, acknowledge strengths and highlighting deficiencies to drive improvement

- Standardized handovers, protocols, and data recording
- Training and simulation for team members

This model is scalable and adaptable to various institutional capacities. Even a small ATW with 2-4 beds can dramatically improve continuity and outcomes for trauma patients. It also reduces inter-specialty conflict and enhances the professional experience for ED and surgical staff alike. With proper intent, training and interdepartmental collaboration, this initiative can transform trauma care across Pakistan.

A Call to Action

As healthcare professionals, especially in emergency medicine, we carry the ethical responsibility to advocate for system change. A standardized trauma pathway is not a luxury but a necessity. With the right intent, minimal resource investment, and strong leadership, trauma care in Pakistan can, and must, transform. Let us stop bouncing our patients between specialties. Let us lead with collaboration, clarity, and compassion.

Disclaimer

The views expressed are based on the author's professional experience across multiple institutions and do not reflect identifiable institute, patient data or require ethical clearance.

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DOI: [10.19080/OAJS.2025.16.555941](https://doi.org/10.19080/OAJS.2025.16.555941)

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