

Guidelines for Essential Trauma Care: Second Edition (2026).

International Association for Trauma Surgery and Intensive Care (IATSIC) and the World Health Organization (WHO) · 2026

Guidelines for Essential Trauma Care: Second Edition (2026) Study Guide

This study guide provides a comprehensive synthesis of the updated "Guidelines for Essential Trauma Care (EsTC)," a collaborative effort by the International Association for Trauma Surgery and Intensive Care (IATSIC) and the World Health Organization (WHO). It is designed to assist health ministry planners, administrators, and clinicians in understanding the standards for human and physical resources required to improve trauma outcomes globally.

I. Overview and Global Context

The Burden of Injury

- **Global Impact:** Injury accounts for 4.4 million deaths annually (8% of all global deaths) and 268 million disability-adjusted life years (DALYs) lost.
- **Economic Inequality:** Over 80% of injury-related deaths occur in low- and middle-income countries (LMICs).
- **Case-Fatality Discrepancies:** Mortality for hospitalized trauma patients can be significantly higher in LMICs (e.g., 23.2% in some Indian studies vs. 2.8% in the USA) due to unsafe conditions and limited resources for care.
- **Cost-Effectiveness:** Essential trauma care is highly cost-effective, with services estimated to cost \$87-\$302 per DALY averted, comparing favorably to other public health interventions like antiretroviral therapy for HIV.

Purpose of the Guidelines

The primary goal of the *Guidelines for EsTC* is to define essential trauma treatment services that should be achievable at health care facilities worldwide, even in resource-constrained settings. The guidelines focus on **fixed facilities** rather than prehospital care.

II. The Resource Matrix Framework

The guidelines utilize a flexible matrix to categorize over 200 elements of human and physical resources across different facility levels.

Resource Designations

Designation	Definition
Core (Co)	Items that should be assured at that level in all cases, even in the most resource-restricted environments (ministries spending <\$10 per capita).
Extended (Ex)	Items that increase the probability of a successful outcome but add cost; they may not be affordable for all facilities at that level.
Not Applicable (NA)	Resources that are irrelevant or unrealistic for a specific facility level (e.g., MRI at a basic clinic).

Facility Levels

1. **Clinic:** Outpatient facilities staffed by nurses or mid-level providers. Focus is on rapid basic first aid.
 2. **First-Level Hospital:** Smaller hospitals usually staffed by general doctors; may or may not have an operating theater.
 3. **Second-Level (Referral) Hospital:** Staffed by at least one general surgeon; includes operating theaters and potentially subspecialists.
 4. **Tertiary Hospital:** Teaching or university hospitals with a broad range of subspecialty services (highest level of care).
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III. Key Clinical Concepts: The "Rights of the Injured"

IATRIC and WHO identify three broad categories of needs that constitute the "rights of the injured":

1. **Life-threatening injuries** must be treated promptly to maximize survival.
2. **Potentially disabling injuries** must be treated to maximize return to independence.
3. **Pain and psychological suffering** must be minimized.

Essential Medical Goals

- **Airway:** Obstructed airways must be opened before hypoxia leads to death.
- **Breathing:** Impaired breathing must be supported; pneumothorax and hemothorax must be recognized and relieved.
- **Circulation:** Bleeding must be stopped; shock must be treated with IV fluids before irreversible consequences occur.

- **Traumatic Brain Injury:** Secondary injury must be prevented by maintaining perfusion and oxygenation.
 - **Rehabilitation:** Physical impairment consequences must be minimized through appropriate services.
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IV. Administrative and Organizational Functions

Achieving high-quality trauma care requires specific administrative mechanisms:

- **Quality Improvement (QI):** Monitoring diagnosis, treatment, and outcomes through techniques like morbidity and mortality conferences, preventable death panel reviews, and audit filters.
 - **Trauma Registries:** Computerized collections of uniform data elements describing the injury event, care, and outcomes. Core at tertiary hospitals.
 - **Triage Systems:** Sorting and prioritizing patients based on urgency. Essential at all levels.
 - **Trauma Teams:** Pre-assigned roles and protocols for the resuscitation of severely injured patients. Core for second-level and tertiary hospitals.
 - **Checklists:** Use of the WHO Trauma Care Checklist and Surgical Safety Checklist to reduce errors.
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V. Short-Answer Practice Questions

1. **What are the three main factors contributing to the 2026 update of the Guidelines?**
 - *Answer:* Increased global attention to trauma/emergency care, improved economic standards in many countries, and the lower cost of technology (often due to manufacture in LMICs).
2. **Define the difference between "Core" and "Extended" resources.**
 - *Answer:* Core items are essential and must be assured even in the most restricted settings; Extended items increase the probability of success but may be unaffordable or require resource-intensive training/monitoring.
3. **Which four diagnostic/therapeutic items were upgraded from Extended to Core in the 2026 update?**
 - *Answer:* Pulse oximetry, mechanical ventilation, ultrasonography (FAST) for intra-abdominal bleeding, and portable X-ray at all hospital levels.
4. **Why is the Glasgow Coma Scale (GCS) considered a core resource at all facility levels?**
 - *Answer:* Because it requires only training and a simple light source to assess neurological status, making it highly achievable everywhere.
5. **What is the "primary nurse" role within a trauma team?**
 - *Answer:* In a well-resourced hospital, the primary nurse assists in the resuscitation and may work alongside a recorder to document the process.

6. **What clinical assessment tool is recommended for calculating pediatric fluid and medication doses?**

- *Answer:* A pediatric length-based clinical management support tool, such as the Broselow or PAWPER tape.

7. **What is "closing the loop" in the context of Quality Improvement?**

- *Answer:* Identifying a problem, taking corrective action, and then evaluating the effect of that change to ensure the problem was solved.

VI. Essay Prompts for Deeper Exploration

1. **The Evolution of Global Standards:** Analyze how technological advancements and economic shifts since 2004 have allowed previously "desirable" (Extended) resources to become "essential" (Core). Discuss the implications of this shift for LMIC health budgets.
2. **Organization vs. Cost:** The document suggests that many deficiencies in trauma care are due to shortcomings in organization and planning rather than the cost of equipment. Argue the importance of administrative functions (like triage and checklists) over high-cost physical resources.
3. **Task Sharing and Training:** Discuss the role of "task sharing" in trauma care. How do the guidelines address the need for supplemental training when mid-level providers or general doctors are required to perform specialist-level procedures (e.g., burr holes or skin grafts) in remote areas?
4. **The Ethical Mandate of the "Rights of the Injured":** Evaluate the statement that the provision of essential trauma services should not be dependent on a patient's ability to pay. Explore the challenges of implementing this in health systems that rely on cost-recovery schemes.

VII. Glossary of Important Terms

- **ABC:** Airway, Breathing, and Circulation—the three priorities of initial trauma assessment.
- **Audit Filter:** A quality-of-care criterion used to identify cases for systematic review (e.g., a patient with hypotension not undergoing laparotomy within one hour).
- **Burr Hole:** A basic neurosurgical procedure to relieve intracranial pressure, considered Core at tertiary levels and Extended at first/second levels in isolated areas.
- **CPD:** Continuing Professional Development; short, standardized courses (like ATLS or BEC) taken after core training to maintain skills.
- **Cricothyroidotomy:** A surgical airway procedure generally performed more quickly and safely than a tracheostomy in emergency settings.
- **DALY:** Disability Adjusted Life Years; a measure of the overall burden of disease, representing the number of years lost due to ill-health, disability, or early death.

- **DPL:** Diagnostic Peritoneal Lavage; an invasive test to detect internal bleeding, listed as Core for second-level/tertiary hospitals when FAST/CT is unavailable.
- **FAST:** Focused Assessment with Sonography for Trauma; a non-invasive ultrasound exam used to identify blood in the abdomen or around the heart.
- **GACI:** Global Alliance for Care of the Injured; a WHO-associated alliance of professional societies.
- **IATSIC:** International Association for Trauma Surgery and Intensive Care.
- **ICP:** Intracranial Pressure; the pressure inside the skull, which can be raised by traumatic brain injury.
- **LMIC:** Low- and Middle-Income Country.
- **MLEM:** WHO Model List of Essential Medicines.
- **Thoracostomy:** The insertion of a tube or needle into the chest cavity to relieve air (pneumothorax) or blood (hemothorax).
- **TRISS:** A statistical methodology used in trauma registries to calculate risk-adjusted mortality.