De Martino Public Hospital



COMPREHENSIVE OPERATIONS AND MANAGEMENT MANUAL

The Center for Trauma, Emergency, and Critical Care at Demartino Public Hospital

2025

Table of contents

Part 1: Foundational Principles and System Governance 1

Seection 1: Charter and Mandate of the Center for Trauma, Emergency, and Critical Care 2

Vision Statement 2

Mission Statement 2

Guiding Principles 3

Alignment with National and Global Health Imperatives 4

Seection 2: Governance and Leadership Structure 5

Organizational Chart 5

Leadership Roles and Responsibilities 6

Guiding Principles 7

Seection 3: Quality Improvement andPerformance Management 8

Continuous Quality Improvement (CQI) Framework 8

The Demartino Trauma Registry 9

Clinical Audit and Review Processes 10

System Assessment and Benchmarking 10

Part 2: The Patient Care Continuum: Operational Protocols 13

Seection 4: Pre-Hospital and Transfer Services 14

Scope of Integration 14

EMS Communication Protocol 14

Trauma Team Activation Protocol 15

Inter-Facility Transfer Protocol 15

Seection 5: Patient Reception and Initial Management (The "Golden Hour") 16

Patient Arrival and Entry Points 16

Triage Protocol 17

TResuscitation Room Preparation and Activation 18

Seection 6: Patient Reception and Initial Management (The "Golden Hour") 19

The Primary Survey and Resuscitation (ABCDE Approach) 19

Adjuncts to Primary Survey 20

The Secondary Survey 21

Specific Clinical Management Guidelines 21

Seection 7: De nitive and Specialized Care Pathways 22

Operating Theatre (OT) Pathway 22

Intensive Care Unit (ICU) / Critical Care Unit (CCU) Pathway 23

Ward-Level Care Pathway 23

Part 3: Team Structure and Human Resource Management 24

Seection 8: The Trauma Team: Roles and Responsibilities 25

Team Philosophy 24

Inner Core Team (Direct Patient Care) 25

Outer Core Team (Support Roles) 26

Seection 9: Staffing, Credentialing, and Education 28

Staffing Model 28

Mandatory Training and Certification 29

Continuous Professional Development (CPD) Program 30

Part 4: Ancillary Services and Patient Support 32

Seection 10: Integrated Support Services 33

Radiology and Diagnostic Imaging 33

Laboratory and Blood Bank 33

Pharmacy 34

Seection 11: Patient and Family-Centered Care 35

Communication Protocols 35

Psychosocial and Spiritual Support 35

Visitation Guidelines 36

Seection 12: Resuscitation and Stabilization Protocols 37

Multidisciplinary Approach 37

Patient and Family Education 37

Rehabilitation and Follow-up 38

Appendix 39

Part One

FOUNDATIONAL PRINCIPLES AND SYSTEM GOVERNANCE

This manual establishes the operational, clinical, and managerial standards for the Center for Trauma, Emergency, and Critical Care (the Center) at Demartino Public Hospital. It serves as the single, authoritative source for all procedures and policies governing the care of acutely ill and injured patients. Its purpose is to standardize care, ensure accountability, and align the Center's functions with national health priorities and international best practices, thereby fostering a culture of excellence and saving lives.



H.E: Dr Hassan Sheikh Mohamud
President Of Somalia

Section One

Charter and Mandate of the Center for Trauma, Emergency, and Critical Care

1.1 Vision Statement

To be the leading public-sector provider of integrated, life-saving care for the acutely ill and injured, eliminating preventable death and disability in our community.

1.2 Mission Statement

To deliver timely, evidence-based, and patient-centered trauma, emergency, and critical care services through a coordinated, multidisciplinary system, continuous professional development, and a steadfast commitment to quality and equity.



1.3 Guiding Principles

The operations of the Center are founded upon a set of core principles that reflect its profound public health responsibilities.

Timeliness as a Dimension of Quality

The effectiveness of many life-saving health interventions is critically time-dependent, declining with every delay. The Center is therefore structured to maintain an unbroken chain of care, from the community and pre-hospital environment, through the emergency unit, to definitive operative and critical care, and finally to rehabilitation. This principle acknowledges that organized emergency care systems save lives by ensuring early recognition of acute conditions and timely access to the necessary interventions.

Integration

The Center does not operate as an isolated department but as a fully integrated hub within Demartino Public Hospital and the broader regional health system. This integration spans the entire continuum of care, encompassing pre-hospital services, primary care referrals, emergency unit stabilization, operative and critical care, ward-level management, and rehabilitative services. This systemic approach ensures continuity of care and safe transitions for patients between different levels and departments.

Equity and Universal Access

As a public institution, the Center is committed to providing non-discriminatory access to all persons in need of timely care, without regard to their ability to pay or other socio-cultural factors. It functions as the health system's primary safety net, often serving as the first point of contact for marginalized and vulnerable populations who may only seek care when acutely ill. This commitment fulfills the obligations of numerous rights-based treaties concerning women, children, and people with disabilities.

System Resilience

A robust, well-organized daily emergency care system is the essential foundation for an effective response to mass casualty events, natural disasters, and disease outbreaks. By maintaining the capacity to manage everyday emergencies, the Center provides the surge capacity and skilled workforce necessary to limit direct mortality from a major event and prevent the "secondary mortality" that occurs when routine emergency services collapse.

1.4 Alignment with National and Global Health Imperatives

The Center's mandate is strategically positioned as a critical asset for the national health system, directly contributing to both national and global public health objectives. This alignment provides the strategic justification for the Center's resource allocation and policy support, framing it not as a cost center but as a vital engine for public health value.

The Center's activities are explicitly designed to advance the goal of Universal Health Coverage (UHC) by providing an essential package of time-sensitive health services. Its function is critical to reducing the significant burden of disease in the region, where an estimated 54% of all deaths are due to conditions that are addressable by effective pre-hospital and emergency care.

Furthermore, the Center's mandate is directly aligned with the United Nations Sustainable Development Goals (SDGs). By providing effective post-crash care, the Center is a key mechanism for achieving SDG 3.6 (halve deaths and injuries from road traffic crashes). By treating obstetric emergencies and acute pediatric illnesses, it contributes to SDG 3.1 (reduce maternal mortality) and SDG 3.2 (end preventable deaths of newborns and children). By managing acute exacerbations of noncommunicable diseases and acute infections, it supports SDG 3.4 and SDG 3.3. By ensuring access to essential healthcare services, it underpins SDG 3.8 (achieve UHC). Finally, its role in disaster response is integral to SDG 11.5 (reduce the impact of disasters).

Operationally, the Center adheres to the principles and frameworks established by the World Health Assembly, particularly resolutions WHA72.16 on Emergency Care Systems for UHC and WHA76.2 on Integrated Emergency, Critical and Operative Care.



Governance and Leadership Structure

Effective governance is the bedrock of a high-functioning clinical center. A clear leadership structure with defined roles, responsibilities, and formal committee oversight ensures accountability, facilitates inter-departmental collaboration, and drives strategic alignment with the Center's mission.

2.1 Organizational Chart

The Center is managed by a dedicated leadership team that reports to the executive leadership of Demartino Public Hospital. The organizational structure is designed to promote clear lines of authority and facilitate integrated decision-making across the different clinical areas.

(An illustrative organizational chart would be inserted here, showing the Hospital Director at the top, followed by the Center Director, who oversees the Medical Directors of Trauma, Emergency, and Critical Care, as well as the Head of Nursing. Dotted lines would show collaborative relationships with heads of Surgery, Anesthesia, Radiology, etc.)

2.2 Leadership Roles and Responsibilities

The leadership team is responsible for the strategic, clinical, and administrative oversight of the Center.

Center Director

Possesses overall strategic, financial, and administrative responsibility for the Center. This individual serves as the primary liaison to hospital executive leadership, advocates for necessary resources, and chairs the Trauma Systems Steering Committee to ensure high-level programmatic oversight.

Medical Director, Emergency Services

Manages all clinical and administrative functions of the Emergency Department (ED). This individual is responsible for overseeing the triage process, directing initial resuscitation efforts for all non-trauma emergencies, managing patient flow, and ensuring the 24/7 readiness of the ED.



Medical Director, Emergency Services:

Manages all clinical and administrative functions of the Emergency Department (ED). This individual is responsible for overseeing the triage process, directing initial resuscitation efforts for all non-trauma emergencies, managing patient flow, and ensuring the 24/7 readiness of the ED.

Medical Director, Critical Care

Manages the Intensive Care Unit (ICU), Critical Care Unit (CCU), and Neurotrauma ICU. This director is responsible for the care of all critically ill patients admitted to the Center, developing and implementing evidence-based critical care protocols, and leading daily multidisciplinary rounds.

Head of Nursing, TECC

Manages all nursing and technical staff within the Center's units (ED, ICU, Wards).
This leader is responsible for nurse staffing, scheduling, competency assessment, professional development, and ensuring adherence to all nursing-specific protocols and standards of care.

1.3 Guiding Principles

The operations of the Center are founded upon a set of core principles that reflect its profound public health responsibilities.

Trauma Systems Steering Committee

Chaired by the Center Director, this high-level committee includes the Center's medical leadership and representatives from Surgery, Anesthesia, Orthopedics, Neurosurgery, Radiology, the Blood Bank, and hospital administration. It meets quarterly to review the Center's overall performance, address systemic challenges, guide strategic planning, and approve major changes to policy or resource allocation.



Performance Improvement and Patient Safety (PIPS) Committee

This is the primary operational body for quality assurance. Chaired by the Medical Director of Trauma Services, it is responsible for the functions detailed in Section 3 of this manual.





Inter-departmental Coordination Protocols

The Center's leadership is responsible for establishing and maintaining formal Service Level Agreements (SLAs) and communication protocols with all ancillary and support services. This ensures seamless patient care by defining expectations for response times and service delivery from Radiology, Laboratory, Blood Bank, Pharmacy, and other essential departments, thereby operationalizing a key component of the WHO Emergency Care System Framework.

Section Three

Quality Improvement and Performance Management

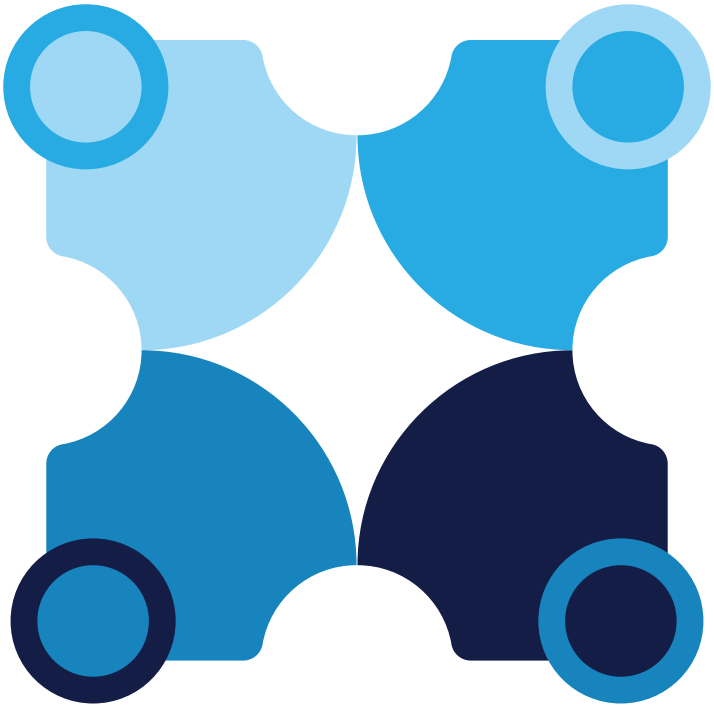
A commitment to quality is not passive; it is an active, data-driven process of continuous evaluation and improvement. The Center's quality program is designed to move beyond simple case review to a systematic approach that identifies trends, corrects systemic deficiencies, and measurably improves patient outcomes. This system creates a powerful, unbreakable link between data collection, formal analysis, and mandated action, transforming the quality improvement process from a theoretical exercise into an engine for tangible change.

3.1 Continuous Quality Improvement (CQI) Framework

The Center adopts the WHO-endorsed model of performance improvement. This is a cyclical process that involves:

Systematic Monitoring

Using data from the Trauma Registry and other sources to monitor key processes and outcomes.



Problem Identification

Analysing data to identify preventable deaths, complications, or deviations from best practice.

Corrective Action

Implementing targeted changes to protocols, training, or resource allocation to address identified problems.

Evaluation

Re-monitoring the data to determine if the corrective actions were successful and resulted in improved performance, a step often referred to as "closing the loop".

3.2 The Demartino Trauma Registry

The Trauma Registry is the cornerstone of the entire CQI program. Its maintenance and use are not optional but are a core function of the Center.



Mandate: The registry is mandated for the timely, accurate, and complete data collection on all patients admitted with a diagnosis of trauma.

Data Elements: The registry will capture a standardized dataset including: patient demographics, mechanism of injury, pre-hospital care provided, physiologic parameters upon arrival (GCS, vital signs), all diagnoses coded using ICD-10, all procedures performed, length of stay in the ED, ICU, and hospital, and final patient outcome (discharged, transferred, died).

Responsibility: A designated and trained Trauma Registrar will be responsible for data abstraction, entry, and management to ensure data integrity and consistency

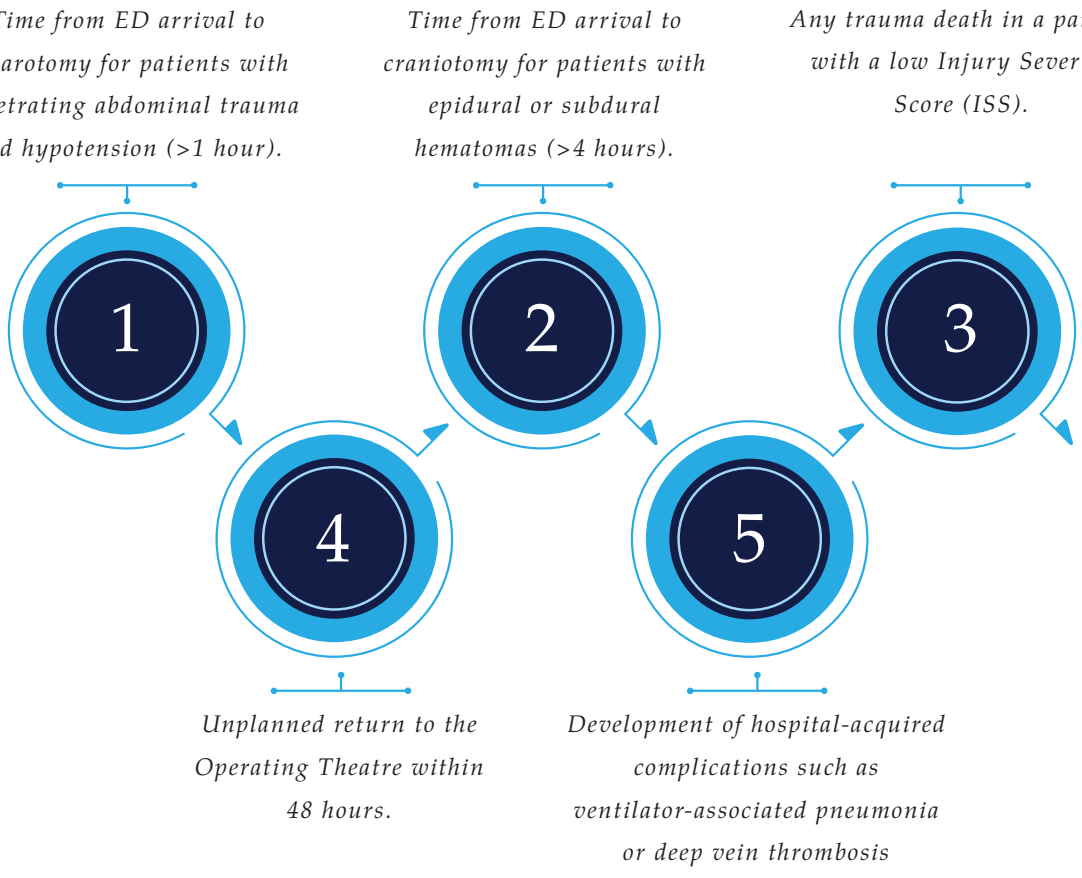
3.3 Clinical Audit and Review Processes

Data from the registry directly fuels the Center's formal review processes, which are designed to be non-punitive and focused on system improvement.

Morbidity & Mortality (M&M) Conference: **This is a mandatory, monthly, multidisciplinary conference chaired by the Medical Director of Trauma Services. All trauma deaths and selected cases with significant complications are presented for peer review. The discussion will focus on identifying opportunities for improvement in clinical judgment, technical skill, or system processes. The findings and action items from the M&M conference are formally documented and tracked by the PIPS Committee.**

Audit Filters: **The PIPS Committee will continuously monitor a set of key performance indicators based on international standards. Cases that fall outside these predefined filters automatically trigger a detailed chart review to determine if a correctable quality issue occurred.**

Initial audit filters for Demartino Hospital will include :



3.4 System Assessment and Benchmarking

To ensure the Center's development aligns with established best practices, it will engage in regular, structured self-assessment.

STEP 01

WHO System Assessment

The Center's leadership will conduct a biennial, comprehensive self-assessment using the WHO Emergency Care System Assessment Tool. This standardized instrument helps to identify systemic gaps across the entire care continuum from governance and financing to scene care and facility-based services and provides a roadmap for setting strategic priorities.

STEP 02

EMTC Level Benchmarking

The Center's capabilities will be continuously benchmarked against the criteria outlined in foundational documents such as the "Guideline for Establishing Emergency Medical and Trauma Centers" and WHO's "Guidelines for essential trauma care". This allows for a transparent determination of the Center's functional level (e.g., Level I, II, or III) and helps identify specific, targeted investments needed to achieve a higher level of care.





Table 1: Demartino EMTC Capabilities Benchmark

This table provides a clear summary of the Center's current resources and services, benchmarked against internationally recognized standards for different levels of trauma centers. This serves as a strategic tool for self-assessment, gap analysis, and planning for future upgrades.

Service/Resource	Level I Requirement	Level II Requirement	Level III Requirement	Demartino Hospital Status
Infrastructure				
Resuscitation Room	Essential	Essential	Essential	Available
Operating Theatre (24/7)	Essential	Essential	Essential	Available
Intensive Care Unit (ICU)	Essential	Desirable	Desirable	Available (CCU/NeurotraumaICU)
Trauma Registry	Essential	Essential	Essential	Available
Staffing (24/7 Availability)				
General Surgeon	In-house	In-house/ On-call	On-call	Available (On-call)
Orthopaedic Surgeon	In-house	In-house/ On-call	On-call	Available (On-call)
Neurosurgeon	In-house/ On-call	Referral	Referral	Available (On-call)
Anaesthesiologist	In-house	In-house/ On-call	On-call	Available (On-call)
Emergency Physician	Essential	Desirable	Desirable	Available (In-house)
Intensivist	Essential	Desirable	Desirable	Available (In-house)
Diagnostic Services (24/7)				
X-Ray	Essential	Essential	Essential	Available
Ultrasound (FAST)	Essential	Essential	Essential	Available
CT Scanner	Essential	Desirable	Desirable	Available (On-call Technician)
Blood Bank (MTP capability)	Essential	Essential	Essential	Available
Arterial Blood Gas (ABG)	Essential	Essential	Desirable	Available

Source: Adapted from.

Part Two

THE PATIENT CARE CONTINUUM: OPERATIONAL PROTOCOLS

This part provides the detailed Standard Operating Procedures (SOPs) for each phase of the patient's journey. These protocols are designed to be prescriptive, ensuring that every patient receives a standardized, high-quality level of care from the moment of entry into the system until discharge.



Pre-Hospital and Transfer Services

4.1 Scope of Integration

While Demartino Hospital does not directly operate pre-hospital ambulance services, its function as a designated trauma center necessitates seamless integration with these providers. The following protocols operationalize the critical "Scene" and "Transfer" components of the WHO Emergency Care System Framework, ensuring the chain of survival begins before the patient reaches the hospital doors.

4.2 EMS Communication Protocol

A direct and reliable line of communication is essential for pre-arrival preparation and team activation.



A dedicated, 24/7 communication channel (e.g., radio frequency or dedicated mobile phone line) will be maintained in the ED and monitored by the Triage Nurse or a designated communication officer.

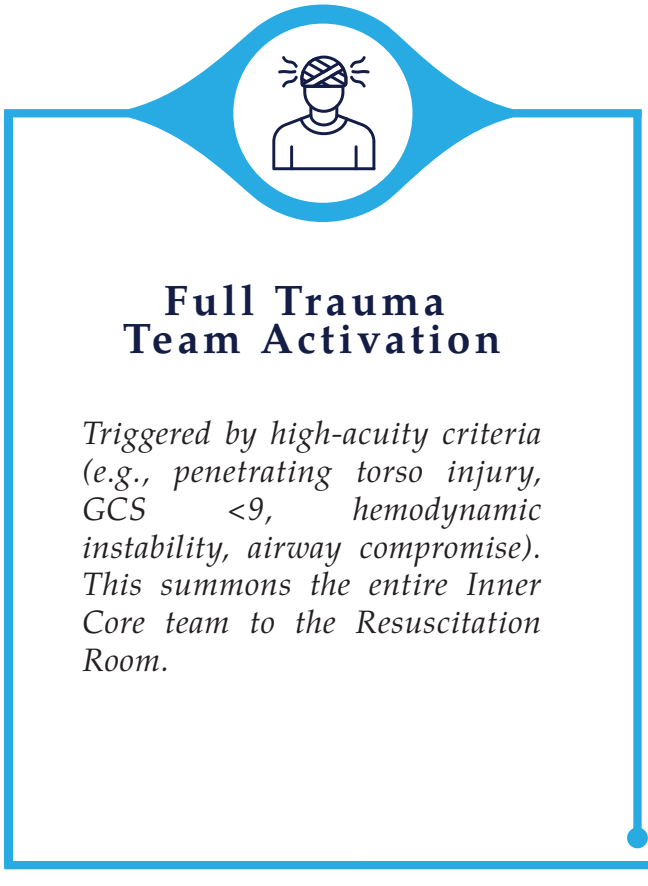
EMS crews are required to provide a pre-arrival notification for all patients meeting trauma activation criteria.

The pre-arrival report must follow the standardized MIST format:



4.3 Trauma Team Activation Protocol

Based on the pre-arrival report, the Triage Nurse or ED physician will activate the Trauma Team according to a tiered system:



Full Trauma Team Activation

Triggered by high-acuity criteria (e.g., penetrating torso injury, GCS <9, hemodynamic instability, airway compromise). This summons the entire Inner Core team to the Resuscitation Room.



Tiered Trauma Alert

Triggered by moderate-acuity criteria (e.g., isolated femur fracture, high-risk mechanism without instability). This summons a smaller, designated subset of the team.

4.4 Inter-Facility Transfer Protocol

Demartino Hospital serves as a referral center for the region. Formal protocols are essential for managing incoming transfers

The Center will maintain formal transfer agreements with designated Level II and III hospitals in the region.

These agreements will define:

- *Clinical criteria for patient transfer.*
- *A single point of contact (the on-call Trauma Surgeon or delegate) for accepting transfers.*
- *Required documentation to accompany the patient (transfer summary, imaging).*
- *Communication procedures during transport to ensure continuity of care.*

Patient Reception and Initial Management (The "Golden Hour")

The period immediately following arrival is the most critical for identifying and treating life-threatening injuries. The physical layout and clinical processes of the ED are optimized for speed, efficiency, and patient safety.

5.1 Patient Arrival and Entry Points

Patient flow is managed through distinct, clearly marked entry points to prevent congestion and ensure rapid access for the most critical patients.

A designated, covered ambulance bay provides direct, weather-protected, and unobstructed access to the Resuscitation Room. The bay is designed for one-way traffic flow to facilitate rapid ambulance turnaround.

A separate entrance for ambulatory ("walk-in") patients is provided, leading directly to the Triage Area. This segregates lower-acuity patients from major resuscitations.



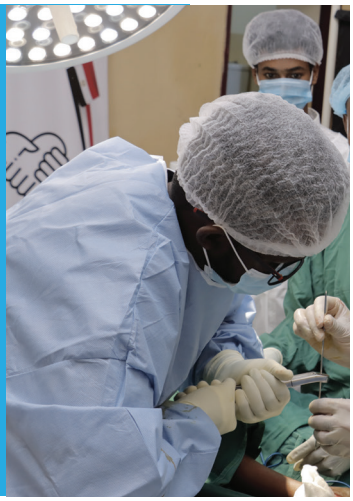


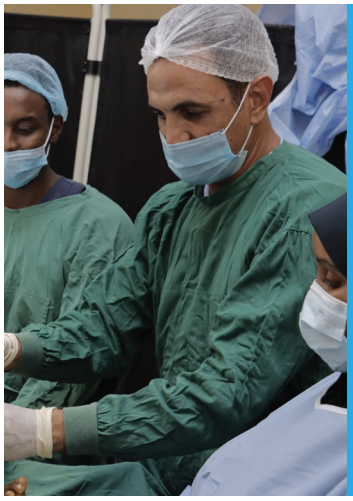
5.2 Triage Protocol

Triage is the process of rapid, dynamic sorting to ensure the most critically injured patients receive care first.

Immediate Sorting

Triage is not a waiting process; it is an immediate clinical assessment performed upon patient arrival by a dedicated, experienced Triage Nurse.





Methodology

The Center will utilize a standardized, five-level, evidence-based triage system. This system categorizes patients based on acuity and resource needs, assigning them to a specific treatment area.

- ***Level 1 (Red - Resuscitation):*** Life-threatening condition. Patient proceeds immediately to the Resuscitation Room. Examples: cardiac arrest, major trauma with shock, compromised airway.
- ***Level 2 (Orange - Emergent):*** Potential threat to life or limb. Patient proceeds to the Treatment Room (Yellow Area). Examples: chest pain suspicious for ACS, multiple fractures.
- ***Level 3 (Yellow - Urgent):*** Condition requires urgent evaluation, but not immediately life-threatening. Patient proceeds to the Treatment Room or Green Area. Example: isolated closed fracture with stable vitals.
- ***Level 4 (Green - Less Urgent):*** Minor injury or illness. Patient proceeds to the Green Area/Minor Care. Example: simple laceration.
- ***Level 5 (Blue - Non-Urgent):*** Condition could be managed in a primary care setting.

Process: The triage assessment is a rapid evaluation of airway, breathing, circulation, and a brief mental status evaluation (e.g., asking "What is your name?") to quickly establish a baseline GCS or AVPU score.

5.3 Resuscitation Room Preparation and Activation

The Resuscitation Room (Red Area) must be in a constant state of readiness.



The Trauma Primary Nurse is responsible for conducting a checklist-based inventory of the Resuscitation Room at the start of every shift, ensuring all equipment is present and functional.

Upon receiving a pre-arrival notification for a major trauma, the Trauma Team Leader and all Inner Core team members are paged and must respond immediately to the Resuscitation Room.



Resuscitation and Stabilization Protocols

The initial management of the severely injured patient follows a structured, prioritized sequence to address life-threatening conditions first.

6.1 The Primary Survey and Resuscitation (ABCDE Approach)

This is a rapid, systematic, hands-on evaluation led by the Trauma Team Leader, with tasks performed simultaneously by the trauma team members.

A

A - Airway with Cervical Spine Protection

The Airway Physician assesses for airway patency while another team member maintains in-line spinal immobilization. Obstructions are cleared, and a definitive airway (endotracheal intubation) is established if the patient is unable to maintain their own airway, has a GCS of 8 or less, or has impending airway compromise.

B

B - Breathing and Ventilation

The chest is exposed, inspected, auscultated, and palpated to assess for adequacy of ventilation and to identify and treat life-threatening thoracic injuries. A tension pneumothorax is treated immediately with needle decompression followed by chest tube insertion. An open pneumothorax ("sucking chest wound") is covered with a three-sided occlusive dressing. High-flow oxygen is administered to all major trauma patients.

C

C - Circulation with Hemorrhage Control

- Gross external hemorrhage is the first priority and is controlled with direct pressure, pressure dressings, or tourniquet application for extremity bleeding.
- Two large-bore (14-16 gauge) peripheral IV lines are established by the nursing team.
- For patients in hemorrhagic shock (tachycardia, hypotension, poor perfusion), resuscitation is initiated with warmed crystalloid fluids (e.g., Lactated Ringer's solution), and the Massive Transfusion Protocol (MTP) is activated immediately

D

D - Disability (Neurologic Status)

A baseline neurologic exam is performed, consisting of the Glasgow Coma Scale (GCS) score and an assessment of pupillary size and reactivity. A decreasing GCS score is a critical indicator of worsening intracranial injury.

E

E - Exposure and Environmental Control

The patient's clothing is completely removed to facilitate a thorough head-to-toe examination and identify all injuries. Simultaneously, warming measures (e.g., warmed blankets, warmed IV fluids) are initiated to prevent hypothermia, a key component of the "lethal triad" of trauma.

6.2 Adjuncts to Primary Survey

These diagnostic procedures are performed concurrently with or immediately after the primary survey to identify sources of occult bleeding.

- ***FAST Scan:*** A portable ultrasound is used to perform a Focused Assessment with Sonography for Trauma to rapidly identify free fluid (blood) in the pericardium, peritoneal cavity, or pleural spaces.
- ***Pelvic X-ray and Binder:*** An anteroposterior (AP) pelvis X-ray is obtained in all patients with major blunt trauma. If a fracture is suspected or identified, a pelvic binder is applied to reduce the pelvic volume and control hemorrhage.
- ***Chest X-ray:*** An AP chest X-ray is obtained to confirm endotracheal tube and chest tube placement and to identify hemothorax, pneumothorax, or other thoracic injuries.



6.3 The Secondary Survey

Once the primary survey is complete, resuscitation is underway, and vital functions are stabilizing, a comprehensive head-to-toe secondary survey is performed to identify all other injuries. This is a systematic examination of each body region (head, maxillofacial, neck, chest, abdomen, pelvis, perineum, extremities, and back).



6.4 Specific Clinical Management Guidelines

The Center formally adopts the evidence-based protocols from the MOH Pocket Manual in Critical Care as its standard for managing specific traumatic conditions.

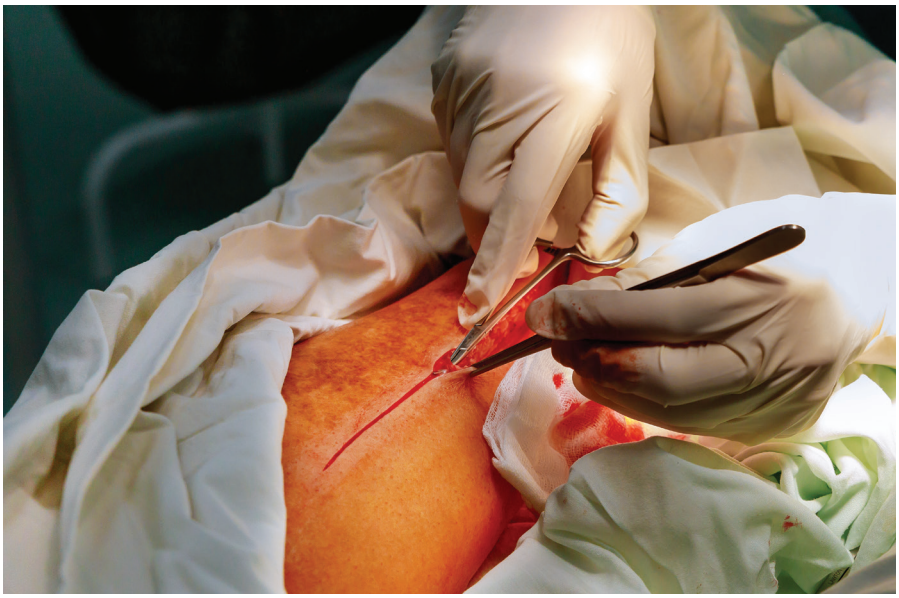
Traumatic Brain Injury (TBI)

The TBI protocol will be initiated for all patients with a GCS <13. This includes measures to prevent secondary brain injury by maintaining systolic blood pressure >90 mmHg and PaO_2 >60 mmHg. The protocol includes indications for ICP monitoring and the administration of hyperosmolar therapy (mannitol or hypertonic saline) to control elevated ICP. Neurosurgery is consulted immediately for any patient with a GCS \le 8 or with focal neurological deficits.



Shock:*The management of shock is etiology-specific.*

Hemorrhagic Shock: The priority is aggressive volume resuscitation with blood products via the MTP and rapid surgical intervention to control the source of bleeding.
Septic Shock: For trauma patients who develop sepsis, the protocol mandates aggressive fluid resuscitation, early administration of broad-spectrum antibiotics, and vasopressor support (starting with norepinephrine) to maintain a mean arterial pressure (MAP) of \ge65



Chest Trauma

Protocols for the management of hemothorax, pneumothorax, flail chest, and cardiac tamponade are clearly defined, including indications for tube thoracostomy and emergent thoracotomy.

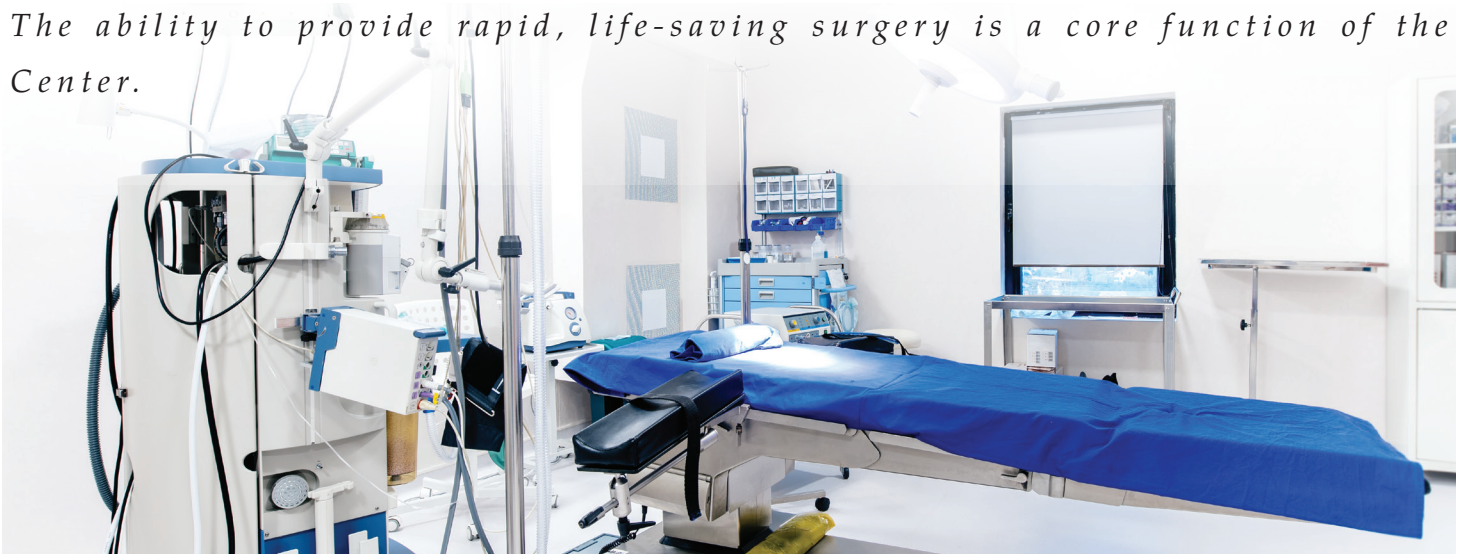


Definitive and Specialized Care Pathways

Following initial resuscitation and stabilization, patients are moved along a defined pathway to receive the definitive care required for their injuries.

7.1 Operating Theatre (OT) Pathway

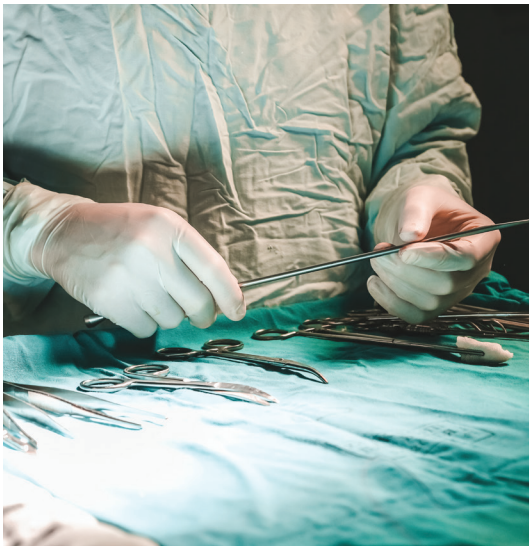
The ability to provide rapid, life-saving surgery is a core function of the Center.



Activation and Readiness: The on-call OT Supervisor is notified as part of the initial Trauma Team activation for any patient likely to require surgery. A designated trauma operating room must be available 24/7, with the surgical team able to begin an operation within 30 minutes of the decision to operate.



Post-Operative Disposition: Following surgery, patients are transferred to the Post-Anesthetic Care Unit (PACU) for recovery. Patients who remain critically ill, require ongoing mechanical ventilation, or have unstable hemodynamics are transferred directly from the OT to the CCU or Neurotrauma ICU.



Prioritization: The emergency operating list is a dynamic document. The Trauma Surgery Attending Physician, in consultation with the on-call Anaesthesiologist, has the final authority to prioritize the surgical schedule, ensuring that patients with ongoing haemorrhage or other immediate life threats receive precedence over more stable cases, even if those cases were booked earlier.



7.2 Intensive Care Unit (ICU) / Critical Care Unit (CCU) Pathway

The ICU provides advanced organ support and continuous monitoring for the most severely injured patients.

Admission Criteria:

- Critical Care Unit (CCU): Located on the 1st Floor, the CCU is for patients in the most critical condition, requiring advanced interventions such as mechanical ventilation, continuous vasopressor infusions, or specialized hemodynamic monitoring.
- Neurotrauma ICU: Also on the 1st Floor, this unit is for patients with severe TBI or spinal cord injuries who require frequent neurological assessments and ICP monitoring but may not need multi-organ support.
- Care Model: The ICU operates on a team-based model led by a full-time Staff Intensivist. Mandatory daily multidisciplinary rounds are conducted at each patient's bedside, involving the intensivist, bedside nurse, pharmacist, respiratory therapist, and representatives from the primary surgical service (e.g., trauma surgery, neurosurgery).
- Protocols: Care in the ICU is guided by a suite of evidence-based protocols, including low-tidal-volume ventilation for ARDS, sedation and analgesia guidelines, sepsis management bundles, and nutritional support protocols.

7.3 Ward-Level Care Pathway

Patients are transitioned to a specialized trauma ward when they are medically stable and no longer require the level of monitoring provided in the ICU.

- ***Transition Criteria***: A patient is deemed ready for transfer to the ward when they are hemodynamically stable without vasopressors, have a secure airway (if extubated), and do not require invasive monitoring.
- ***Care Model:*** Care on the trauma ward is provided by a team of nurses with specialized training in trauma care, overseen by the trauma service's residents and attending physicians. The nurse-to-patient ratio is maintained to allow for close monitoring of recovering trauma patients.

Part Three

TEAM STRUCTURE AND HUMAN RESOURCE MANAGEMENT

8.1 Team Philosophy

The expertise, coordination, and continuous development of the clinical team are the most critical determinants of patient outcomes. This part defines the structure of the trauma team, the responsibilities of each member, and the framework for ensuring all staff possess and maintain the requisite skills.



The Trauma Team: Roles and Responsibilities

The resuscitation of a severely injured patient is a complex, high-stakes endeavor that occurs in a time-critical and often chaotic environment. The Center's philosophy is that an organized, systematic approach with pre-assigned roles is essential to ensure an efficient and effective delivery of care. This structure reduces confusion, minimizes errors of omission, and allows the team to function as a cohesive unit.

8.2 Inner Core Team (Direct Patient Care)

These team members are directly engaged at the patient's bedside during the resuscitation.

Trauma Team Leader (Attending Surgeon or EM Physician): The designated leader and single point of authority in the resuscitation room. This individual stands at the foot of the bed to maintain a global view, directs the primary and secondary surveys, makes all critical decisions regarding interventions and consultations, and serves as the primary communicator with the patient's family.

Trauma Primary Nurse: Positioned on the patient's left side, this nurse is the leader of all nursing interventions. Responsibilities include preparing the trauma bay, establishing IV access, administering all medications and blood products, and attaching monitoring equipment.

Trauma Resuscitation Nurses (2): One nurse assists the Primary Nurse with procedures, fluid administration, and documentation. The second nurse functions as a recorder, documenting all vital signs, interventions, and times on the trauma flow sheet.

Airway Physician (Anesthesia Specialist or Pulmonology Specialist): Positioned at the head of the bed, this individual is solely responsible for assessing and managing the airway and providing cervical spine stabilization. This includes all advanced airway procedures like endotracheal intubation.

Primary Survey Physician (EM Resident or Surgical Resident): Positioned on the patient's right side, this physician performs the hands-on ABCDE assessment as directed by the Team Leader

ED Technologist: Provides procedural support, including performing vital sign assessments, obtaining point-of-care lab tests (e.g., I-stat), applying warming measures, and assisting with CPR if needed.



8.3 Outer Core Team (Support Roles)

These team members perform essential supportive tasks but do not typically have direct patient contact unless requested.

Operating Room Supervisor

Upon activation, ensures a designated trauma OT is prepared and staffed for immediate surgical intervention.

Medical Students/ Interns

May be present as observers or assist with basic, supervised tasks such as haemorrhage control or running errands, while maintaining professionalism and not impeding the core team.



Blood Bank Staff

Upon activation of the MTP, prepares and expedites the delivery of pre-defined coolers of blood products to the resuscitation room.

ED Registrar

Facilitates prompt patient registration, either at the bedside for critical patients or in the triage area, to ensure a medical record is generated without delay.

Radiology Technologist

Brings a portable X-ray machine to the resuscitation room and performs all required imaging immediately



Table 2: Trauma Team Roles and Responsibilities Matrix

Team Role	Pre-Arrival Phase	Primary Survey (ABCDE) Phase	Secondary Survey & Disposition Phase
		INNER CORE	
Trauma Team Leader	*Reviews pre-hospital report. Confirms team activation*	*Directs and supervises entire resuscitation. Makes all critical decisions*	*Conducts/delegates secondary survey. Formulates definitive care plan. Communicates with family.*
Airway Physician	*Prepares airway equipment.*	*Assesses and manages airway. Maintains C-spine stabilization.*	*Monitors airway patency. Assists with central line placement if needed.*
Primary Survey Physician	*N/A*	*Performs hands-on ABCDE assessment. Inserts chest tubes. Performs FAST scan.*	*Performs detailed head-to-toe secondary survey. Inserts catheters.*
Trauma Primary Nurse	*Ensures trauma bay is stocked and ready. Prepares IV fluids/meds.*	*Establishes large-bore IV access. Administers all fluids, blood, and medications.*	*Manages ongoing infusions. Prepares patient for transport to CT/OT/ICU.*
Resuscitation Nurse 1	*Assists Primary Nurse*	*Assists with procedures (e.g., chest tube). Draws blood samples.*	*Documents all interventions, vital signs, and times on*
		TRAUMA FLOW SHEET.	
Resuscitation Nurse 2	*N/A*	*Applies monitoring equipment (ECG, SpO2, BP cuff). Exposes patient.*	*Applies dressings and splints. Ensures patient is kept warm.*
ED Technologist	*N/A*	*Obtains initial and serial vital signs. Performs point-of-care testing.*	*Assists with patient transfer. Cleans and restocks the bay post-resuscitation*
		OUTER CORE	
OR Supervisor	*Notified of activation. Places trauma OR on standby.*	*N/A*	*Prepares OR, calls in surgical/ anesthesia team upon request from Team Leader.*
Blood Bank Staff	*Notified of MTP activation.*	*Prepares and delivers initial MTP cooler.*	*Continues to prepare and deliver subsequent coolers as requested.*
Radiology Technologist	*Brings portable X-ray to trauma bay.*	*Performs chest and pelvis X-rays on command.*	*Accompanies patient to CT scanner. Prioritizes trauma imaging.*
ED Registrar	*N/A*	*Obtains patient demographics for bedside registration*	*Finalizes registration and ensures patient identification band is in place.*

Source: Adapted from.

Staffing, Credentialing, and Education

9.1 Staffing Model

The Center will maintain a staffing model that ensures immediate availability of expert personnel 24/7.

In-house Coverage

The ED will be staffed 24/7 with an in-house Attending Emergency Physician and a team of residents. The ICU will be staffed 24/7 by an in-house Intensivist.

On-call Roster:

A formal, tiered on-call roster will be maintained for all essential specialties, including Trauma Surgery, Orthopedics, Neurosurgery, and Anesthesia. Attending surgeons on call must be available to respond to the hospital within 30 minutes of being called.



9.2 Mandatory Training and Certification

To ensure a consistent and high standard of care, all clinical staff working within the Center must maintain specific, role-dependent certifications. This is a condition of employment and credentialing for work in the Center.

Basic Life Support (BLS): All clinical staff, including physicians, nurses, and technicians, must hold a current BLS certification.

Advanced Certifications:

- ***Advanced Trauma Life Support (ATLS®):*** Mandatory for all Attending Physicians and senior residents in Trauma Surgery, Emergency Medicine, and Anesthesia. This course provides the foundational, systematic approach to trauma resuscitation.
- ***Advanced Cardiac Life Support (ACLS):*** Mandatory for all physicians and lead nurses working in the ED and ICU, providing the skills for managing cardiovascular emergencies.
- ***Pediatric Advanced Life Support (PALS):*** Mandatory for all staff who regularly care for pediatric patients in the ED and ICU.
- ***Prehospital Trauma Life Support (PHTLS):*** While not mandatory, it is highly recommended for ED staff who liaise with EMS to foster a better understanding of the pre-hospital environment.



9.3 Continuous Professional Development (CPD) Program

Expertise in trauma and critical care is perishable and requires constant reinforcement and updating.

The Center will conduct monthly, multidisciplinary trauma simulation drills in the resuscitation bay to practice teamwork, communication, and complex clinical scenarios.

Regular in-service training sessions will be held on topics identified through the PIPS process, such as new equipment, updated protocols, or areas needing improvement.

Participation in the monthly M&M conference is a mandatory component of the CPD program for all core medical and nursing staff.





The Center will actively support staff in attending relevant national and international conferences and will seek to align its internal training with WHO-endorsed programs like the Basic Emergency Care (BEC) course to ensure global standards are met.

Table 3: Staff Training and Certification Matrix

Staff Role	BLS	ACLS	ATLS®	PALS	PHTLS®
PHYSICIANS					
Attending (Trauma Surgery)	+	+	+	=	=
Attending (Emergency Med)	+	+	+	+	=
Attending (Anesthesia)	+	+	+	=	X
Attending (Intensivist)	+	+	+	+	X
Resident (Surgery/EM)	+	+	+	+	=
NURSING					
ED Lead Nurse / Charge Nurse	+	+	=	+	=
ED Staff Nurse	+	+	=	+	
ICU Lead Nurse / Charge Nurse	+	+	=	+	X
ICU Staff Nurse	+	+	=	+	X
OTHER CLINICAL STAFF					
ED Technologist	+	=	X	+	X
EMS Liaison	+	+	X	+	+

Source: Adapted from.

+ Required = Desirable X Not Available



Part Four

ANCILLARY SERVICES AND PATIENT SUPPORT

A holistic approach to trauma care extends beyond the immediate resuscitation and surgical phases. It requires the seamless integration of essential support services and a deep commitment to the needs of patients and their families throughout their journey to recovery



Integrated Support Services

The Center's ability to function effectively is dependent on the timely and reliable performance of key ancillary departments

10.1 Radiology and Diagnostic Imaging

24/7 Availability: Portable X-ray and portable ultrasound (for FAST scans) must be available in the ED 24/7. A CT scanner and a qualified technician must be available 24/7, with a mandated target of less than one hour from the time a scan is ordered to its completion for a critically injured patient.

Image Review:All trauma-related imaging must be reviewed immediately by the on-call Radiologist, with a formal report available in the electronic medical record within one hour.



10.2 Laboratory and Blood Bank

24/7 Capability: The hospital laboratory must have 24/7 capability to perform essential tests, including blood typing and cross-matching, a full coagulation panel (PT/INR, aPTT, fibrinogen), and arterial blood gas analysis.

Massive Transfusion Protocol (MTP): The Blood Bank will maintain pre-packaged, refrigerated coolers containing a balanced ratio of packed red blood cells, fresh frozen plasma, and platelets. Upon MTP activation by the Trauma Team Leader, the first cooler must be delivered to the resuscitation room within 10 minutes.



10.3 Pharmacy

24/7 Access

The hospital pharmacy must provide 24/7 access to all essential medications for trauma and critical care. This includes analgesics (especially narcotics), antibiotics, sedatives, paralytics, vasopressors, and other resuscitation drugs.

Clinical Pharmacist

A clinical pharmacist will be a member of the ICU multidisciplinary team and will participate in daily rounds to optimize medication therapy, prevent adverse drug events, and ensure appropriate dosing.





Section Eleven

Patient and Family-Centered Care

A traumatic injury is a profoundly distressing event for both patients and their loved ones. The Center is committed to providing compassionate, supportive, and communicative care.

11.1 Communication Protocols

Designated Communicator: The Trauma Team Leader, or a designated senior physician, is responsible for providing clear, honest, and regular updates to the family. This should occur after the initial stabilization and at key transition points (e.g., before going to OT, after surgery).

Communicating Patient Death: In the unfortunate event of a patient's death, a structured and compassionate protocol will be followed. This includes assembling the appropriate team (physician, nurse, social worker), choosing a private setting, using clear and direct language, offering sincere condolences, answering all questions honestly, and providing immediate access to support services.



11.2 Psychosocial and Spiritual Support

The Center recognizes that recovery from trauma is not only physical but also psychological. Social workers and/or hospital chaplains will be consulted early for all major trauma patients to provide support to both the patient and their family.

Patients and families will be provided with information explaining the common physical, emotional, and behavioral responses to trauma, such as anxiety, flashbacks, and sleep disturbances, to normalize these reactions and encourage help-seeking.



11.3 Visitation Guidelines

The presence of family is a crucial component of healing. Visitation policies are designed to be as flexible as possible while ensuring patient safety and providing an environment conducive to care.



Emergency Department

Family presence in the resuscitation room is generally not permitted to allow the team to work unimpeded. A designated staff member will provide updates in the waiting area.

Ward

More flexible visitation hours are in place on the trauma ward, and families are encouraged to participate in the patient's care as appropriate.



ICU/CCU

Visitation is permitted but structured. A maximum of two visitors are allowed at the bedside at one time. To protect patient privacy and facilitate nursing handovers, visitation is not permitted during shift changes (e.g., 7:30 a.m. to 8:15 a.m. and 7:30 p.m. to 8:15 p.m.).



Resuscitation and Stabilization Protocols

Effective discharge planning is a critical process that begins early in the hospital stay to ensure a safe and smooth transition from the hospital back to the community, thereby preventing complications and readmissions.

12.1 Multidisciplinary Approach

Discharge planning is a collaborative effort, not a last-minute task. A multidisciplinary team, including the primary medical team, nursing staff, physiotherapists, occupational therapists, social workers, and the patient and their family, will meet regularly to develop a personalized discharge plan.

12.2 Patient and Family Education

Empowering patients and families with knowledge is key to a successful recovery at home.

- ***Before discharge, the patient and their primary caregiver will receive detailed, written instruc`tions covering:***
  - Wound and incision care.
  - A clear medication schedule, including names, purposes, doses, and potential side effects.
  - Specific activity restrictions and guidelines for gradual return to normal function.
  - Dietary recommendations.
  - A list of "red flag" signs and symptoms that should prompt them to seek immediate medical attention.
- ***The hospital will use standardized forms, such as the "Patient Summary" and "Upcoming Appointments" templates, to ensure this information is provided consistently and clearly.***

12.3 Rehabilitation and Follow-up

Continuity of care is essential for optimizing long-term functional outcomes.

- ***Rehabilitation:*** All patients with injuries resulting in functional deficits will have formal referrals made to physiotherapy and occupational therapy services before they leave the hospital. This is essential to minimize disability and maximize the patient's return to independence.
- ***Follow-up Appointments:*** All necessary follow-up appointments with the trauma clinic, surgical specialists, or other consultants will be scheduled before the patient is discharged. The patient will be provided with a clear, written schedule of these appointments.





Appendix

A: Essential Equipment Checklists

To ensure a constant state of readiness, the following checklists must be completed by the designated nursing staff at the beginning of each shift and after each major resuscitation.

Table 3.1: Resuscitation Room (Red Area) Equipment Checklist

Category	Items	Check(✓)
Airway	*Laryngoscope (handles & blades: Mac 3/4, Miller 1/2)*	
	Endotracheal Tubes (sizes 6.0-8.5)	
	Bag-Valve-Mask (Adult & Pediatric)	
	Suction Machine (functional, with Yankauer tip)	
	Oropharyngeal & Nasopharyngeal Airways (assorted sizes)	
	Surgical Cricothyroidotomy Kit	
Breathing	*Oxygen source (wall/cylinder, functional)*	
	Non-rebreather masks, nasal cannulae	
	Chest Tube Tray & Insertion Kit (assorted sizes)	
	Pleurovac/Underwater Seal Drainage System	
	Portable Ventilator	
Circulation	*IV Catheters (14G, 16G, 18G)*	
	IV starter kits, tubing, pressure bags	
	Warmed Crystalloid Fluids (NS/LR)	
	Blood/Fluid Warmer	
	Intraosseous (IO) Drill/Needle Kit	
	Central Venous Catheter Kit	
Monitoring	*Cardiac Monitor/Defibrillator with pacing capability*	
	ECG leads, SpO2 probe, BP cuffs (all sizes)	
	Thermometer (core temperature capability)	
General	*Trauma Shears, Splints, Pelvic Binder*	
	Emergency Crash Cart (with all drugs verified)	

Source: Synthesized from.

Table 3.2: Emergency Operating Theatre Trauma Cart Checklist

Category	Items	Check(√)
Instruments	*Major Laparotomy Tray*	
	Thoracotomy Tray with Rib Spreaders	
	Vascular Clamp Set (Debakey, Satinsky)	
	External Fixation Set (for pelvic/long bone stabilization)	
	Craniotomy Tray	
Supplies	*Laparotomy Sponges (counted)*	
	Abdominal Packing Gauze	
	Vessel Loops, Sutures (assorted)	
	Cell Saver (if available)	
Equipment	*Electrosurgical Unit (Bovie)*	
	High-Powered Suction	
	Anesthesia Machine (checked and ready)	
	Patient Warming System (e.g., Bair Hugger)	

Source: Synthesized from.

Table 3.3: ICU Bedside Readiness Checklist

Category	Items	Check(√)
Respiratory	*Mechanical Ventilator (self-test complete)*	
	Suction (wall, functional	
	Bag-Valve-Mask and resuscitation supplies	
Cardiovascular	*Infusion Pumps (minimum 4)*	
	Arterial Line Transducer Kit	
	Central Line Transducer Kit	
Monitoring	*Full Hemodynamic Monitor (ECG, SpO2, NIBP, IBP*	
	End-Tidal CO2 Monitor	
General	*Emergency Drug Box (sealed, in date)*	
	Defibrillator (available on unit)	

Source: Synthesized from.



+252 62 5572605
+252 61 0901242

dg@martino.gov.so
www.martino.gov.so

Address: 28HQ+VFP,
Mogadishu