DEDER GENERAL HOSPITAL

EMERGENCY AND INJURY CARE SERVICES PROTOCOL

PREPARED BY*: *HSQU

JULY 2016 E.C

DEDER, EASTERN ETHIOPIA

PROTOCOL APPROVAL SHEET

NAME OF PROTOCOL: EMERGENCY AND INJURY CARE SERVICES PROTOCOL

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THIS PROTOCOL IS EFFECTIVE FROM JULY 2016 E.C TO JUNE 2018 E.C

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Introduction

Purpose

The purpose of this protocol is to establish standardized procedures and guidelines for the management of emergency services at **Dedeer General Hospital** to ensure the efficient and effective delivery of care to all patients. The protocol is designed to support the health care team in providing timely, high-quality care in a safe environment

Scope:

This protocol applies to all personnel working within the Emergency Department (ED), including physicians, nurses, administrative staff, paramedics, and other support staff. It also applies to all patients presenting to the ED, regardless of the nature of their emergency.

Objectives:

- Ensure prompt and accurate patient triage.
- Optimize the use of ED resources and reduce waiting times.
- Provide high-quality care in line with best practices.
- Enhance communication and coordination among ED staff.
- Improve patient outcomes and satisfaction.

Emergency Services Management and Organization

The emergency case team should be overseen by a director of emergency services. He/she is responsible for all activities conducted in Emergency Services including:

- Patient triage,
- Case management, and
- Laboratory, pharmacy and diagnostic services of emergency unit.

The director of emergency services is responsible for managing all department staff and should ensure that equipment and supplies are available for the patient load. The emergency department or unit shall serve as the definitive specialized care area/facility, equipped and staffed to provide rapid and varied emergency care to all people with life-threatening conditions.

BEMERGENCY SERVICE ORGANOGRAM

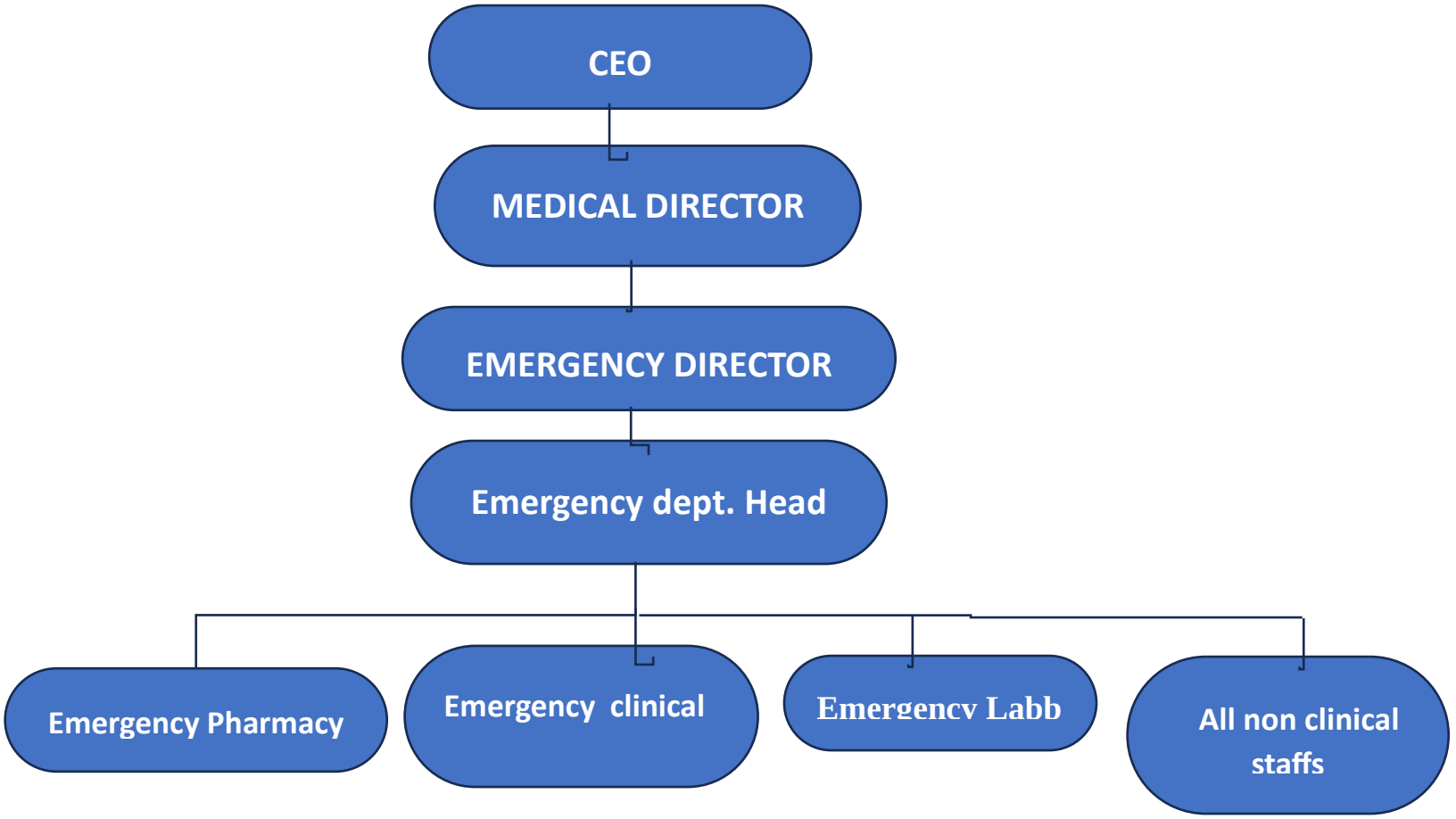


Figure 1: EMERGENCY SERVICE ORGANOGRAM

The emergency department or unit shall provide initial appropriate care and arrange subsequent disposition as per domain of care. **(See figure1 below**).

Domains of Acute Care

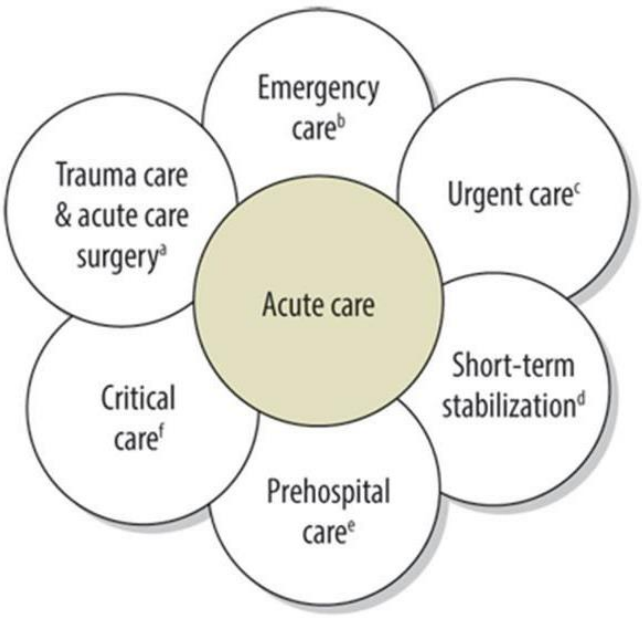


Figure 1: Domains of Acute Care

Emergency Services Layout

The Emergency Services should be organized so that the Emergency Service's entrance can be easily accessed by ambulances and patients. This means that the emergency unit should be located on the ground floor for ease of access and should be clearly labeled in a way that is visible from the hospital's gate. Its entrance signage should be clearly illuminated and has multi- lingual labels, preferably red background with white color labels, that is visible from the street (even at night) and addressing the cultural and linguistic diverse needs of its communities. There should also be an area dedicated for patient drop-off and ambulance parking.

The hospitals should have adequately designated space for emergency unit and emergency services should have the following facilities in required standards:

A. Ambulance parking space and entrance

The ambulance parking space should be close to the emergency unit entrance, well-lit and available exclusively for patients, their relatives and staff. Protected proximate parking areas should be available for urgent staff on-call shifts. Hospitals' ambulance entrance environments provide important reception and treatment areas in the event of a disaster or chemical/biological/radiation incidents. Direct access to an internal decontamination room should be available. Appropriate physical barriers should protect "drop off" zones. All doors through which patients may pass must be of sufficient size to accommodate a full hospital bed with attached intravenous flasks and traction apparatus with ease. The floor covering of the emergency unit should be a non-slippery surface, impermeable to water, easy to clean; acoustic properties that reduce sound transmission and shock absorption to facilitate movement of beds.

B. Patient assistant area at Emergency gate

Patient assistant staff (receptionist) at the emergency gate receives; support and direct patients arriving for emergency care and ensure proper handover of patients. They should be easily identified with reflective jackets. All patient assistants should be trained in patient moving and handling, basic life support, communication skill and infection prevention and control procedures.

There should be communication and patient support devices in the patient assistant area of the emergency reception area, including:

- Wheelchairs and stretchers
- Telephone or walky-talkies
- Tricycle ambulance(optional)

Patients arrive at emergency departments/units in different ways, including ambulance, public transport or/and independently walking /supported by family and support should be provided as per individual patient needs.

For example: for patients arriving to the ED/EU by public transport or walking, a receptionist at the hospital gate should guide or give appropriate support to the patient either by providing a wheelchair, stretcher or assist the family to reach to the triage area.

For critically ill patient arriving by ambulance, the ambulance crew should notify the hospital

ED/EU about the nature of the patient's condition and receive instruction on en-route patient management plan. This will enable the hospital ED/EU to prepare well ahead of the incoming patient. The triage nurse and a porter and/ emergency physician should be on standby at the ED/EU gate to receive the patient from the ambulance crew and commence appropriate emergency care and treatment based on the patient's condition. The ED/EU receiving team should ensure they receive the patient care sheet from the pre-hospital ambulance care giver as part of the patient handover.

C. Triage area

The triage area is the 1st contact point for patients with the ED/EU staff and should be situated at the entrance of the ED/EU with easily recognizable signage for patients and the general public. The triage area should be equipped with the required triage equipment and supplies (see annex), and staffed by trained and experienced triage professionals, including patient assistants. Staff assigned to the triage area of the ED/EU should be available onsite and ready at all time to receive incoming patients. The patient assistant is responsible for patient support, safe moving and handling, and, preparing wheelchairs and stretchers for use when they are needed. Patient assistants, therefore, need to be trained on basic life support (BLS), infection prevention (IP), and communication skills. Patients with life or limb-threatening conditions may bypass the triage area to be managed in the resuscitation area. The triage documentation for patients requiring resuscitation should be done retrospectively.

D. Waiting area

The emergency-waiting area should be located near to the triage area with easy access and suitable for observation and follow up of patients by the triage nurse. Patients with stable conditions should remain in the waiting area until the physician is ready to evaluate their conditions. The triage nurse should continue to observe, communicate, reassurance and re-triage waiting area patients, as per need, until they are transferred to another service within the hospital. The waiting area should be kept clean, brightly lit and well ventilated.

E. Examination area

A separate examination room for each patient and physician is not mandatory at the ED/EU since emergency patients' physical examination can be done in the resuscitation room. However, multi-purpose examination cubicles should be organized for less critical patients.

ED/EU physicians should use the multi-disciplinary station/counter in-between patient interventions for writing. Implementing such an arrangement will ensure one cubicle can serve many physicians and patients.

F. Procedure area

This is an area where clean and sterile procedure equipment are stored and non-critical procedures like minor wound care and others are carried out. Procedures for critical patients should be carried out in the resuscitation area with continued/ongoing resuscitation.

G. The observation and treatment area

This is an area for stabilization and observation of patients who still need to be confined to bed or an area to keep patients for 24hrs or less until they are transferred to inpatient wards or other health institutions. The observation area is a continuum of the resuscitation area, and patients in this area require strict follow up and continuation of initiated treatment. Nurses need to monitor patients' vital signs regularly and most senior physicians' need to conduct frequent medical rounds (expected 2-3times/day), write up progress notes 2-3times/day according to patients' conditions and as per national treatment guidelines.

H. Utility areas

- **Clean Utility**

This should be of sufficient size for the storage of clean and sterile supplies with adequate bench top area for the preparation of procedure trays and equipment.

- **Dirty Utility/Disposal Room**

Access should be available from all clinical areas. There should be sufficient space to house the following:

- Stainless steel bench top with sink and drainer
- Pan and bottle rack
- Bowl and basin rack
- Utensil washer
- Pan/bowl washer sanitizer
- Flushing sink
- Storage space for testing equipment, eg. urinalysis
- An optional disposal room adjacent to the dirty utility should be considered.

I. Isolation room

Isolation rooms should be provided for the treatment of potentially infectious patients. They

should have a room with scrub up facilities, negative ventilation, and be self-contained linen-suite facilities. The rooms should be fitted with acute treatment area facilities and located adjacent to patients' reception area, i.e. triage to allow for the immediate isolation of potentially highly infectious based on the hospital's standards.

Isolation rooms may also be used to treat patients with conditions which require separation from other patients e.g. patients who require privacy for clinical conditions, or who are a source of visual or auditory distress to others. Deceased patients may be placed for grieving relatives to spend time with their deceased ones. These rooms must be enclosed completely from floor to ceiling. IPC protocols should be implemented for potentially infectious conditions.

J. Decontamination Room

A decontamination room should be available for patients who are contaminated with toxic substances. In addition to the requirements of an isolation room, this room must:

- Be directly accessible from the ambulance bay without entering any other part of the department.
- Have a flexible water hose, floor drain and contaminated water disposal system.
- Have storage space for personal protective equipment and decontamination equipment

K. Medical records/Cashier/Social worker

An operational relationship between medical records, cashier and social worker should exist to ensure patient details are recorded, or a previous medical record is retrieved. The patient assistant should assist patients or their relatives with registration payments to the cashier, the latter which should be situated next to the medical record personnel. Patients without the ability to pay for their treatment should be handled by the hospital social services without delay.

There must be a separate emergency medical record corner (under the main MR in the hospital). Access is required to ensure patients' previous medical histories are obtainable without delay. So emergency patients must not have to line up to get registered. A system of mechanical or electronic medical record transfer is desirable to minimize delays and labour costs. Access to medical records must be available 24 hours/day and 365 days a year.

Regardless of the availability/non-availability of accompany family member of an emergency patient, medical registration should be carried out with the help of or fully by the nurse assistants/ Porters.

Serving patients in a single window (one stop shopping) is strongly recommended to ensure cashiers are located next to the medical registration room.

L. Pharmacy

All medications and equipment for the resuscitation and management of emergency patients should be readily available at each treatment and or procedure areas. Proximity is desirable to enable prescriptions to be filled by patients with limited mobility. The aim of having readily accessible pharmacy services is to ensure speedy refilling of fast-moving essential emergency drugs and supplies without delay and auditable drug and supply management. The

pharmacist/druggist should work closely with the nurse responsible for refilling and establish an efficient refilling process.

M. Laboratory/ sample collection and testing facilities

Laboratory samples should be obtained within the emergency department and analyzed either within the department or at the central laboratory, depending on the test requested.

More complex tests may be performed in the Central Laboratory. If the sample is to be tested in the central laboratory then a porter should take the specimen to the laboratory and collect the result.

N. Emergency OR and ICU

The operating room and ICU should be readily accessible to the Emergency Services Case Team. If the workload is high, there should be a specific operating theatre for Emergency Services only. However, the general operating theatre may be used if the workload is less, in which case emergency cases should always be given priority over elective/cold surgical cases.

O. Portable imaging facilities and bay

This is used to house and charge mobile x-ray equipment which should readily be accessible to the major treatment areas including the plaster room. Having the portable X-ray and ultrasound minimizes delay of management of patients. And there should be a 24/7

radiology service with a radiologist or a delegate available.

P. Nurses and physician's station

This is an area where a counter table with multiple chairs and computer is placed. All documentation tools and patient charts are kept electronically and manually here. Additionally, the station should have an internet access and reading materials for easy reference.

Q. Administration room

Offices provide space for the administrative, managerial safety and quality, teaching, and research roles of the emergency department. Office spaces should be provided based on the role delineation of the emergency department.

R. Staff room /Meeting room

This is an area where staff in the ED/EU will have refreshment during duty hours. Ideally emergency staff should not go out for tea/ lunch/dinner, or to duty rooms for rest. Such rooms should be equipped with comfortable chairs, equipment's and supplies for refreshment.

Adjacent to or in the ED/EU, hospitals should also provide nurses and physician's morning meeting room according to discuss cases and resolve identified major problems through quality improvement trainings and discussions within the ED/EU.

S. Supportive service (security, cleaning, porter)

ED/EU could be a unit where agitated patient or relative present. And also, it is also a place where expensive equipment are placed at the bays. Considering this, there always have to be a security personnel assigned to protect the safety and environment of the ED/EU.

To maintain cleanliness and orderliness in the emergency unit, it is essential to have a dedicated cleaner available round the clock. This ensures prompt action in maintaining environmental safety and hygiene.

In the emergency department, it is essential to maintain separate facilities for staff and patients, as well as separate male and female restrooms and bathrooms. These areas should have continuous water availability and proper lighting according to recommended standards. Additionally, the rooms on the emergency floor must be equipped with an

adequate ventilation system.

The Emergency Unit heavily relies on porters to facilitate the movement of patients and materials within and between all hospital buildings. These porters play a crucial role in ensuring the smooth flow of operations. They receive specialized training in handling emergency patients. Their primary focus is on transferring patients from the gate, ambulance, and between various departments within the hospital. Additionally, they transport essential items such as blood products, lab specimens, X-ray results, wheelchairs, stretchers, and medical charts as needed.

When dealing with the transportation of critical patients, other healthcare professionals, including nurses and physicians, may be summoned to provide emergency care. This approach ensures that urgent cases are not delayed and receive prompt attention. The porter service should be available at all units 24 hours a day.

Communication system: ED/EU of hospitals needs to communicate with Dispatch center, pre- hospital care providers, other health facilities, and community. For this purpose the ED/EU has to be equipped with direct telephone, radio communication, walky-talky and Internet services. For fast and efficient communication between the ED staff, all staffs in the ED/EU have to have pager.

Equipment/store room: This is used for the storage of equipment (eg. IV poles) and disposable medical supplies for the department. There should be sufficient space to store and charge battery powered equipment, e.g. Infusion pumps. This does not include storage space within treatment areas. As a general principle, emergency departments should have sufficient storage space to carry 72 hrs of medical supplies. Local logistic issues and risk management considerations may dictate larger storage capacity. This area should be accessed by the nursing and physician staff available.

T. Emergency and mass causality equipment store

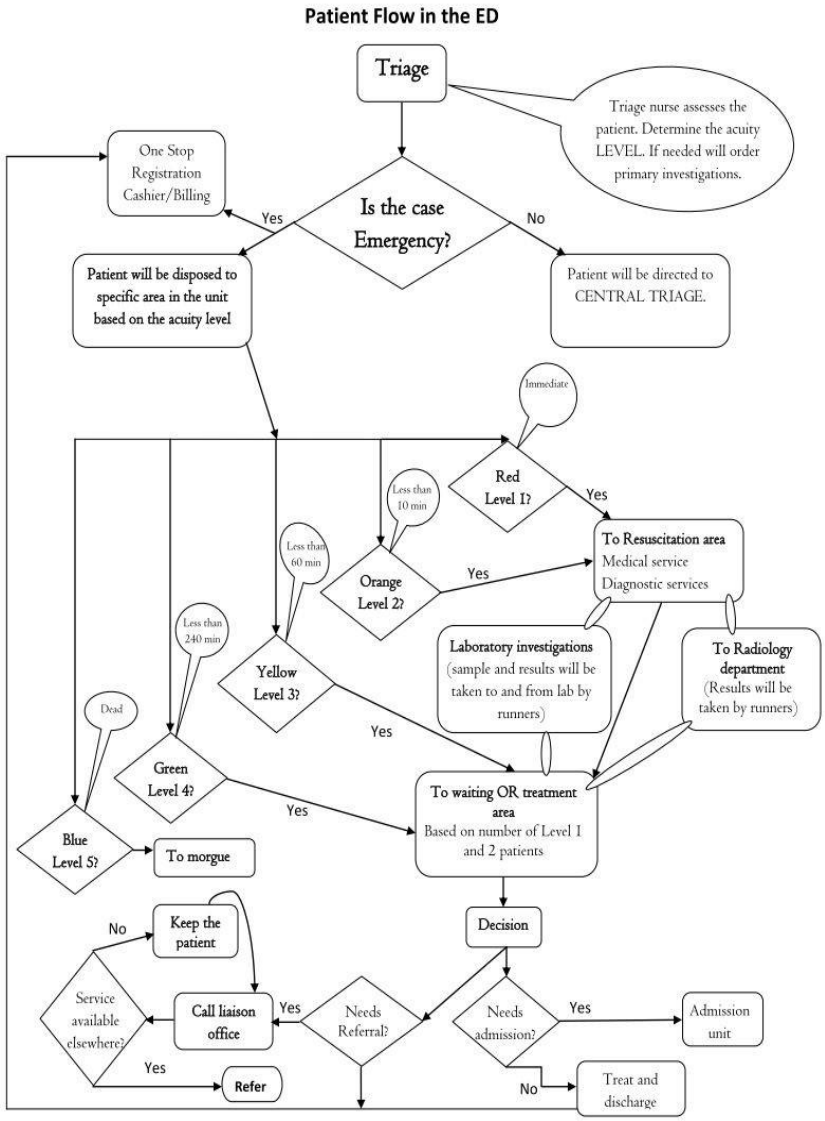
This should be located near the ambulance entrance and should be of a size consistent with the role of the ED in a major incident or disaster. There needs to be hanging space for specialized clothing/ protective suits, work benches for equipment checking and power outlets for battery banks. There shall be a trained emergency medical team (EMT) in the hospital which will respond during time of disaster and mass casualties.

U. Blood and blood products

There shall be 24 hours access to blood products. Considering the need for blood product transfusion, the laboratory staffs should make sure blood products are available at any time.

Emergency patient flow/pathway

Patients entering the hospital through the separate emergency department entrance, via ambulance, from the reception desk or those referred to the emergency department from central triage should undergo emergency triage. If further investigations and/or treatments are required following triage, these should be provided by the Emergency Case Team. Patients that are not classified as emergency cases should be referred to Central Triage.



Emergency patient Triage

A) Emergency Triage Activity

Triage can be defined as the "sorting of patients into priority groups according to their need and the resources available." It is a method of ranking sick or injured people according to the severity
of their sickness or injury thus minimizing delay, saving lives, and making the most efficient use of available resources. During emergency triage any problems identified with critical body functions (airways, breathing or circulation) should be given due attention and resuscitated immediately. Adult and pediatric Emergency triage areas and triage staff for emergency patients should be separate. For ease of access and preparation of emergency staffs and facilities, triage officers should be communicated before patient arrival via liaison service. Conditionally the triage officer will notify the proper case management team for possible resuscitation or urgent procedures.

The Emergency triage service should be provided 24 hrs. a day, 365 days a year. National Adult, obstetric and Pediatric Triage Protocols should be developed and implemented. Protocols should be posted on the walls of triage areas as an 'aide memoire' for triage staff.

Emergency Patients should access to the triage area without hindrance of their financial capacity and/or security guard. Initially a patient arrived in emergency triage area should be assessed by a nurse (typically the "triage" nurse), who makes an initial judgment of how rapidly emergency care needs to be rendered. If a patient needs decontamination, he/she must be directed immediately to decontamination area. The triage nurse(s) has to have training on triage and emergency life saving techniques. The triage nurses have to be at the triage area all the time 24/7.

The main activities

- Initiate appropriate triage assessment
- Make a decision on the level of patient acuity (Red, Orange, Yellow, Green and Black) using the standardized triage format and supportive guidelines.

- Dispose patients according their level of acuity to the resuscitation, examination or waiting area.
- Initiate appropriate nursing interventions when necessary.
- Re-triage, reassure and make very important investigations for patients waiting in the waiting area.
- Secure the safety of patients and staff of the department.
- Maintain patient privacy.
- Provide patient and public education where appropriate to facilitate.
- Act as liaison for members of the public and other health care Professionals.

All Adult patients need to be triaged by five level color coded emergency triage system as Red, Orange, Yellow, Green, Black or Blue using emergency severity index level. Then the triage officers should make sure that the patient can actually receive appropriate treatment for his/her presentation or acuity level.

Whereas for pediatric patients the triage officers decides whether the patient will be seen immediately and will receive life-saving treatment/Emergency/, or will be seen soon /priority/, or can safely wait his/her turn to be examined /Queue (Non-Urgent)/ based on Emergency Triage and Treatment/ETAT/ protocol.

Following the initial assessment and triage to stabilize vital functions, patients should be assigned to the Case Management Team for further investigations, treatment and follow up. The triage nurse should always make sure that the triage sheet is completed and attached to patient triage.

During triage and case management of emergency cases, Porters should handle relevant administrative processes (such as patient registration, retrieving the patient's medical record, making payments etc.).

Emergency Triage Human Resource Requirements

The Emergency Triage Officer should be trained in Emergency Triage and Emergency Case Management. He/she should be a nurse or physician but if this is not possible another skilled health worker may take this role. He/she should be assisted by a Clinical Nurse and porter. If the workload is high the hospital may appoint more than one Emergency Triage Officer, Nurse and Porter.

A) Emergency Triage Equipment and Supply Requirements

The emergency triage should be equipped with items to deliver at least a minimum of basic emergency care. Each hospital should conduct its own assessment to determine the quantity of each item and any other necessary items in addition to the basics according to the tier level

B) Emergency staffs Training Requirements

All emergency clinical staff should be trained to conduct triage and emergency treatment, following the established triage protocols and emergency medicine manual.

Emergency Patient Resuscitation

All patients with life threatening conditions and with CVS arrest should be admitted to this area for resuscitation. In one ED/EU there must be 2-3 resuscitation couches for adult and same number for children. The staff ratio has to be 1:1 (one nurse for one patient). At the beginning of the resuscitation multiple specialty physicians and nurses might participate according the patient's condition. The nurse on charge for this coach is responsible for availing and maintaining emergency supplies and drugs. After resuscitation the patient must be transferred to the appropriate designated area (observation room, ward, OR, or can be referred to the appropriate level of health facility for continuation of management)

Emergency Case Management

After triaging and resuscitation, patients who require temporary short-term observation and management is admitted to this area. Appropriate care is then initiated by the emergency case management team and based on the outcome the patient is admitted, discharged (with or without a follow up appointment) or referred. The number of beds for observation varies from hospital to hospital according to their load, but it is advisable to have 5-10 beds as a minimum. Patients kept in this area need frequent evaluation by the ED/EU physicians, available senior physicians and nurses. **The nurse patient ratio is 1:3.**

A) Emergency Case Management Activity

The emergency case management team should perform primary and secondary survey of the patient and facilitate any diagnostic and/or therapeutic procedures as required. The physician on duty should take a full history and examine the patient and arrange for any investigations required. In addition, emergency nursing assessment should also be done for all patients stayed in the ED/EU.

Every patient in ED/EU should be continuously being monitored and re-evaluated by nurses and physicians. Depending on information obtained by this continuous monitoring, previously chosen course of diagnostic testing or therapeutic intervention may need to be modified. If patients with complicated social and psychological dimensions are encountered, all of their problems must be sorted out in the ED by a social worker. Once the necessary evaluations made, a decision is made as to whether the patient needs to be admitted to the hospital or can be safely discharged home

If radiology tests are required these too should be conducted in the Emergency Department using a portable X-Ray. If this is not possible, a Porter should transport the patient to the X-Ray department where the test will be conducted. Results should be taken back to the Emergency Department by a porter.

A cashier service should be available within the emergency department for the payment of all emergency room treatments, investigations, drugs and consumables. Porters should assist the patient and/or caregiver with making payment.

Patients who require close observation and needs emergency treatments (such as IV fluid administration, a loading dose of IV antibiotics etc.) may be transferred to a bed in the Emergency Services and kept for a maximum of 24 hours. Any patient who requires treatment for a longer period of time should be admitted to an inpatient ward.

Following assessment, investigation and treatment the patient may be discharged home, referred for a follow-up appointment at the outpatient services admitted to an inpatient ward or referred to another facility.

If an outpatient follow up appointment is necessary this should be arranged by the Liaison Officer and an appointment card should be given to the patient before he/she leaves the

emergency department.

If the patient is to be admitted to the hospital the Liaison Officer will check the availability of a bed and arrange for the patient to be transferred to the appropriate ward/ICU, escorted by a porter or appropriate scope of professional with his/her medical record.

If a bed or the service required is not available at the hospital, the Liaison Officer will contact other facilities or the Regional Emergency Command Centre (if available) to identify a hospital with the capacity to provide care to the patient and will facilitate referral following agreed protocols. If the service is not available in another facility the patient must be kept in the hospital to receive treatment.

B) Emergency Case Management Human Resource Needs

A case team comprised of clinical and support staff will provide emergency services. Specialists working in other departments/Case team, should be readily available to provide support/consultation to the Emergency Case Team whenever required. The Emergency Case Team should have ready access to the Liaison and Referrals Service.

C) Emergency Case Management Equipment and Drugs Needs

Each triage and treatment room should be equipped with equipment and Drugs needed to provide at least basic emergency services. Each hospital should conduct its own assessment to determine other items in addition to those needed for the basics according to the tier level. Those hospitals with intermediate, advanced and center of excellence emergency department services are supposed to have additional equipment and drugs which are clearly stated in the national *Emergency Services Leveling Guidelines.* So General hospitals, Tertiary hospitals, and Center of excellence in emergency care shall full fill their requirements in terms of leadership, human recourse, equipment, drugs based on their level.

Ambulance service

Hospitals should have in house ambulance/Emergency patient care and transportation service/ for inter- hospital or inter facility transfer of patients and whenever there is need for advanced life support to be deployed to assist the pre-hospital providers. The ambulance has to serve only for emergency patient transport and management. All ambulances in hospital has to be equipped with equipment and supplies to render minimum Basic Life

Support/BLS/, Advance Life Support/ALS/ and trained ambulance drivers. Hospitals' caseloads and availability of ambulance access areas should determine the appropriate number of ambulances in hospitals, including those used for non-emergency patients. In Hospital ambulances should be managed by liaison service.

Hospital Emergency Preparedness and Responses

Disaster is a serious disruption of a household, community, ecosystem or society that results in human, material, economic or environmental losses which exceeds the ability of those affected to manage, using their own resources.

A disaster response is treating any acute event, natural or man-made, in which patients, acutely or chronically ill or injured have medical needs, which exceed available resources, resulting in patients receiving inadequate or even no care. NEEDS > RESOURCES. Health facilities have to prepare to disaster when it occurs in the hospital, in their own jurisdiction and for assistance of neighboring regions and/or for national response.

Hazard is potentially damaging physical event or action that may harm people, their economic assets, infrastructure and environment. Hospitals must plan for both internal and external disasters. Effective planning is essential for an optimal preparedness and response to disasters by hospitals based on the identified Hazard vulnerability analysis.

A National or regional incident command system will integrate activities and resources to guide healthcare facilities' response to disasters. All hospitals should have an emergency/disaster

response coordinator to oversee hospital disaster preparedness and response, training and implementation.

When there is a significant health impact from a disaster, hospitals may face demands that place enormous strains on their capacity. It is therefore essential that all hospitals have plans in advance in place to cope with an unexpected influx of patients.

There shall be a trained emergency medical team (EMT) in the hospital which will respond during time of disaster and mass casualties.

Disaster preparedness and response plan uses all hazards, all agencies, and comprehensive approaches and focuses the importance of careful planning

Reference

1. Federal Ministry of Health Medical services, Emergency and Critical Care Directorate(2020), National Emergency Services Leveling Guideline
2. Federal Ministry of Health(2022), National Referral Guideline
3. Federal Ministry of Health ,ETHIOPIAN HOSPITAL SERVICES TRANSFORMATION GUIDELINES, Volume 1, September 2016
4. Federal Ministry of Health. National Liaison and Referral Manual. Unpublished. Federal Democratic Republic of Ethiopia Ministry of Health. (2008). Curative, Rehabilitative and Treatment Sub-Business Process. The New General and Specialized Hospital Business Process Study Report. Addis Ababa, Ethiopia.
5. Federal Democratic Republic of Ethiopia Ministry of Health. (2009, November). Guideline for Implementation of a Patient Referral System in Ethiopia. Addis Ababa.
6. Federal Democratic Republic of Ethiopia Ministry of Health. (2008, October). Patient Flow: A Manual Prepared for Heads of Hospitals and Service Providers. Addis Ababa, Ethiopia
7. WHO. (2016). Pocket Book of Hospital Care for Children. Guidelines for the Management of Common Illnesses with Limited Resources. Geneva: World Health Organization.
8. World Health Organization. 2016. Updated guideline: pediatrics emergency triage, assessment and treatment.Geneva: World Health Organization.
9. Federal Ministry of Health. Ethiopian Hospital Reform Implementation Guidelines (EHRIG). May 2010. Addis Ababa, Ethiopia.
10. Federal Ministry of Health. The National Admission and Discharge Protocols for Ethiopian Hospitals. July 2012. Addis Ababa, Ethiopia.

Appendices

Appendix 1, Emergency Triage Format

Arrival Date

_____

1. Patient Name_____Card No._____Age_____Sex_____Address _____

2. Time of Illness/accident_____Time at arrival to ED_____ Triage time ___ _____

3. A. Mode of arrival to the Hospital/ED - Ambulance ☐ Private car☐ Walking☐ Carried ☐ Taxi☐

B. Origin of Referral – Government Hosp ☐ Private Hosp ☐ Health cent ☐ Police ☐ Self ☐

4. Pre- Hospital care/First aid given Yes ☐ NO ☐

5.Chief Complaint

_____

A. Non trauma - Chest pain☐ Fever☐ Diarrhea/Vomiting ☐ Headache☐ Sudden collapse☐ poisoning☐ Convulsion☐ Respiratory problem.☐ Abdominal pain ☐ others_____

B. Trauma - RTI ☐ Fall accident ☐ Suicide ☐ Gunshot ☐ Stab ☐ Burn ☐ Foreign body swallow ☐ other specify _____

C. Ob/Gyn - Vaginal bleeding ☐ Labor pain ☐ Lower abdominal pain ☐ seizure ☐ other specify _____

6. Past Medical illness

_____

7. History of No ☐ Yes ☐ (specify)

_____

8. Vital sign recording BP_____ RR _____ HR_____ T

_____ SpO2_____ RBS_____

9. Condition on arrival Modified Early Warning Score (MEWS)

Score	3	2	1	0	1	2	3
Mobility				Walking	With help	Stretcher/imm	
HR		≤ 40	41-50	51-100	101-110	111-129	>129
RR		≤8		9-14	15-20	21-29	>29
Spo2				≥94%	90-94%	≤90%---	(not for CO
Temp		≤35.0		35.1-	37.3-37.9	≥38.5	
CNS/AV		Confuse		Alert	Respond to	Respond to	
		Unresponsiv	SBP	≤7	71-80	81- 101-199	≥200
Trauma				NO	YES		
Pain				No pain	1—3/10	4—7/10	≥ 7/10

Total MEWS score _____

Determine Triage Color

Triage Score	>7	5-6	3-4	0-2	
Presentation	* Seizure (current) * Burn (face/inhalation) * Hypoglycemia (Glu<3)	* Reduced consciousness * Seizure (post-ictal) * Acute focal symptoms * Psychosis/aggression * Burn (>20%, electric, circumferential) * Hemorrhage (uncontrolled) * Pregnant + abdominal trauma	* Burn (other) * (controlled) * Closed fracture * Minor dislocation * Pregnancy + vaginal bleeding * Pregnancy + non-abdominal trauma * DM (Glucose>17	All other patient	Dead on arrival (BLACK)

		pain * Threatened limb OR * Compound fracture. * Major dislocation (not finger/toes) * Diabetic &Glucose > 11 with ketonuria * SOB or Chest pain (acute) * Coughing blood OR Vomiting blood * Poisoning / Overdose	no ketonuria) * Abdominal pain (acute) * Vomiting (ongoing, no blood)		
Pain	--	Severe	Moderate	Mild	

10. Assessment- Red ☐ Orange ☐ Yellow ☐ Green ☐ Blue/Black ☐

11. Transfer to- Resuscitation room ☐ procedure room☐ Waiting room ☐ Regular OPD ☐

Home ☐

12. Treatment and investigation on triage

13. Triage Officer Name

Sign

Appendix 2, Resuscitation minimum equipment's and supplies list Basic

- Oxygen system-cylinder, concentrator, face mask, nasal prong, flow meter
- Suction machines
- Intravenous set/cannula and fluids,
- Emergency and analgesia drugs
- ECG machines,
- Non-invasive ventilation (NIV)
- Foley catheters
- Chest drain sets
- Tracheotomy sets
- Tubes; NG, Rectal,
- Wide bore needle/cricothyrotomy / optional for primary hospital/
- Defibrillator,
- Monitors
- Ventilator –optional for primary hospital
- Intubation sets
- Anesthesia drugs
- Portable X-ray facilities
- Portable ultrasound devices
- Intraosseous needles and drill
- Central lines

Appendix 3, General minimum Equipment and Supply Needs for Emergency unit/departments

- Equipment and Supplies
- The basic equipment and supplies needed for effective running of the Emergency Department or Unit are listed below:
- Airways/Breathing
- Bag valve mask:
- Chest tube / underwater seal drainage
- Combitube
- Elastic gum bougies
- Endotracheal tube TT
- Laryngeal Mask Airway
- Laryngoscope, various size s of blades
- McGill forceps
- Nasal prongs
- Nasopharyngeal airways
- Nebulizers
- Oropharyngeal airways
- Oxygen cylinder with a flow meter
- Suction machines and tubes
- Thoracotomy set
- Tongue depressor
- Tracheostomy set

Appendix 3……Cont'd

- Transport Ventilators
- Ventilator (ICU)- optional for primary hospital
- Ventury airway mask/ poly mask
- Yankeur suction
- Circulation/Haemodynamic
- 12 lead ECG machine
- Blood and fluid warmer
- Central venous catheters
- Cut-down set 1 (phased out)*
- Defibrillator/ Automated External Defibrillator (AED)
- Foleys catheter
- High capacity catheters
- Infusion pumps
- Intraosseous Needles
- IV cannulae 14, 16 18 20 and 22
- Syringe pumps
- Splints
- Bandages
- cervical collar –soft/hard collar
- POP
- Spine board
- Splints (specify the types needed)
- Trac 3 traction kit* (trade name)
- Monitoring Devices
- Pulse oximeter
- Patient Monitors (invasive and non invasive)
- Glucometer
- Spirometer/ peak flow meter
- Thermometer
- Diagnosis set
- Stethoscope

Appendix 3……Cont'd

- ✓ Sphygmomanometer (Digital & Aneroid)
- ✓ Other Emergency Equipment
- ✓ Bradlow tape measure (for children)
- ✓ Weighing scale
- ✓ Telephone and directory
- ✓ Pedal operated color-coded waste bins
- ✓ Safety box for sharps
- ✓ Blood fridge
- ✓ Cabinets
- ✓ Computer and accessories and appropriate software
- ✓ Consumable cabinet
- ✓ Drug cabinet
- ✓ Examination couch
- ✓ Examination lamps
- ✓ Hoist
- ✓ Instrument trays
- ✓ Office furniture
- ✓ Refrigerator
- ✓ Resuscitation trolley/tray
- ✓ Rollers
- ✓ Stretchers
- ✓ Suction machine
- ✓ Telephones
- ✓ Trolleys
- ✓ Wheel chairs
- ✓ Diagnostic
- ✓ Blood gas/electrolyte analyzer
- ✓ Mobile X-ray machine
- ✓ Diagnostic set
- ✓ Diagnostic Peritoneal Lavage set
- ✓ Glucometer
- ✓ Laboratory sample set
- ✓ Lumber puncture set
- ✓ Minor surgical set
- ✓ Fetal heart monitor
- ✓ Hand held Doppler machine
- ✓ Suprapubic catheter sets
- ✓ Ultrasound machine

Appendix 3……Cont'd

Medicines

- ✓ Essential medicines needed for effective running of Emergency are listed below:
- ✓ 50% Dextrose
- ✓ Adrenaline
- ✓ Nor-adrenaline
- ✓ Anti-snake venom serum
- ✓ Aspirin
- ✓ Atropine
- ✓ Anti-Tetanus Serum
- ✓ Dextran/Voluven
- ✓ Diazepam
- ✓ Dobutamine
- ✓ Etomidate
- ✓ Fresh Frozen Plasma
- ✓ Gelofusin
- ✓ Group O Negative whole blood
- ✓ Heparin
- ✓ Hydralazine
- ✓ Hydrocortisone
- ✓ Glucagon (IM)

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Appendix 3……Cont'd

- ✓ Insulin
- ✓ IV calcium Gluconate
- ✓ IV Dopamine
- ✓ IV Fluid - all type
- ✓ IV Frusemide
- ✓ IV KCl
- ✓ IV Vitamin K
- ✓ Labetalol
- ✓ Lignocaine
- ✓ 10% xylocaine spray
- ✓ Magnesium Sulphate
- ✓ Mannitol
- ✓ Midazolam
- ✓ Morphine
- ✓ Naloxone
- ✓ Nitroglycerine
- ✓ Oral Rehydration Salt (ORS)
- ✓ Oxygen supply
- ✓ Pethidine
- ✓ Phenylephrine
- ✓ Propofol
- ✓ Salbutamol
- ✓ Sodium bicarbonate
- ✓ Suxamethonium
- ✓ Blood and blood products

✓