

A & E Services

Ministry of Health

Ghana

POLICY AND GUIDELINES FOR HOSPITAL ACCIDENT AND EMERGENCY SERVICES IN GHANA

This document was Developed and Printed with Financial Support **FOCUS REGION-** Ghana

Contents

Contributors:	3
1. Introduction	5
2. Policy Statement	6
3. Goal	6
4. Accidents and Emergency Department/Unit	6
4.1 Emergency Unit Requirements	6
4.2 Standard Equipment	7
4.2.1 Equipment and Supplies	7
4.3 Medicines	9
4.4 Other Equipment, Supplies and Medicines	10
5. Human Resource	10
6. Ethics of Emergency Unit	12
7. Utilization of the Emergency Unit	12
7.1 A&E Admission Policy	12
7.2 Internal Consultations and Referrals to Other Hospitals	13
7.3 Disposition of Patients from the Emergency Department	13
8. Collaboration/Links with other departments and hospitals (within & without)	14
9. Emergency Records	14
10. Financing	14
11. Review of Guidelines	15
12. Research	15
Reference	15
Appendix	17
A. Triage Sheet	17
B. Triage Scale (TS)	17
C. Flow Chart of the Care Process at the A&E Unit	29
D. Ethics of A&E	30
E. Emergency History and Physical Assessment Form	31

Developed and Printed with Support for FOCUS REGION-GHANA

Contributors:

Task Team

1. Prof. Albert G. B. Amoah, Consultant Physician KTBH/UGMS, Accra
2. Dr. Cynthia Bannerman, Ag. Director, Institutional Care Division, GHS, Accra
3. Dr. Ahmed Zacharia, Director, Ambulance Service, MOH
4. Dr. Dinah Baah-Odoom, Clinical Services Development Dept/ICD, GHS, Accra
5. Dr. George Acquaye, Volta Regional Hospital, Ho, VR
6. Dr. W. Labi Addo, Eastern Regional Hospital, Koforidua, ER
7. Dr. P. E. Karikari, Komfo Anokye Teaching Hospital [KATH], Kumasi, AR
8. Dr. Thomas W. Anabah, Tamale Teaching Hospital, NR
9. Dr Martin T. Morna, Central Regional Hospital, Cape Coast, CR
10. Ms. Patience Yeboah-Ampong, DNS, KATH, Kumasi, AR
11. Mrs. Gertrude A. Agbo, Health Information Monitoring and Evaluation/ICD

Experts who participated in the consensus building for the acceptance of this document are:

1. Dr B. K. Sarbeng, Medical Director, Central Regional Hospital, Cape Coast

2. Dr Charity Sarpong, Medical Director, Tema General Hospital
3. Dr Emmanuel Odame, Ridge Hospital, Accra
4. Dr Francis Binka, RHD, Upper West Region, Wa
5. Dr Frank Abebrese, Medical Director, Ashanti Regional Hospital, Kumasi
6. Dr Morna, Central Region, Cape Coast
7. Dr Peter Baffoe, Medical Director, Upper East Regional hospital, Bolgatanga
8. Dr. Amoo-Sakyi, Deputy Director Clinical Care, Northern Region, Tamale
9. Dr. Anabah, Tamale Teaching Hospital, Tamale
10. Dr. B. Calys-Tagoe, Korle-Bu Teaching Hospital, Accra
11. Dr. Bob Sagoe, Deputy Director Clinical Care, Western Region, Sekondi
12. Dr. Charity Brako Sarpong, Director, Tema general Hospital
13. Dr. Cynthia Bannerman, Ag. Director, ICD
14. Dr. Cynthia Sottie, GHS/ICD, Accra
15. Dr. Dinah Baah-Odoom, Clinical Services Development Dept/ICD, GHS, Accra
16. Dr. E. Boachie-Agyeman, Deputy Director Clinical Care, Greater Ashanti Region
17. Dr. George Acquaye, Volta Regional Hospital, Ho, VR
18. Dr. Jacob Abebrese, Medical Director, Brong Ahafo Regional Hospital, Sunyani
19. Dr. Kofi Ablor, Nsawam Government Hospital
20. Dr. Nyarko - Non-Communicable Disease Programme
21. Dr. P. Karikari, Komfo Anokye Teaching Hospital, Kumasi
22. Dr. Paul Kwaw Ntodi, Medical Director, Effia-Nkwanta Hospital, Sekondi
23. Mr Festus Adams, MoH, Regenerative Health Unit, Accra
24. Mr Robert Adatsi, Deputy Director Clinical Care, Volta Region, Ho
25. Mr. Keck Osei - Regenerative Health Programme
26. Mr. Kofi Adusei, Programme Manager, Regenerative Care
27. Mr. Richard Fedieley - Regenerative Health Programme
28. Mrs Gertrude A. Agbo, Deputy Director, Health Information Monitoring & Eval.
29. Mrs. Pat Yeboah-Ampong, Director of Nursing Services, KATH, Kumasi
30. Ms. Cecilia Ampadu, MOH/RHNP, Accra
31. Ms. Cordelia Yeboaa Yeboah, Brong Ahafo Regional Hospital, Sunyani
32. Ms. Elizabeth A. Baku, Non-Communicable, Disease Unit, DCU/GHS, Accra
33. Ms. Emma Antwi, RHA, GAR, Accra

34. Ms. Gladys Okrah, Eastern Regional Health Directorate, Koforidua
35. Ms. Ivy Obed, Ridge Hospital, Accra
36. Ms. Mary M. Hayford, DDNS, Effia-Nkwanta Hospital, Sekondi
37. Ms. Philomena Adoma-Kwakye, Ashanti Regional Hospital, Kumasi
38. Ms. Ruby Arthur, Ag. Chief Dietician
39. Ms. Sarah Bamfo, Deputy Director Clinical Care, Greater Accra Region, Accra
40. Ms. Theodora Otoo, Deputy Director Nursing Services, Central Regional Hos., Cape Coast
41. Prof. Amoah, Consultant, UGMS

1. Introduction

An accident or an emergency (A&E) is an injury or illness that is acute and poses an immediate risk to a person's life or long term health. A &E patients present with potentially life threatening symptoms such as headache, chest pain, abdominal pain, collapse of unknown cause and severe

injury. Such patients have pressing need(s) and may present without prior appointment. They may also report to the unit on their own or by ambulance.

2. Policy Statement

All health facilities shall provide Accidents and Emergency (A&E) Services.

3. Goal

The goal is to establish efficient and effective A & E services to reduce disability, morbidity and mortality in hospitals.

4. Accidents and Emergency Department/Unit

An area in the health facility shall be designated as Accidents and Emergency Department/Unit (A&E) The A&E department/unit shall operate a 24-hour service and provide initial treatment for a broad spectrum of illnesses and injuries, which may be life threatening and require immediate attention. Financial consideration should not be a barrier to the initial treatment of the patient. The A&E shall serve as the definitive specialised care facility, equipped and staffed to provide rapid and varied emergency care to all people with life-threatening conditions. The A&E shall provide initial appropriate care and arrange subsequent disposition

The A&E shall use a triage system of screening and classifying clients to determine their priority needs and to ration patient care efficiently. The Emergency A&E shall play a key role in times of critical interventions of all kinds.

4.1 Emergency Unit Requirements

A Hospitals

1. Triage area.
2. A functional resuscitation area for patient stabilization.
3. A transient area for patient observation for not more than 24 hours
4. Procedure room for minor cases/Theatre
5. Waiting area
6. Ambulance bay

B. Clinics and Health Centres

1. An area shall be dedicated for the following:
 - 1.1 Triage.
 - 1.2 Resuscitation area for patient stabilization.
 - 1.3 A transient area for patient observation for not more than 24 hours
 - 1.4 An area for minor procedure
 - 1.5 Waiting area

4.2 Standard Equipment

Time is such an essential factor in emergency treatment, therefore A&E typically must have their own diagnostic equipment to avoid waiting for equipment installed elsewhere in the hospital. Ideally, the A&E shall have a dedicated Laboratory for basic laboratory tests or the A&E may be supported by uninterrupted 24-hour service from the hospital's main laboratory.

4.2.1 Equipment and Supplies

The basic equipment and supplies needed for effective running of the A&E are listed below:

1. Airways/Breathing

- Bag valve mask:
- Chest tube / underwater seal drainage
- Combitube
- Elastic gum bougies
- Endotracheal tubeTT
- Laryngeal Mask Airway
- Laryngoscope, various size s of blades
- McGill forceps
- Nasal prongs
- Nasopharyngeal airways
- Nebulizers
- Oropharyngeal airways
- Oxygen cylinder with a flow metre
- Suction machines and tubes
- Thoracotomy set
- Tongue depressor
- Tracheostomy set
- Transport Ventilators
- Ventilator (ICU)
- Ventury airway mask/ poly mask
- Yankeur suction

2. Circulation/Haemodynamics

- 12 lead ECG machine
- Blood and fluid warmer
- Central venous catheters

- Cut-down set¹ (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

3. Splints

- Bandages
- cervical collar –soft/hard collar
- POP
- Spine board
- Splints (specify the types needed)
- Trac 3 traction kit* (trade name)

4. Monitoring Devices

- Pulse oximeter
- Patient Monitors (invasive and non invasive)
- Glucometer
- Blood gas electrolyte analyser
- Spirometer/ peak flow meter
- Thermometer
- Diagnosis set
- Stethoscope
- Sphygmomanometer (Digital & Aneroid)

5. Other A&E Equipment

- Bradlow tape measure (for children)
- Weighing scale
- Telephone and directory
- Pedal operated colour-coded waste bins
- Safety box for sharps
- Blood fridge
- Cabinets
- Computer and accessories and appropriate software
- Consumable cabinet
- Drug cabinet
- Examination couch
- Examination lamps

¹ Phased Out

- 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
- Lumbar puncture set
- Minor surgical set.
- Foetal heart monitor
- Hand held Doppler machine
- Suprapubic catheter sets
- Ultrasound machine

4.3 Medicines

Essential medicines needed for effective running of A & E 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 neg whole blood
- Heparin
- Hydralazine
- Hydrocortisone

- IM Glucagon
- Insulin
- IV calcium Gluconate
- IV Dopamine
- IV Fluid - all type
- IV Frusemide
- IV KCl
- IV Vit 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

4.4 Other Equipment, Supplies and Medicines

Other equipment, supplies and medicines not listed above may be obtained from the hospital's store and pharmacy as and when needed.

5. Human Resource

The A & E must be manned by competent and committed health care professionals .

Training

- A national pool of resource persons shall be formed to train accident and emergency teams. This training will first be geared towards hospital A & E teams.
- All doctors and nurses shall be trained in basic and advanced life support.
- All other health professionals shall be trained in basic life support by accredited trainers.
- For uniformity and standardization all training shall be done in selected centres of excellence and by accredited trainers.
- Re-certification shall be done every three years.

5.6 E. Continuous Professional Development

1. The core staff working at the A&E unit should be re-certified every 3 years by accredited training teams and institutions. All institutions must ensure strict adherence to this provision.

Hospital Management should ensure that all those working in A&E have training in emergency care. Core Team members (e.g. doctors, physician assistants and nurses) should at least be trained in:

1. Basic Life Support
2. Advance Cardiac Life support
3. Advance Trauma Life Support
4. Paediatric Advance Life Support
5. Triage
6. Recognition and Management of the critically ill

Non- Core Staff:

Training of other staff (non-core):

- a. Enrolled Nurses (Health Assistants): At least BLS + AED
- b. Health Care Assistance/Health Extension Officers: At least BLS + AED
- c. Orderlies & Porters: BLS and Patient transport

5.1 A. A & E Team(s)

1. An emergency **core team** (physically present at all times) should comprise the emergency physician/doctors, physician assistants, ER nurses, critical care nurse, triage personnel, porters and cleaners.
2. The Expanded Team should comprise the following: Surgeons, trauma/orthopedic surgeon, neurosurgeons, radiologist, anaesthetist, intensivist, pharmacist and others as required.
3. The Unit shall be headed by an Emergency Physician (EP). In the absence of the EP a Medical Practitioner with requisite skills in A&E shall be the head.
4. The head of the unit in collaboration with the ER Head Nurse shall see to the day-to-day running of the unit.

5.2 B. Non- Core Staff:

Training of other staff (non-core):

- d. Enrolled Nurses (Health Assistants)

- e. Health Care Assistance/Health Extension Officers
- f. Orderlies & Porters

5.3 C. Other Requirements:

1. As a desirable qualification, the staff should have had training in Quality Assurance/Customer Care.
2. Staff job descriptions should be clearly stipulated, discussed and written copies given to them.

5.4 F. A & E Meetings/reviews

There shall be at least:

1. Monthly Clinical updates organized by the unit.
2. Bi-monthly mortality meeting.
3. Quarterly inter-departmental or inter-unit meeting/reviews

6. Ethics of Emergency Unit

All clinical and non-clinical staff of the A & E should adhere to the approved ethics of the profession as outlined in Appendix C (**Refer Appendix C for details**)

7. Utilization of the Emergency Unit

For the Utilization of the A & E **Refer Appendix D: Fig 2** for flow chart of sequence of care of patients in the A&E Unit.

Triaging and disposition

The triage team should assess all patients presenting to the A&E.

- 1) A triaged patient should be attended to by a doctor as per protocol (refer Protocol Appendix A).
- 2) clinical decision regarding patient disposition (transfer or discharge) shall be by the attending physician

7.1. A&E Admission Policy

1. Only patients whose assessment during triage falls under **Red, Orange** and **Yellow** shall be admitted to the A&E unit for further management (**Refer Appendix A & B for Triaging Guidelines**).

2. It is the responsibility of the triage officer to refer all patients whose triage assessment falls under **Green** to the general outpatient or an appropriate health facility for further management.

7.2 Internal Consultations and Referrals to Other Hospitals

a. Internal Consultations

1. The emergency doctor on duty may request consultation with another specialist for a patient in the A & E.
2. The request shall follow established internal arrangements such as the use of pagers, SMS, phone calls, etc. Request shall be attended to immediately.
3. All consultation requests should be written in the patient's medical notes indicating time, date and signature.

b. Referral to Other Hospitals

1. The procedure for referral should follow the MOH referral Policy Guidelines.
2. Only the emergency physician/specialist or senior doctor on duty has the authority to refer patients to other hospitals.
3. The emergency doctor on duty should provide a written consultation regarding his recommendation for treatment and disposition on the emergency record.

7.3 Disposition of Patients from the Emergency Department

A. Transfers

1. Transfer of patients into and out of the A & E shall be in compliance with the health facility transfer policy.
2. The attending doctor must personally evaluate a patient in the Emergency unit prior to the transfer to another ward.
3. In the transfer of patients all safety measures and appropriate care shall be provided.
4. The transferring doctor is responsible for completing the appropriate documentation.
5. The transferring doctor should ensure that a mutual decision with the receiving department/unit has been reached.

B. Discharge Home

1. Patients not requiring hospital admission should be given written and verbal instructions regarding follow-up care.

2. The doctor at the time of discharge is responsible for providing the patient with verbal instructions or written when necessary.

C. Discharge/Leave against Medical Advice /Refuse treatment

Patients refusing further management should be requested to complete and sign the Discharged-Against-Medical-Advice (DAMA) Form and should be attached to the patient's Emergency folder. This Form documents the doctor's explanation of the consequences of the patient's action.

1. Refusal to sign the DAMA form should be documented on the Emergency folder and the DAMA form and witnessed.
2. A patient who leaves the unit prior to treatment should have such information noted on the folder, and the reason if known, as to why the patient left, should be documented, timed, and signed.

D. Deaths in the A & E and Brought-in-Dead

1. Patient must be examined before declared brought-in-dead.
2. The coroner should be notified by the A & E team leader or a designee.

8. Collaboration/Links with other departments and hospitals (within & without)

1. A & E units should have links with other departments/units of the hospital
2. A & E units should have links with pre-hospital Emergency services and all relevant emergency services providers within the catchment area.

9. Emergency Records

It is important to collect data for the purposes of audit, monitoring and evaluation for continuous quality improvement.

1. The emergency folder should include all pertinent bio-medical data. (refer MOH Medical Records Policy)
2. The standard data collection tool for A & E unit should be used for capturing the data (**Refer Appendix E**).

10. Financing

All persons in Ghana have the right to receive quality accident and emergency care. In conformity with the Ministry of Health policy all accident and emergency patient should be attended to without requesting for money during the first 48 hours. Sources of finances for emergency services will come from the following areas:

1. Government of Ghana
2. National Health Insurance Authority
3. Private Health Insurance

4. Special taxes (e.g. emergency services tax and vehicle insurance premium)

11. Review of Guidelines

1. These guidelines should be reviewed every five years by the Ministry of Health.

12. Research

1. The A & E shall conduct research as part of their organizational learning and continuous improvement activity.

42. Emergency Preparedness Plan

All hospitals shall have an emergency preparedness plan

Reference

1. Mosby's Medical Dictionary, 8th edition. © 2009, Elsevier.
2. Miller-Keane Encyclopedia and Dictionary of Medicine, Nursing, and Allied Health, Seventh

Edition. © 2003 by Saunders, an imprint of Elsevier, Inc. All rights reserved.

3. The South Africa Triage Scale (SATS)

Appendix

A. Triage Sheet

Patient Name:.....

Age:.....**Sex:** M F

Chief Complaint:.....

Date:.....**Time of Arrival:**.....

Part 1: Triage Early Warning Score (TEWS)

Triage Parameter	Measured Value	TEWS Score
Mobility		
Respiratory Rate		
Heart Rate		
Blood Pressure		
Temperature		
AVPU		
Trauma		

TEWS SCORE:.....

Initial Triage Colour: RED ORANGE YELLOW GREEN BLUE

PART 2: The Discriminator List

1. Does the patient need to be triaged to a higher colour based on the discriminator list?

YES NO

2. What was the discriminator?.....

Part 3: Final Triage Colour:

RED ORANGE YELLOW GREEN BLUE

B. Triage Scale (TS)²

Introduction

² The TS is an adopted version of the South Africa Triage Scale (SATS) which has among other scales proven to have stood the test of time, has shown to reduce mortality and morbidity, is easily taught and understood is practical and user-friendly, is reliable and accurate.

The Triage Scale (TS) is designed for use in hospital-based emergency services throughout Ghana. It is a scale for rating clinical urgency. Although primarily a clinical tool for ensuring that patients are seen in a timely manner, commensurate with their clinical urgency, the TS is also a useful casemix measure. The scale directly relates triage code/colour with a range of outcome measures (inpatient length of stay, ICU admission, mortality rate) and resource consumption (staff time, cost). It provides an opportunity for analysis of a number of performance indicators in the A & E (casemix, operational efficiency, utilisation review, outcome effectiveness and cost).

It is critical to have a standard set of data across the country. The TS is a clinical tool that enable use collect the minimum data set across all facilities. This will allow for comparison of performance within and between hospitals. It will also allow for the merging of the individual data set to form a national database to facilitate analysis for decision-making.

What is Hospital Emergency Triage?

A method of ranking sick or injured people according to the severity of their sickness or injury in order to ensure that medical and nursing staff and facilities are used most efficiently; assessment of injury intensity and the immediacy or urgency for medical attention

Benefits of Triage:

1. To expedite the delivery of time-critical treatment for patients with life-threatening conditions
2. To ensure that all people requiring emergency care are appropriately categorized according to their clinical condition
3. To improve patient flow
4. To improve patient satisfaction
5. To decrease the patient's overall length of stay
6. To facilitate streaming of less urgent patients
7. To be user-friendly for all levels of health care professionals

APPLICATION

Procedure

All patients presenting to an A & E should be triaged on arrival by a specifically trained and experienced registered nurse. The triage assessment and TS code/colour allocated must be recorded. The triage nurse should ensure continuous reassessment of patients who remain waiting, and, if the clinical features change, re-triage the patient accordingly. The triage nurse may also initiate appropriate investigations or initial management according to organisational guidelines.

The triage nurse applies an TS category in response to the question: *"This patient should wait for medical assessment and treatment no longer than...."*

Environmental and Equipment Requirements

The triage area must be immediately accessible and clearly sign-posted. Its size and design must allow for patient examination, privacy and visual access to the entrance and waiting areas, as well as for staff security.

The area should be equipped with emergency equipment, facilities for standard precautions (hand hygiene facilities, gloves), security measures (duress alarms or ready access to security assistance), adequate communications devices (telephone and/or intercom etc) and facilities for recording triage information.

The Triage Tool

Three versions of the TS

There are three versions of the TS, depending on whether the patient is an adult or not. Adults have their own version. However, because children have different values of heart rate, respiratory rate and blood pressure. There are two paediatric versions: one for **infants** (50cm to 95cm – one week to almost 3 years), and one for **children** (96cm to 150cm – 3 years to around 12 years). Neonates aged one month or younger should be seen immediately by a doctor.

The Two Parts to the Tool

The TS consists of 2 parts: the Triage Early Warning Score (TEWS) (part 1) and the Discriminator List (part 2). The discriminator list follows after the TEWS. The provider needs to calculate the TEWS before moving on to the discriminator list.

1. Triage Early Warning Score (TEWS)

In order to generate a total score, the provider has to observe the basic vital signs of the patient. Each vital sign monitors a different physiological system:

- **Blood pressure** and **Heart rate** monitor the **cardiovascular** system (heart and blood flow). You as the provider are interested in the **systolic** value only. That is the **top** value of the blood pressure (BP=120/80, systolic BP or SBP=120)
- **Respiratory rate** monitors the **respiratory** system (lungs)
- **Temperature** monitors **thermoregulatory** system (infections, hypothermia)
- **Alertness, Verbal response, Reaction to pain and Unresponsiveness (AVPU)** monitors the **central nervous system** (brain)
- **Mobility** monitors the **musculoskeletal** system (bones and muscles)
- **Trauma** refers to the presence of ANY injury (bump, bruise, cut etc)

By comparing the observed basic vitals of the patient with a parameter on the TEWS calculator (horizontally) a score can be read off (vertically). These scores are added together which gives the provider a total TEWS.

2. Discriminator List

The second part or the discriminator list is the part that generates the actual triage colour (red, orange, yellow, green, blue) which will determine urgency level and essentially also when the patient will be attended to. As with the TEWS, there are separate versions of this for infants, children and adults respectively.

The TEWS will only identify and classify a patient into an appropriate triage code if the physiology of the patient is altered from normal. The TEWS will be effective for most of the cases presenting to the triage provider.

There are however some **discriminators** that require **special attention**. It has been found that physiology alone does not pick up and classify patients with these discriminators safely and effectively. These discriminators therefore serve as a **safety net** for those patients with severe enough pathology to be seen more urgently, but for anyone whose physiology did not respond to the insult and therefore did not generate an urgency appropriate TEWS. They are reclassified after the TEWS has been calculated

The Stepwise Approach

The **Stepwise flowchart poster** shows how simple it is to calculate the triage code for a patient by simply following the stepwise approach. This approach allows the triage provider to code patients both effectively and safely in the minimum time period. Triage providers should always use this approach unless directed otherwise by a senior health care professional.

Triage Interventions and Management Aids

Management of the patient starts when the triage provider's analysis starts. It is therefore critical that this management continues after the triage process has been completed. The table below indicates the appropriate management of the different triage categories by the triage provider.

COLOUR	ACTION
RED	Refer to the resuscitation room for emergency management
ORANGE	Refer to the patient waiting area for urgent management
YELLOW	Refer to the patient waiting area for management
GREEN	Patient for potential streaming
BLUE	Refer to doctor for certification

It is also possible for the triage provider to commence management when treatment is readily available and the provider's qualification allows the intervention. Appropriate interventions directed at observed abnormalities during triage decreases the patient's morbidity and increases patient satisfaction.

A triage provider may also, time permitting, use triage aids to enhance the triage sensitivity. Triage aids will assist the senior health care professional later; after the patient has been referred according to the criteria set above. Triage aids (**compulsory**) should be performed, time permitting, whenever available but is not essential for the triage itself. **The triage interventions and management aids poster** indicates appropriate interventions that must be commenced by the triage provider as well as triage aids that can be used to enhance the triage process.

1. Adult Triage Score. (TEWS)

	3	2	1	0	1	2	3	
Mobility				Walking	With Help	Stretcher/ Immobile		Mobility
RR		less than 9		9-14	15-20	21-29	more than 29	RR
HR		less than 41	41-50	51-100	101-110	111-129	more than 129	HR
SBP	less than 71	71-80	81-100	101-199		more than 199		SBP
Temp		Cold OR Under 35		35-38.4		Hot OR Over 38.4		Temp
AVPU		Confused		<u>A</u> lert	Reacts to <u>V</u> oice	Reacts to <u>P</u> ain	<u>U</u> nresponsive	AVPU
Trauma				No	Yes			Trauma
over 12 years / taller than 150cm								

2. Adult Discriminator List

Colour	RED	ORANGE	YELLOW	GREEN	BLUE
TEWS	7 or more	5-6	3-4	0-2	DEAD
Target time to treat	Immediate	less than 10 mins	less than 60 mins	less than 240 mins	DEAD
Mechanism of injury		High energy transfer			
Presentation		Shortness of breath - acute		ALL OTHER PATIENTS	
		Coughing blood			
		Chest pain			
		Haemorrhage - uncontrolled			
	Seizure - current	Seizure - post ictal			
		Focal neurology - acute			
		Level of consciousness reduced			
		Psychosis / Aggression			
		Threatened limb			
		Dislocation - other joint	Dislocation - finger or toe		
	Burn - face / inhalation	Fracture - compound	Fracture - closed		
		Burn over 20%	Burn - other		
		Burn - electrical			
		Burn - circumferential			
Burn - chemical					
	Poisoning / Overdose	Abdominal pain			
Hypoglycaemia - glucose less than 3	Diabetic - glucose over 11 & ketonuria	Diabetic - glucose over 17 (no ketonuria)			
	Vomiting - fresh blood	Vomiting - persistent			
	Pregnancy & abdominal trauma or pain	Pregnancy & trauma			
		Pregnancy & PV bleed			
Pain		Severe	Moderate	Mild	
Senior Healthcare Professional's Discretion					

3. Children Triage Score (3-12 YEARS, 96-150CM) TEWS

	3	2	1	0	1	2	3	
Mobility				Walking	With Help	Stretcher/ Immobile		Mobility
RR	less than 15	15-16		17-21	22-26	27 or more		RR
HR	less than 60	60-79		80-99	100-129	130 or more		HR
Temp		Cold OR Under 35		35-38.4		Hot OR Over 38.4		Temp
AVPU		Confused		<u>A</u> lert	Reacts to <u>V</u> oice	Reacts to <u>P</u> ain	<u>U</u> nrespons ive	AVPU
Trauma				No	Yes			Trauma
3 to 12 years old / 96 to 150 cm tall								

4. Children (3-12 yrs, 96-150CM) Discriminatory List

COLOUR	RED	ORANGE	YELLOW	GREEN	BLUE
TEWS	7 or more	5-6	3-4	0-2	DEAD
Target time to treat	Immediate	less than 10 mins	less than 60 mins	less than 240 mins	DEAD
Mechanism of injury		High energy transfer			
Presentation	Drooling	Shortness of breath		ALL OTHER PATIENTS	
		Stridor			
		Wheeze			
		Haemorrhage - uncontrolled	Haemorrhage - controlled		
	Seizure - current	Seizure - post ictal			
		Focal neurology - acute			
		Level of consciousness reduced			
		Exhaustion			
		Purpura			
		Dislocation - other joint	Dislocation - finger or toe		
		Fracture - compound	Fracture - closed		
	Burn - face / inhalation	Burn over 10%	Burn - other		
		Burn - electrical			
		Burn - circumferential			
Burn - chemical					
	Poisoning / Overdose	Abdominal pain			
Hypoglycaemia - glucose less than 3	Diabetic - glucose over 11 & ketonuria	Diabetic - glucose over 17 (no ketonuria)			
	Dehydration	Vomiting - persistent			
	PR bleeding	Inappropriate history			
Pain		Severe	Moderate	Mild	
Senior Healthcare Professional's Discretion					

5. Infant Triage Score (<3yrs, <95CM) TEWS

	3	2	1	0	1	2	3	
Mobility				Normal for age		Stretcher/ Immobile		Mobility
RR	less than 20	20-25		26-39		40-49	50 or more	RR
HR	less than 70	70-79		80-130		131-159	160 or more	HR
Temp		Cold OR Under 35		35-38.4		Hot OR Over 38.4		Temp
AVPU				<u>A</u> lert	Reacts to <u>V</u> oice	Reacts to <u>P</u> ain	<u>U</u> nresponsive	AVPU
Trauma				No	Yes			Trauma
younger than 3 years / smaller than 95cm								

6. Infant (<3yrs, <95CM) Discriminatory List

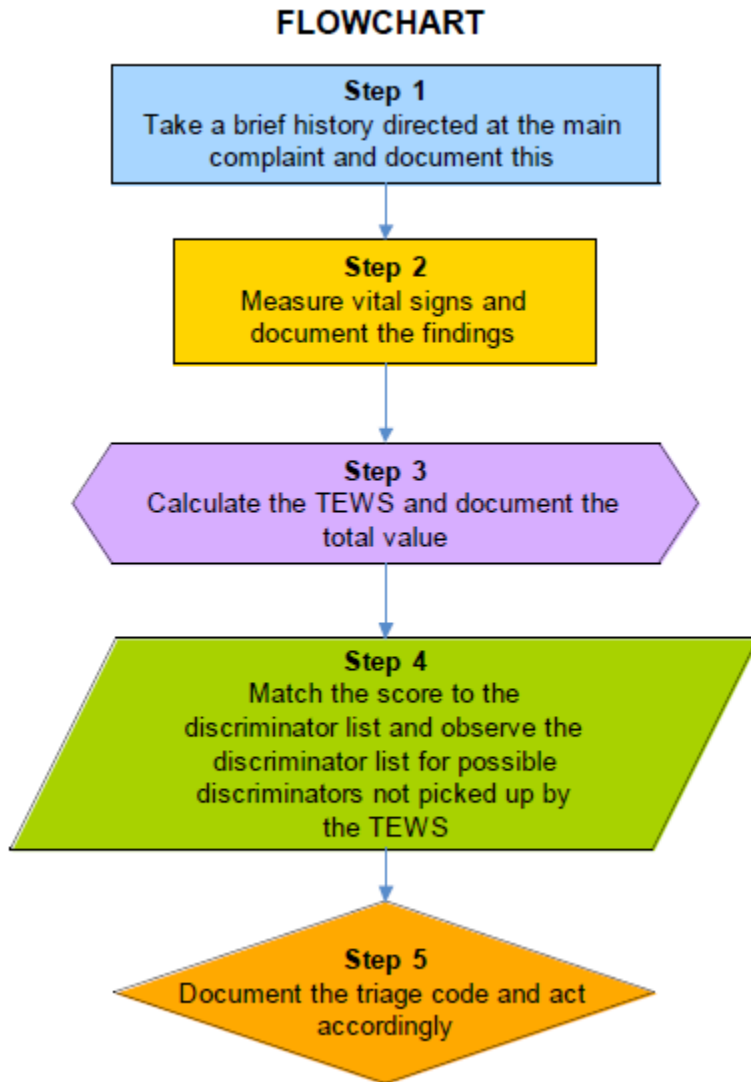
COLOUR	RED	ORANGE	YELLOW	GREEN	BLUE	
TEWS	7 or more	5-6	3-4	0-2	DEAD	
Target time to treat	Immediate	less than 10 mins	less than 60 mins	less than 240 mins	DEAD	
Mechanism of injury		High energy transfer				
Presentation	Drooling	Shortness of breath		ALL OTHER PATIENTS		
	Stridor	Wheeze				
		Haemorrhage - uncontrolled	Haemorrhage - controlled			
	Seizure - current	Seizure - post ictal				
			Focal neurology - acute			
			Level of consciousness reduced			
			Floppy infant			
			Purpura			
			Dislocation - other joint			
		Fracture - compound	Fracture - closed			
			Unable to weight bear			
	Burn - face / inhalation		Burn over 10%			Burn - other
			Burn - electrical			
			Burn - circumferential			
			Burn - chemical			
	Poisoning / Overdose	Abdominal pain				
Hypoglycaemia - glucose less than 3						
		Dehydration	Vomiting - persistent			
			Not feeding			
			Not urinating			
		PR bleeding	Inappropriate history			
				Prolonged or uninterrupted crying		
Pain		Severe	Moderate	Mild		
Senior Healthcare Professional's Discretion						

7. Intervention at triage area

INTERVENTIONS TO BE CARRIED OUT AT TRIAGE

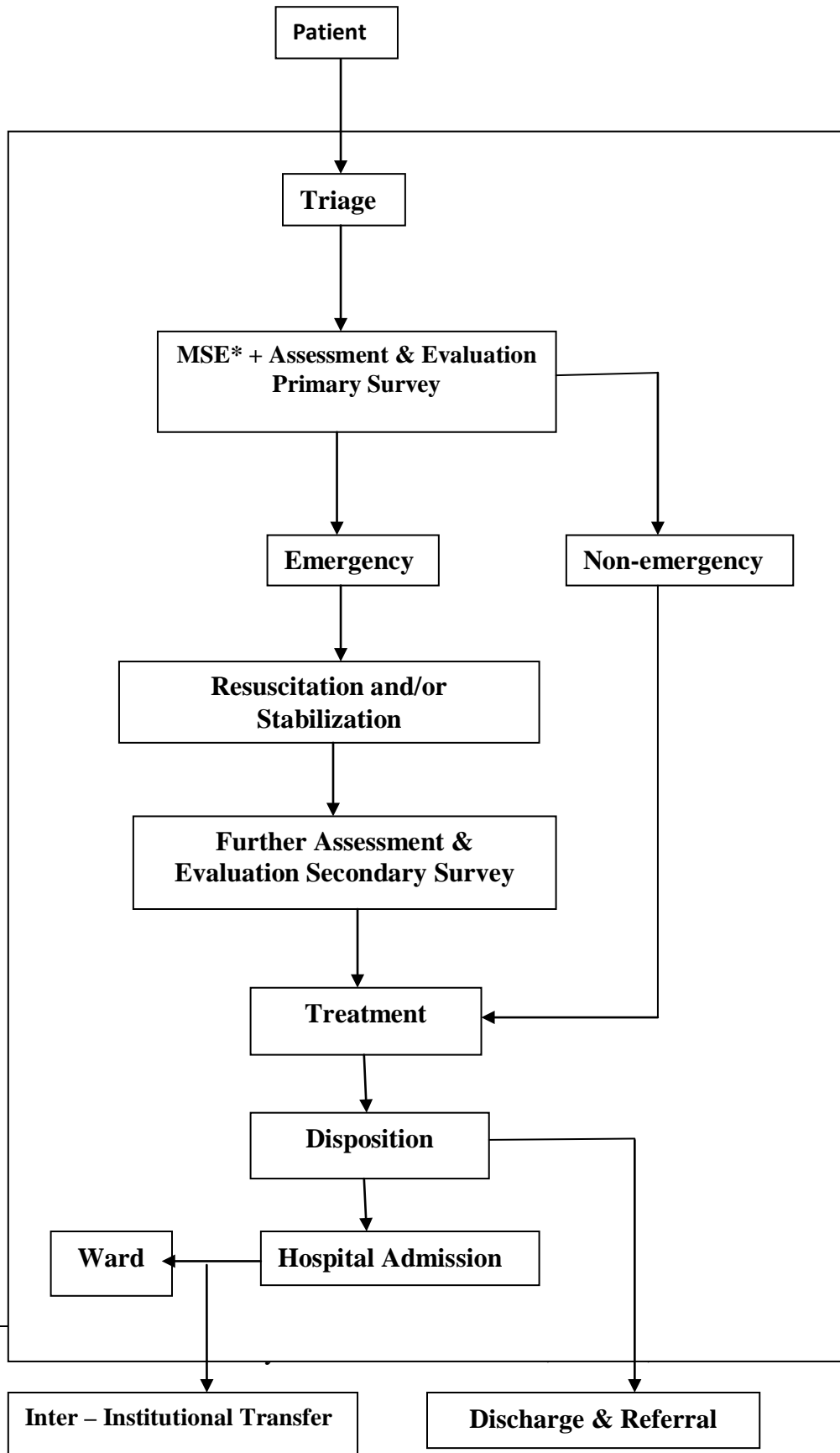
PROBLEM	COMPULSORY	OPTIONAL
Respiratory rate scores 1 point or more	1. Pulse oximetry (saturation) 2. Finger prick gluco test if patient is diabetic 3. Refer to anteroom and give oxygen	
Temperature 38.5° or more	1. Paracetamol 1g orally stat (document in the notes) (children – discuss with sister or doctor)	
Temperature 35° or less	1. Blankets	
Altered level of consciousness (AVPU score other than A)	1. Refer to anteroom and hand patient over to senior health care professional 2. Finger prick gluco test	
Unable to sit up/ need to lie down	1. Refer to anteroom and hand patient over to senior health care professional 2. Finger prick gluco test	
Chest pain	1. Immediate ECG and present to senior health care professional	
Active bleeding	1. Apply pressure to site of trauma with a dry dressing and take to anteroom 2. HB to obtain baseline	
Active seizure / fitting	1. Refer to anteroom and hand patient over to senior health care professional 2. Finger prick gluco test 3. IV access (NO intramuscular)	
History of diabetes	1. Finger prick gluco test	
Diabetes and Hyperglycaemia (gluco test 11 or more)	1. Urine dipsticks to check for ketones	
Hypoglycaemia (gluco test 3 or less)	1. Refer to anteroom and hand patient over to senior health care professional	2. If the patient is alert, give food or drink orally
History of bleeding		1. Finger prick haemoglobin
Bleeding PR, PO or from a site of trauma		1. Finger prick haemoglobin
Abdominal pain or backache: male		1. Urine dipsticks
Abdominal pain or backache: female		1. Urine dipsticks 2. Urine pregnancy test
PV bleeding		1. Urine dipsticks 2. Urine pregnancy test 3. Finger prick haemoglobin

8. Flow Chart



C. Flow Chart of the Care Process at the A&E Unit

Fig 2. Flow Chart of Sequence of Care of Patients in the A&E Unit



**Medical Screening and Examination*

D. Ethics of A&E

All citizens of Ghana have their right to emergency medical care enshrined in the Constitution. To fulfil this right, emergency care providers shall:

1. Abide by institutional code of ethics and patient's charter .
2. Respond promptly and expertly, without prejudice or partiality, to the need for emergency medical care.
3. Respect the rights and strive to protect the best interests of their patients, particularly the most vulnerable and those unable to make treatment choices due to diminished decision-making capacity.
4. Communicate truthfully with patients and secure their informed consent for treatment, unless the urgency of the patient's condition demands an immediate response.
5. Respect patient privacy and disclose confidential information only with consent of the patient/guardian or when required by an overriding duty such as the duty to protect others or to obey the law.
6. Deal fairly and honestly with colleagues and take appropriate action to protect patients from health care providers who are impaired or incompetent, or who engage in fraud or deception.
7. Work cooperatively with others stakeholders in the care of emergency patients.
8. Engage in continuing study to maintain the knowledge and skills necessary to provide high quality care for emergency patients.
9. Act as responsible stewards of the health care resources entrusted to them.
10. Support societal efforts to improve public health and safety, reduce the effects of injury and illness, and secure access to emergency and other basic health care for all.

E. Emergency History and Physical Assessment Form

EMERGENCY HISTORY AND PHYSICAL ASSESSMENT FORM

Date/Time.....

Patient Name.....AgeSex M/F

Presenting Complaint.....		
How Long.....		
Fever	Abdominal Pain	
Headache	Vomiting/Hematemesis	
Cough /Hemoptysis	Diarrhea	
Shortness of Breath	Seizure at home	
Chest Pain	Bleeding	
GU Symptoms	Ext. Pain/ Numbness	
Visual Changes		
Mobility: (walk in, with help, stretcher, Wheel chair)		
Past Medical History		
Hypertension	Sickle Cell Disease	
Heart Condition	Asthma/Chest Condition	
Diabetes	Other	
Past Surgeries		
Recent Medication		
Allergies		
Alcohol/ Tobacco/Drugs		
Last Menstrual Period		
Laboratory:		
FBC	MPS	RBS
Gp/Xmatch	UPT	
Urine Glucose/Ketones		
Initial Diagnosis		
Treatment		

Physical Examination		
Vital Signs:		
Respiratory Rate	Blood Pressure	
Heart Rate (Pulse)	Temperature	
Oxygen Saturation		
AVPU Score:		
Alert/Awake	Response to Voice	
Response to Pain	Unresponsive	
Head:		
Eyes (pink/red/pale/yellow)		
Mouth/Throat (moist/dry/pale)		
Neck (Normal/swelling)		
Other		
Chest:		
Lungs (Clear/Abnormal)		
Heart (Normal/Fast/Irregular)		
Other		
Abdomen:		
Pain/Tenderness (Y/N)	Distension (Y/N)	
Bowel Sounds (Y/N)		
Other		
Extremities:		
Wound/Rash/Cut/Bite (Y/N)		
Fractures (Y/N)	Paralysis (Y/N)	
Other		
GCS:		
M	V	E
X-ray		
Ultra Sound		
Comments		

Clinical Decision	
Admit	Observe
Discharge	Refer

Attach Triage form

