بسم الله الرحمن الرحيم

" وقل اعملوا فسيرى الله عملكم ورسوله
والمؤمنون"

صدق الله العظيم

MASS CASUALTY AND THE POLYTRAUMATIZED PATIENT

AN ESSAY

SUBMITTED FOR

PARTIAL FULLFILMENT OF MASTER DEGREE

IN GENERAL SURGERY

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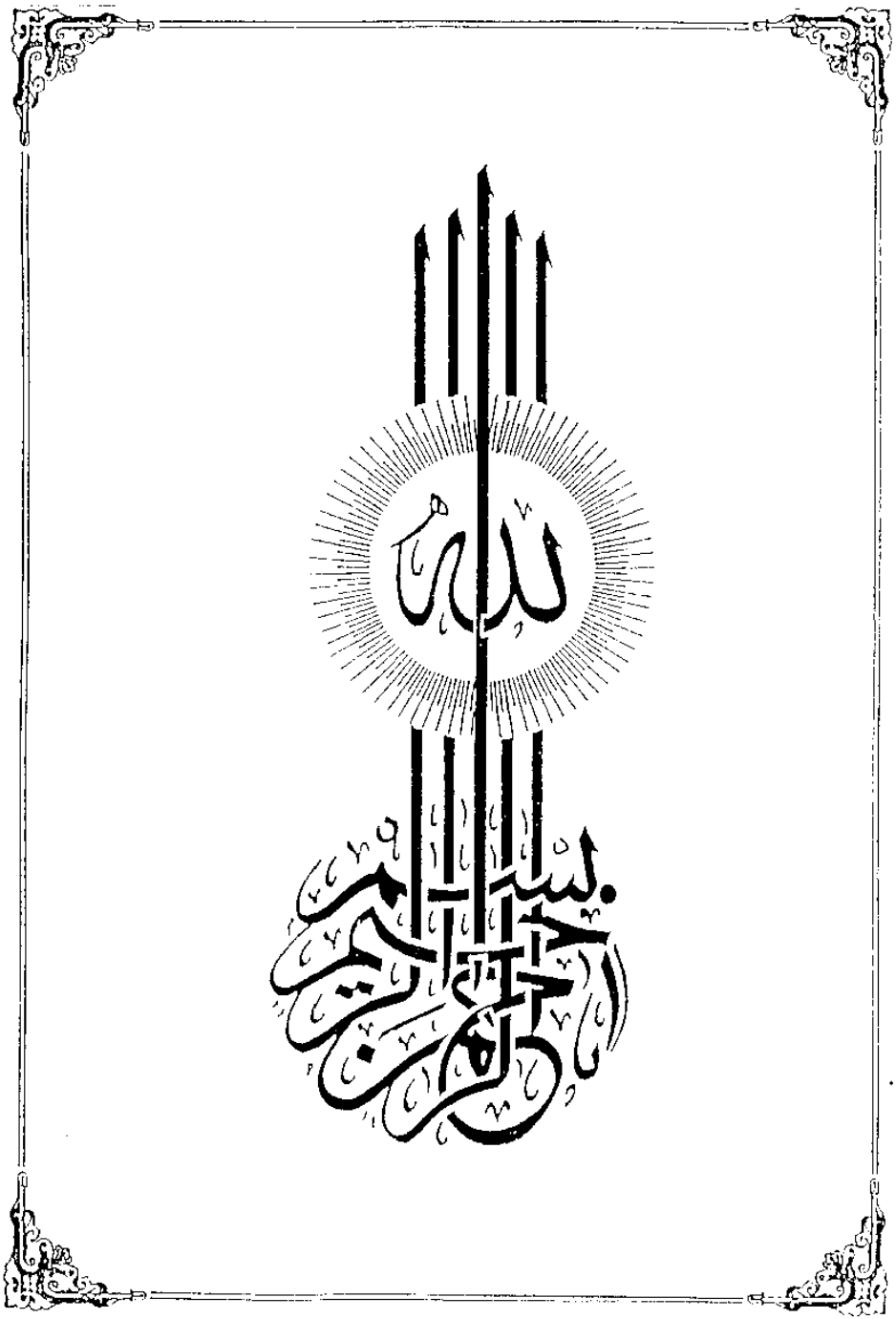

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INTRODUCTION

This essay is presented to display in brief the various aspects of mass casualty. Several incidents of mass casualties have occured in Egypt since October 1992 and was our hospitals are not designed for attending to mass casualties, during the events there was chaos and malorganization that made the need for research in that area seem more than required.

The essay will be directed towards the equipment and running of surgical emergency unit during mass casualties. Polytrauma is an essential component of mass casualty. The definitions, scoring and handling of such patient as well the transportation to and fro hospitals is, in our judgement a very important point which will be discussed to the best of our ability. The author of the work hopes that the reader might find in this work what he seeks for dealing with situations of mass casualty or polytrauma.

MASS CASUALTY

CHAPTER ONE

MASS CASUALTIES

DEFINITION

A mass casualty situation is one in which an overwhelming number of seriously injured or otherwise incapacitated individuals, within a limited area or multiple areas and a brief period of time are placed upon locally available medical facilities quite unable to supply medical care for them. In these circumstances the aim of the medical services must be to assume care to the greatest benefit of the largest number (Kirby and Blackburn 1980).

* The design of accident and emergency unit should fulfil the following :

- An easily accessible entrance with space for several ambulances at a time, plus ample turning space.
- Separate enterances for stretcher and walking cases.
- A resuscitation bay adjacent to the main entrance.
- Even if the unit is part of a general hospital, suitable space should be provided for children and should be decorated accordingly.
- The reception office should be centrally placed because everything revolves around it.
- The majority of cubicles should not have doors: Patients can die behind closed doors and not be noticed.

- The resuscitation area should be wide and capable of dealing with at least two critically injured people.
- A quiet room should be available for the relatives of disceased patients. This room must not be too far away from the working area.
- A staff rest room where they can relax and unwind for a few minutes.
- Ample space should be available to position large toys in the waiting area to keep children occupied.
- Nurse's office should be within viewing distance of the resuscitation bay.
- X-ray facilities should be available in the department, or at least nearby.
- Everything should be an one level with easy access.
- Ample shelving so that emergency items are on display.
- Stores near to the action, so that topping up is not tiresome.

(Bradley D. 1985)

The Accident and emergency department should own sterile areas (theaters), these are used for an assortment of procedures. Asepsis is an essential part of the treatment for many injuries. It's important to be able to distinguish infected wounds from clean injuries, although both require aseptic conditions, they will not be treated in the same area due to the possible risk of cross-infection (Barett 1986).

EQUIPMENT OF ACCIDENT AND EMERGENCY DEPARTMENT

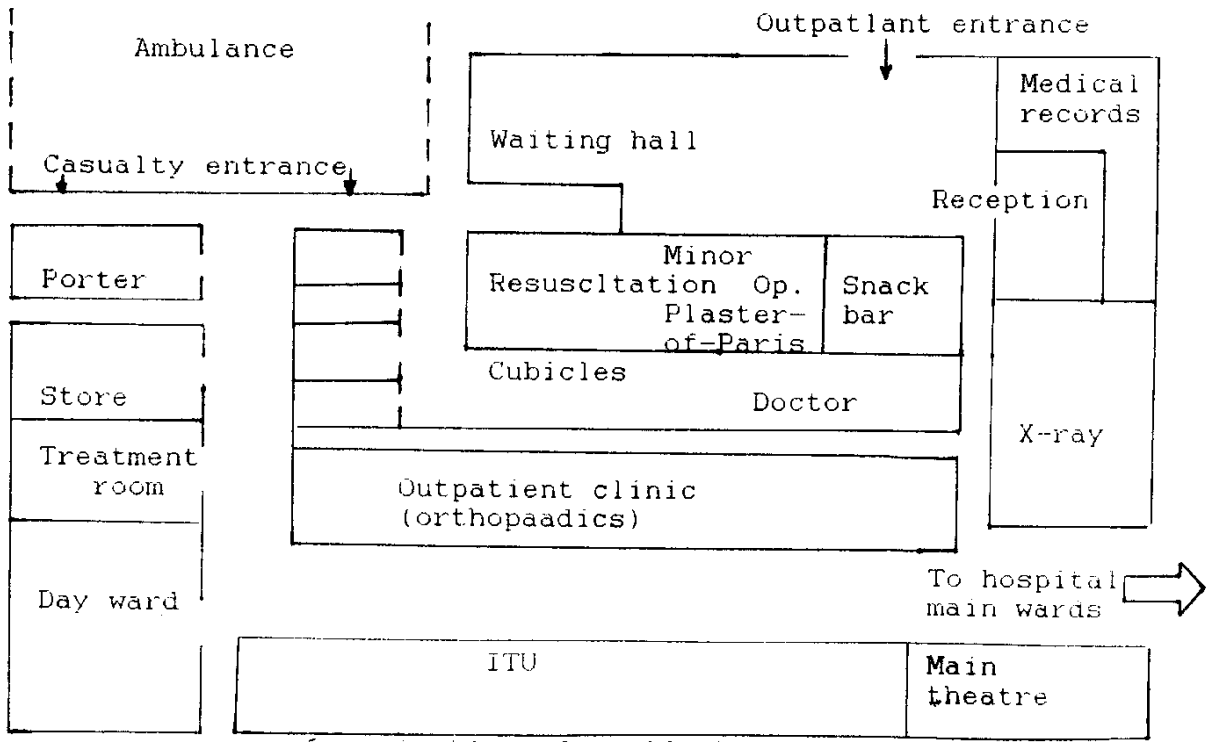
1- Anaesthetic equipment including forceps, tubes, scopes ... etc.

2- Stretchers of various type, trolley..... etc.

3- Radiography unit.

4- Ventilators, monitors, suction apparatuses.

5- Packs according to needs as dressing drugs of different natures and for specific circumstances, blood and blood substitutes, nursing equipments and miscellaneous objects (Kirby and Blackburn, 1980)



Organisation of accident/emergency department

Al-Fallouji Brien, 1986

CHAPTER TWO

SURGICAL EMERGENCY SERVICES

Modern emergency medical services system consists of :

1- Professional field personnel trained to provide specific levels or types of care.

2- A comprehensive emergency communication network.

3- Hospital emergency department physicians and nurses who supervise the treatment provided by professional field personnel.

4- Hospitals categorized according to their relationship with field personnel and according to the level of care they can provide. and

5- Administrative officials who manage and coordinate the elements of the system (Hearne and Saunders, 1990).

The main objectives of trauma team are to identify and correct life threatening injuries, resuscitate the patient and stabilize the vital signs, determine the extent of other injuries and prepare the patient for definitive care (Driscoll and skinner 1991).

When medical emergencies are reported, trained medical personnel can commonly provide emergency care at the scene within 8-10 minutes. The health professionals and the first responder who provide prehospital care are trained to carry

out specific levels of care, ranging from basic first aid and cardio-pulmonary resuscitation (CPR) provided by the first responder, through basic life support given by emergency medical technicians (EMTS), to advanced life support provided by advanced EMTS (paramedics). These personnel provide care only as extensions or agents of physicians and are not independently licensed to provide medical care (Hearne and saunders,1990).

Table 1:-

Training and procedures for emergency medical personnel
(Hearne and saunders ,1990)

Emergency Personnel Type	Hours of Training	Curriculum 1	Skills and Procedures
First Responder	≈40	Patient assessment Basic life support Cardiopulmonary resuscitation. Bleeding and shock . Wounds and fractures Medical emergencies Poisoning,durg and alcohol emergencies, heart attack,stroke, epilepsy,asthma,emergency childbirth Environmental emergencies Burns Psychiatric emergencies Stabilization and tranfer	Patient assessment Cardiopulmonary resuscitation. Control of bleeding Bandaging and limited splinting. Limited extrication.
EMT - A(Basic)	81-140	Orientation and legal responsibilities. Patient assessment. Cardiopulmonary resuscitation. Bleeding and shock. Injuries. Medical emergencies. Heart disease,stroke, substance abuse, pediatric emergencies. Childbirth. Environmental emergencies. Burns, hazardous materials,water hazards . Psychologic aspects of emergency care Patient handling and extrication Ambulance operations and vehicle maintenance Emergency driving,communications,report writing Optional skills intravenous therapy, advanced airway management,defibrillation by EMTs.	Patient assessment. Airway management and oxygen therapy . Control of bleeding. Management of shock (including Military Anti-shock trousers {MAST}) Dressing and bandaging wounds Splinting (including traction splints) Spinal immobilization Extrication and triage .

EMT-I (intermediate)	110-1000	All EMT-A skills plus various advanced life support skills.	All EMT-A skills plus specialized training in one or more life support skills, usually including . Manual or automatic defibrillation Intravenous therapy Selected emergency medications Advanced (noninvasive) airway management.
EMT-P (Advanced or Paramedic)	>1000	Role of the paramedic Human systems and patient assessment Fluids and shock General pharmacology Respiratory system Cardiovascular system Central nervous system Soft tissus injuries Musculoskeletal system Medical emergencies Obstetric and gynecologic emergencies Pediatric emergencies Management of the emotionally disturbed Communications and telemetry Multiple injuries,multiple casualties,and trage	All EMT-A skills plus specialized training in advanced life support skills,including Intravenous cannulation Invasive airway management including endotracheal intubation Cardiac dysrhythmia recognition Defibrillation Emergency medications