AUSTRALIAN EMERGENCY MANUAL
DISASTER MEDICINE

SECTION THREE

PREPAREDNESS

CHAPTER FIVE

HEALTH AND MEDICAL PLANNING

WHY PLAN?

5.01 GENERAL

The economic and social effects of major emergencies or disasters including destruction of property, dislocation of communities and loss of life are increasing in scope and severity.

5.02 Coping with hazards gives us a reason and focus for planning. If hazards, natural or technological did not threaten, there would be no reason to plan, as normal daily Health and Medical arrangements within communities in particular, are usually sufficient to cope with the day to day issues. Hazards exist within all communities whether they are recognised or not.

5.03 PREVENTION, PREPAREDNESS, RESPONSE, RECOVERY

The community's ability to cope with the impact of these hazards depends mainly on whether it has prepared these plans and programs.

a. **Prevention** - Regulatory and physical measures to ensure that disasters are prevented, or their effects mitigated

b. **Preparedness** - Arrangements to ensure that all resources and services which may be needed, can be rapidly mobilised and deployed.

c. **Response** - Actions taken, during and immediately after a hazard impact to ensure that its effects are minimised.

d. **Recovery** - Arrangements to ensure that a community is able to be restored to normality.

5.04 PREPARED COMMUNITY

In order to protect life, property and the environment, it is necessary to have:

a. an alert, informed and prepared community;

b. an understanding of hazards that the community faces;

c. a program for prevention and mitigation of major incidents and disasters;

d. identification of those responsible for controlling and co-ordination emergency management,

e. acceptance of support roles and responsibilities;

f. co-operation between emergency services and others, and acceptance of their roles in emergency management;

g a co-ordinated approach to the use of all resources; and

h. arrangements to enable communities to recover from emergencies.

5.05 BENEFITS OF PLANNING

Disaster planning is the key to meeting the above requirements. Communities which have effectively applied the disaster planning process are better able to cope with the impact of hazards.

5 06 LEGAL PROTECTION

Disaster planning may help protect organisations from litigation arising out of the duty of care provisions in common law. The general obligation of fulfilling duty of care, and the specific requirements under most State/Territory legislation, indicate clearly the need for communities to develop, practise and review emergency plans.

5.07 THE PLANNING PROCESS

There is a proven process for preparation of disaster plans The key to disaster management is the planning process, from which all related programs, strategies and arrangements should flow.

PRINCIPLE

For disaster planning to be effective it must be intra and inter organisational.

5.08 RECORD OF COMMITMENT

The planning process enables agreements to be reached between people and organisations to meet their communities' needs during emergencies. The plan becomes a record of the commitments made to perform certain actions and to provide resources

PRINCIPLE

The process of planning is more important than the written documents that result.

5.09 SUMMARY

Having established the necessary organisation, command and control procedures, arrangements for the co-ordination of support, an effective and efficient information management system and procedures to ensure timely activation, the culminating action is the production and endorsement of the disaster plan. It must be the outcome and formal record of those arrangements and agreements. No plan can be written in isolation; rather, all participants in the disaster management group must be involved. It must be simple, brief and couched in terms which are unambiguous. Having been produced, endorsed and disseminated to all concerned, it must be placed under continuous review and proven by exercises at least annually

5.10 In most States and Territories, legislation requires preparation, practising and review of disaster plans.

5.11 The planning process is the key to disaster management. From this process flow all disaster management programs, strategies and arrangements. The written plan becomes a formal record of commitments made by the participants.

ALL HAZARDS APPROACH

5.12 In Australia, the basic concept in providing counter disaster response and recovery planning for communities large and small, is that an all hazards approach is adopted when main organisational framework plans are considered. Such framework plans provide the organisational structure for flexibility in adapting to meet the particular hazard encountered.

5.13 Planning Committees need to address the issues associated with providing operational response and recovery to disasters most likely to occur in their communities, revealed as a result of hazard analysis of their area.

5.14 The Medical and Health Functional Plan, developed by the Medical and Health Planning Committee utilising the total medical and health resources in the area, forms a sub plan within the community main disaster response and recovery plan. It must be integrated with other disaster response agencies and is designed to provide the following:

a. Medical command, control and co-ordination of medical resources.

b. Appropriate pre-hospital medical and health management for casualties.

c. Transportation of casualties to appropriate hospitals for definitive treatment and care.

d. Public health advice and warnings to combatants and the community.

e. Psychological and counselling services for disaster affected persons.

f. On-going medical and health services required during the recovery period to preserve the general health of the community.

g. Provision for disabled persons in the community. It is essential that each community is aware of persons suffering some form of disability who may in times of major incidents or disasters need to have special provisions made in respect of evacuations, transport and continuing care and treatment. Health and community service groups who deal with persons with disabilities on a day-to-day basis, are probably best suited to identify such persons and to provide centralised records which can be given to various emergency service responders. Where such persons are housed in special accommodation or institutions, special plans and arrangements need to be considered by the community and response agencies for response and recovery purposes.

5 15 SUMMARY

Comprehensive and integrated community medical and health disaster response and recovery planning will avoid planning in isolation, provide a system for alerting response agencies, mobilising key and additional staff required, and will fully utilise available resources

REMOTE AREA PLANNING

5.16 There can be situations where circumstances will require special planning attention, to ensure that a capability exists to competently mitigate the effects of disaster.

5.17 The types of disasters which could occur under normal circumstances, and which may require special planning which is out of the ordinary, include

a aircraft crashes,

b passenger train crashes,

c. significant motor vehicle crashes;

d. hazardous material incidents,

e BLEVEs (Boiling Liquid Expanding Vapour Explosions);

f. explosions or fires; and

g. marine accidents

5.18 COMMON DIFFICULTIES FOR REMOTE AREAS

Common difficulties encountered in the management of remote area disasters include the following.

a **Communication** - Communication facilities (all forms) are inevitably overloaded and information management is unco-ordinated and inefficiently controlled.

b. **Knowledge** - There tends to be insufficient knowledge or recognition of available on-site resources and services, and specialised alternative emergency resources are often difficult to identify and mobilise.

c. **Planning** - There is a lack of adequate planning, training and exercising to prepare for the special needs of a remote area disaster.

d. **Key Objectives** - The key objectives of counter-disaster plans, including agency roles, need to be defined and clearly understood if those plans are to be effectively applied over the distances involved in remote area disasters.

e. **Co-ordination** - Response is often not adequately co-ordinated, which can cause reaction delays.

f. **Environment** - Environmental factors like weather, terrain and natural resource depreciation often directly impinge upon the response phase.

g **Capability** - Capability always seems to fall short of requirements.

h. **Control** - Control can be difficult when scarce resources are stretched.

i. **Limited Outlook** - Parochialism can hinder the response effort

j. **Basic Necessities** - The need for adequate water, food and shelter, both for the disaster victims and the responders, must not be overlooked

5.19 **MEDICAL RESPONSE**

a **Initial Phase** - This involves deployment of (probably) local resources to provide immediate attention and to define the medical problem. In the initial phase the requirement is for appropriately trained medical personnel to travel to the site and conduct medical reconnaissance, initial triage and resuscitation

b. **Follow-up Phase** - This involves a designated medical services co-ordinator arranging more definitive medical care which, in some circumstances, could involve the acquisition or employment of additional regional, state or national medical resources. In the follow-up phase the requirement is for:

(1) medically trained persons to travel to the site and treat casualties in place and/or stabilise casualties in preparation for evacuation, or

(2) evacuation of casualties for treatment elsewhere.

5.20 **KEY FACTORS**

Key planning factors to be considered are the time delay period and the casualty deterioration rate.

a **Time Delay** - As a general rule a casualty in need of surgical care ought to be afforded that treatment at the earliest possible opportunity. When faced with a scarcity of human resources and materials optimal deployment of the resources available must be ensured. An all-important factor is the relationship between the prognosis of casualties with varying injuries requiring treatment and the interval of time elapsing between sustaining of the injuries and the availability of surgical intervention (the time delay).

b. **Casualty Deterioration Rate** - As the time delay is prolonged the mortality rate of casualties can rise After three hours if treatment is not received, the mortality rate rises significantly. Unless the casualties' medical condition has been stabilised, the mortality rate increases dramatically after six hours If stabilisation can be achieved within six hours, the dramatic increase in the mortality rate is delayed until ten hours. (Santy, 1918)

SUMMARY

5.21 Whilst clinical management principles remain the same regardless of situations, planning for the remote area disaster will require that the key factors of time delay period and casualty deterioration rate be adequately addressed. The effect of an obvious range of difficulties inherent with accessibility, distance or isolation can be minimised with good prior planning and arrangements.

REFERENCES

Natural Disasters Organisation: A Rapid Response Medical Capability for Australia. **The Macedon Digest - The Australian Newsletter of Disaster Management** Mt. Macedon, Victoria, Volume 6 Number 1, March 1991, Pages 8-10

Santy, M P : (English Translation of Article) **Bulletin De La Societe Medico-Chirurgicale**, Paris, France, Volume 44, 1918, Pages 207-214

CHAPTER SIX

MEDICAL INCIDENT MANAGEMENT AND DISASTER SITE ARRANGEMENTS

INTRODUCTION

6 01 The purpose of this Chapter is to provide a guide for the efficient management of medical resources in a mass casualty incident. This may range from an event where there is a concentration of casualties in a restricted area eg. bus crash, to an incident spread over a wide area which will require multiple field management structures eg earthquake.

6.02 All health care professionals have a duty to understand the disaster management arrangements, which will include command, control and coordination, their roles and those of other involved agencies, thereby ensuring an effective medical response. This will require participation in appropriate education programs and regular exercises

PRINCIPLE

Effective management will provide optimal care for the maximum number of casualties.

MANAGEMENT STRUCTURE

6 03 In all States and Territories, there is a need for a medical management structure which encompasses State/Territory and regional levels, within hospitals and at the incident site Additionally, the mutual aid arrangements between States/Territories should be addressed Please refer to Chapter Two on Hierarchical Overview for further information.

6.04 **STATE LEVEL**

Within a State Disaster or Emergency Plan there is generally an established number of functional service groupings which include the Health and Medical resource. These groupings are to enable the establishment of effective command, control and co-ordination of the resources available to specific functions especially during the response and recovery phases of a disaster/major incident operation.

6.05 At State and Territory level there is a State Medical Controller empowered to direct health and medical resources as required This appointee needs to liaise with all other agencies and is normally a member of the State or Territory counter disaster planning group.

6.06 This function is carried out within a State Medical Control Centre using appropriate communication facilities and the expertise of the various health disciplines.

6.07 REGIONAL LEVEL

There should be a Regional Medical Controller whose functions equate with those of the State Medical Controller, but at a regional level.

6 08 HOSPITAL

All hospitals should develop plans to provide a management structure for:

a hospital reception of mass casualties,

b. hospital medical team response to mass casualty incidents, and

c. incidents where the hospital itself is a 'casualty'

For further information on hospital planning, refer to Chapter Seven on Functional Planning - Hospitals and Ambulances

DISASTER SITE

6.09 Responders can anticipate chaos and confusion at the emergency/disaster scene. If time is not taken to establish some form of control, then the confusion will continue for a longer period It should also be anticipated that there may have been some initial intervention by unqualified or inexperienced bystanders Additionally, trained volunteers may be available to assist and these individuals or organisations must be included in the total medical management

6.10 MEDICAL INCIDENT MANAGEMENT

Medical incident management at a site is a progressive process. It is essential for the first **medical** responders, normally ambulance personnel, to quickly:

a gather intelligence of the incident;

b. provide situation reports (SITREPS) to the Ambulance Communications Centre,

c establish the initial medical control points, as listed in site arrangements below, and

d. establish liaison with other services on site.

6.11 As a result of information provided to the Ambulance Communications Centre, additional resources will be provided as necessary

6.12 SITE ARRANGEMENTS

The size of the incident will dictate the need to establish medical control points. Example of these control points are:

a. **Forward Command Post (FCP)** - This is the area where operations are directed and controlled by the medical and ambulance commanders and should be

(1) collocated with other emergency services,

(2) up-wind of the incident site, in a secure area; and

(3) easily identifiable to all personnel (a green rotating beacon is recommended to identify the medical command post).

b. **Casualty Collecting Area (CCA)** - The area in which casualties are initially assembled and triaged. This area will be in one of two locations:

(1) Within the incident site.

(2) If rescue services are extricating casualties from a hazardous area:

(a) as near as possible to the incident site, and

(b) in an area safe for personnel to perform their duties.

c. **Patient Treatment Post (PTP)** - The area established for triage and treatment of all casualties and should be:

(1) as near as possible to the casualty collecting area to alleviate long distance stretcher carries;

(2) large enough to accommodate the casualties and those treating, with easy access and egress;

(3) ideally in an area protected from the elements; and

(4) in an area safe from the effects from the incident.

d. **Ambulance Loading Point (ALP)** - The area where patients are loaded and an identity and destination recorded, which should be:

(1) as near as practicable to the exit of the PTP;

(2) large enough to accept more than one vehicle with easy access and egress, ideally a pass-through situation, and

(3) located in a safe area bearing in mind the incident and other traffic.

e. **Ambulance Holding Point (AHP)** - The area where vehicles are marshalled if the ALP is not able to accommodate them and should be:

(1) as near as practicable to the ALP, but not cause traffic congestion;

(2) easily accessible with good egress;

(3) large enough to accommodate all responding ambulance vehicles; and

(4) in the area with proven communications with the ALP and the FCP.

PRINCIPLE

Establishment and maintenance of medical control is essential.

6.13 SITE MANAGEMENT AND PERSONNEL (South Australian Example)

The nomenclature of specific medical personnel varies between States and Territories, however, the basic roles are not dissimilar The South Australian example of site personnel set out below and in the following Annexure is not definitive and consideration needs to be given to additional roles such as Nurse Team Leader. Where possible all roles and management sites are listed in the glossary.

a. **Ambulance Transport Officer (ATO)** - Normally one of the first ambulance officers on site who will assume the initial function of medical control including the selection of suitable sites for casualty management and communications.

b. **Ambulance Casualty Officer (ACO)** - Normally one of the first ambulance officers on site and is required to estimate casualty numbers, hazards or unsafe areas, additional resources required and commence primary triage and treatment.

c **Triage Officer (Ambulance) (TO)** - Upon the arrival of additional ambulance personnel, the most medically skilled officer will assume this role, commencing triage and tagging of casualties in the field.

d **Ambulance Marshal (AM)** - Upon the arrival of additional ambulance personnel, an officer will assume the role, marshalling all ambulance vehicles and personnel.

e **Ambulance Commander (AC)** - This officer will be appointed by Ambulance Operational Control and will assume command of all ambulance resources at the site. In the absence of a field medical controller, this officer will assume the medical control function

f **Ambulance Liaison Officer (ALO)** - This officer will be appointed by the AC and shall establish a medical liaison with other responding agency commanders

g. **Field Medical Controller (FMC)** - A medical officer who is appointed to control the medical management at the site and is in command of all medical teams.

h. **Medical Team Leader (MTL)** - A medical officer who is responsible for the management of a hospital team at the site

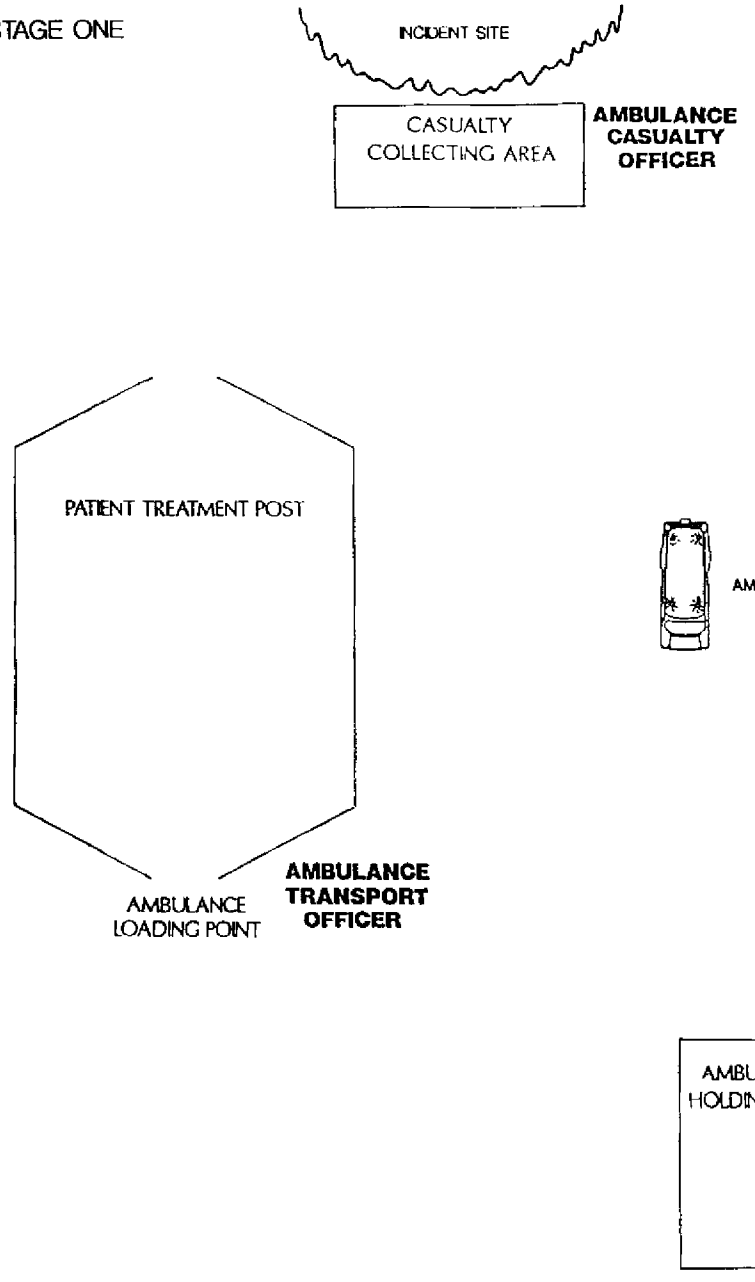
i. **Medical Triage Officer (MTO)** - A suitably skilled medical officer who is responsible for triage within the PTP

ANNEXES: A. Site Management and Personnel (South Australian Example)

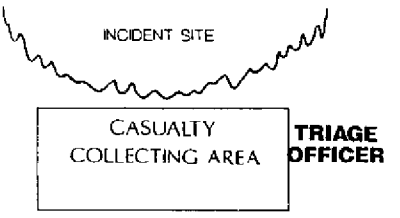
B Site Personnel

SITE MANAGEMENT AND PERSONNEL (SOUTH AUSTRALIAN EXAMPLE)

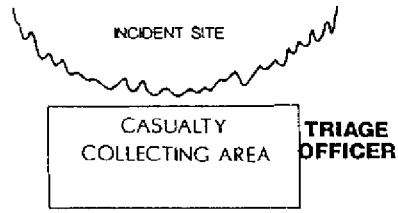
STAGE ONE



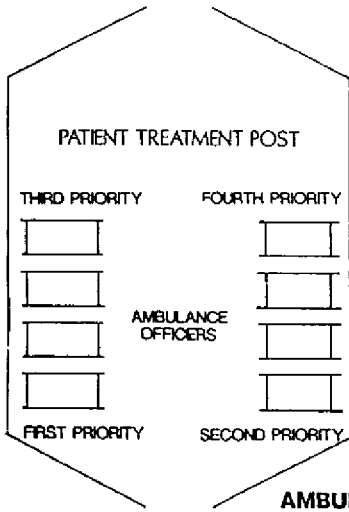
STAGE TWO


INCIDENT SITE
CASUALTY
COLLECTING AREA
TRIAGE
OFFICER
AMBULANCE
CASUALTY
OFFICER
PATIENT TREATMENT POST
FIRST
AMBULANCE
AMBULANCE
LOADING POINT
AMBULANCE
TRANSPORT
OFFICER
AMBULANCE
MARSHALL
AMBULANCE
HOLDING POINT

STAGE THREE



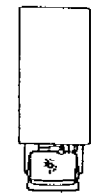
**AMBULANCE
CASUALTY
OFFICER**



AMBULANCE
LOADING POINT

**AMBULANCE
TRANSPORT
OFFICER**

FORWARD COMMAND POST

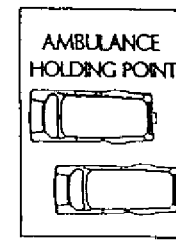


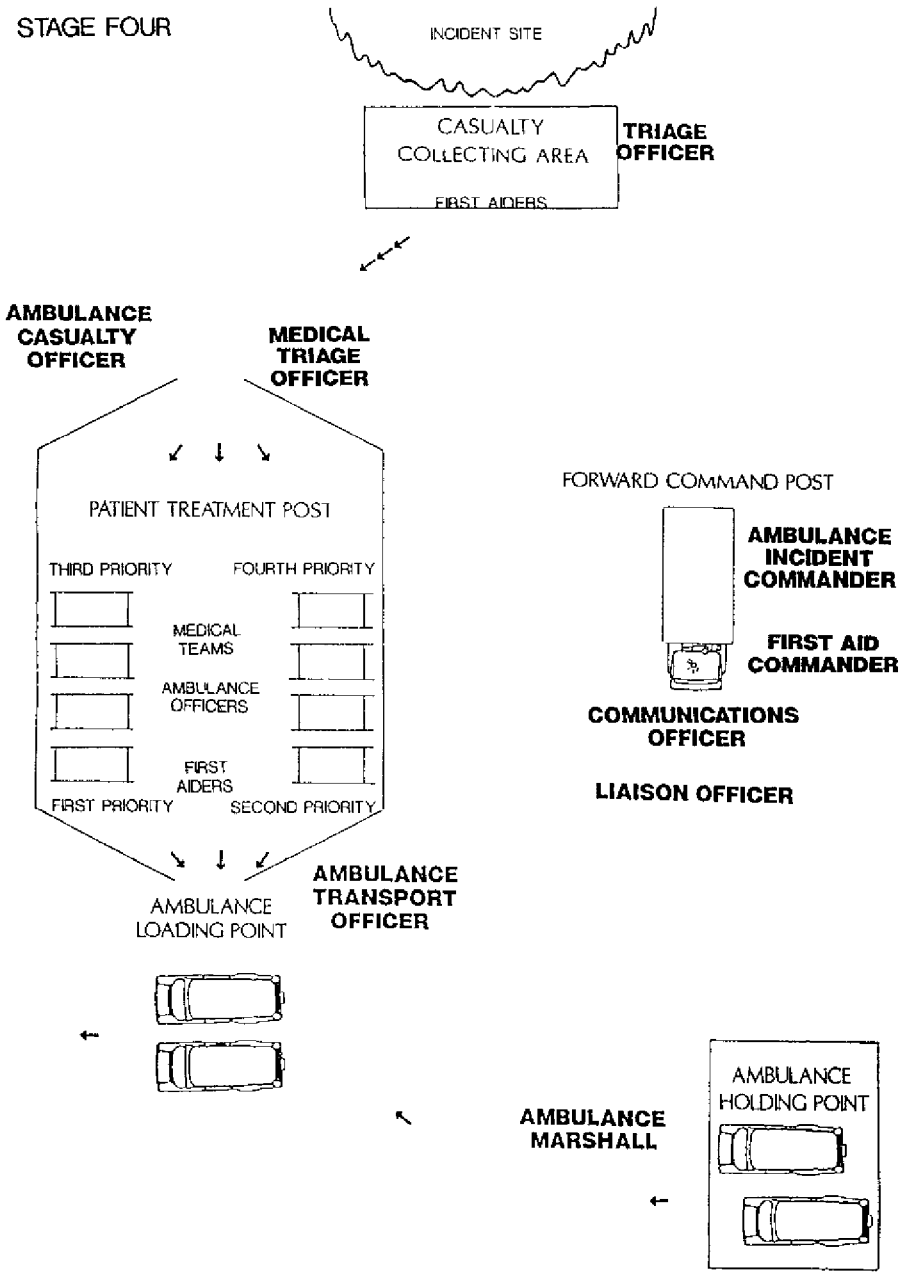
**AMBULANCE
INCIDENT
COMMANDER**

**COMMUNICATIONS
OFFICER**

LIAISON OFFICER

**AMBULANCE
MARSHALL**




STAGE FOUR
INCIDENT SITE
CASUALTY COLLECTING AREA
FIRST AIDERS
TRIAGE OFFICER
AMBULANCE CASUALTY OFFICER
MEDICAL TRIAGE OFFICER
PATIENT TREATMENT POST
THIRD PRIORITY
FOURTH PRIORITY
MEDICAL TEAMS
AMBULANCE OFFICERS
FIRST AIDERS
FIRST PRIORITY
SECOND PRIORITY
AMBULANCE LOADING POINT
AMBULANCE TRANSPORT OFFICER
FORWARD COMMAND POST
AMBULANCE INCIDENT COMMANDER
FIRST AID COMMANDER
COMMUNICATIONS OFFICER
LIAISON OFFICER
AMBULANCE MARSHALL
AMBULANCE HOLDING POINT

SITE PERSONNEL

AMBULANCE TRANSPORT OFFICER

Responsible to the Ambulance Commander.

1. **Initial Actions**
   a. Advise Communications Centre of arrival at the scene.
   b Confirm the exact location of the scene
   c. Determine access routes for other ambulances.
   d. Maintain a communications link with the Control Centre
   e. Establish a temporary Forward Command Post.
   f Don the appropriate identification vest

2. **Secondary Action**
   a. Select suitable medical management sites - ie Patient Treatment Post, Ambulance Loading Point, Ambulance Holding Point.
   b. Secure the access and egress.
   c Appoint an Ambulance Marshal.
   d. Obtain the service of someone to register the details of the casualties.
   e. Supervise the practical loading of the Ambulances.
   f. Maintain communications with the Control Centre and provide regular SITREPs.
   g. Establish liaison with other emergency/support services.

NOTE: On arrival at the scene of an Ambulance Commander, the Ambulance Transport Officer's role will reduce to liaison with the Ambulance Marshal, Patient Recorder and the Medical Teams working in the Treatment Post whilst facilitating the practical loading of Ambulances.

AMBULANCE CASUALTY OFFICER

Responsible to the Ambulance Commander.

1. **Initial Actions**
   a. Undertake a quick reconnaissance, and then report:
      (1) the estimated number of casualties;
      (2) any hazards or unsafe areas, and
      (3) additional resources needed - eg. Police, Fire, Rescue, Medical Teams.
   b. Don the appropriate identification vest

2. **Secondary Actions**

a. Commence **life-saving** treatment only.

b Accurately determine the number of casualties, classify into stretcher or walking cases, and relay the information to the Control Centre.

c. Commence primary triage of casualties

d. Appoint an Ambulance Triage Officer as soon as possible

e. Direct responding medical and para-medical personnel to specific casualties/areas.

f Arrange the evacuation of all casualties to the Patient Treatment Post

g Arrange the orderly placement of casualties within the Patient Treatment Post, according to their triage priority.

NOTE: On arrival of a Medical Triage Officer (MTO) the Ambulance Casualty Officer will work in close liaison with the MTO and provide a management role of casualties coming to and within the Patient Treatment Post.

TRIAGE OFFICER (AMBULANCE)

Responsible to the Ambulance Commander

The Ambulance Triage Officer will be located at the Casualty Collecting Area which will be either within the incident site or, if the site is of a hazardous nature, then as near as it is safe to be located given the nature of the incident and the uniform worn.

The Ambulance Triage Officer will label casualties and arrange for their quick evacuation to the Patient Treatment Post according to the triage priority.

Only life-sustaining treatment will be carried out at this area

AMBULANCE MARSHAL

Responsible to the Ambulance Commander

The Ambulance Marshal will locate at the Ambulance Holding Point and assemble the incoming ambulance vehicles in a logical and safe manner with easy access to the Ambulance Loading Point and without congesting the access for other emergency vehicles

The Ambulance Marshal must have good communication with the Ambulance Transport Officer so that vehicles can be moved forward for loading as required. The Marshal also provides details to incoming crews on what is required of them by the commander at the site - eg remain with the vehicle or take some equipment forward to the treatment post but ensure the keys are left in the vehicle

AMBULANCE COMMANDER

1. Responsible to the Ambulance Controller

2. The Ambulance Commander is required to proceed as follows

   a. Notify the Ambulance Control Centre on arrival

   b. Establish or confirm the forward Command Post

   c Assume command of all Ambulance operations and if appropriate obtain a briefing from the Ambulance Transport Officer and Ambulance Casualty Officer.

   d Confirm or appoint:

      (1) Ambulance Casualty Officer;

      (2) Ambulance Transport Officer,

      (3) Ambulance Triage Officer;

      (4) Ambulance Marshal, and

      (5) Liaison Officer

   e. Confirm or determine the location of.

      (1) Casualty Collecting Area;

      (2) Patient Treatment Post;

      (3) Ambulance Loading Point;

      (4) Ambulance Holding Point;

      (5) access and egress routes, and

      (6) any other control points that may be necessary.

   f. Liaise with other Emergency Service Commanders

   g. Ensure adequate resources are at hand or available

   h. Provide regular reports to the Ambulance Control Centre reflecting whether or not the Incident is escalating, static or winding down.

NOTE: The Ambulance Commander should assume responsibility for all Medical and First Aid personnel/roles pending the arrival of commanders from those sources.

AMBULANCE LIAISON OFFICER

Responsible to the Ambulance Commander

The Ambulance Liaison Officer is required to provide a liaison point between the ambulance service and all other Emergency Service Commanders, being located with them and must have an effective communication link with the Ambulance Commander.

The liaison officer must have a good operational knowledge of the Service and be able to provide accurate information to the other Service commanders.

MEDICAL TEAM LEADER

Responsible to the Field Medical Controller

The Medical Team Leader will be responsible for the management of the medical team and medical and nursing personnel working within the site, and to ensure that they have the resources necessary to provide life saving treatment and stabilisation of casualties prior to transport. The Team Leader is required to ensure that the team is providing the service efficiently and effectively and to liaise with the Ambulance Transport Officer to ensure that patients are evacuated in an appropriate order.

MEDICAL TRIAGE OFFICER

Responsible to the Field Medical Controller.

The Medical Triage Officer will be located at the entrance to the Patient Treatment Post and will carry out a more detailed assessment of the injured thus providing a secondary triage of the patients as they arrive at that location The Medical Triage Officer will record his/her finding on the triage tag and amend, if necessary, the priority of the patient

FIELD MEDICAL CONTROLLER

Responsible to the State Controller, Health and Medical Services

The Field Medial Controller will be appointed by the State Controller and will provide a Forward Commander role for Health and Medical Services at the Site

The Field Medical Controller will take command of all medical and nursing personnel at the site to ensure the optimum utilisation of all medical and nursing resources at the site and liaise closely with the Ambulance commander

1. The controller will provide or be responsible for.
    a. health, medical and scientific advice to the other emergency service Commanders, in particular to the lead combatant;
    b. information on the bed states of hospitals and ensure that patients are directed appropriately,
    c regular reports to the State Controller on the status of the situation,
    d. ensuring adequate resources are available for the medical teams;
    e. ensuring the welfare and safety of the medical teams is taken care of, including relief and sustenance;
    f. appointing or confirming the appointment of an appropriate Medical Triage Officer;
    g notifying the medical and nursing personnel at the site as to the total incident status: and
    h. providing the medical overview to any debrief events.