

COMMUNITY FIRST RESPONDER TRAINING MANUAL

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Preface

The Nagaland State Disaster Management Authority (NSDMA), Home Department undertook the responsibility for the development of training module for Community First Responder (CFR). This training module is designed to provide community base preparedness and response in times of Disaster.

The First Responder is an integral part of the Emergency Response System in the command structure of Nagaland State Disaster Management Authority (NSDMA), Home Department. The term 'first responder' has been applied to the first individual who arrives at the scene. The First Responder uses a limited amount of equipment to perform initial assessment and intervention and is trained to assist SDRF and NDRF.

It is recognized that there may be additional specific education that will be required of First Responders who operate in the field. It is also recognized that practice might differ from locality to locality, and that each training program or system should identify and provide additional training requirements. Consistent with the intent and design of the NSDMA Emergency Response systems will incorporate additional skills into the scope of practice of the First Responder.

Welcome!

Hello and thank you for your interest in becoming a Community First Responder (CFR). The duty of community emergency first responder can be challenging and at the same time incredibly rewarding. Throughout State, NSDMA is proud to have a dedicated community based first responders working with us to help serve community during the hour of needs and are very much an integral part of the emergency support system that we provide to the community.

We hope that you will enjoy your induction course as much as we enjoy teaching it. The CFR initiative is community based and our induction course has therefore been designed to teach individuals to the required skill level.

The CFR team is dedicated to not only providing help to the community, but also continued support of actively response. It is also important that you personally take ownership of your own learning and goals.

Thorough reading and understanding the topics covered will help to ensure that you begin

your induction training with a level of knowledge that allows you a much greater understanding of the theoretical aspects taught and a greater emphasis to be placed upon both practical skills and experience.

Should you have any questions about any topic covered, you can be assured that time will be dedicated at the start of the course to address any areas requiring clarity.

We look forward to seeing you very soon! The Community First Responder of Nagaland.

BRIEF INTRODUCTION

TO DISASTER MANAGEMENT INSTITUTIONAL STRUCTURE IN INDIA AND IN NAGALAND

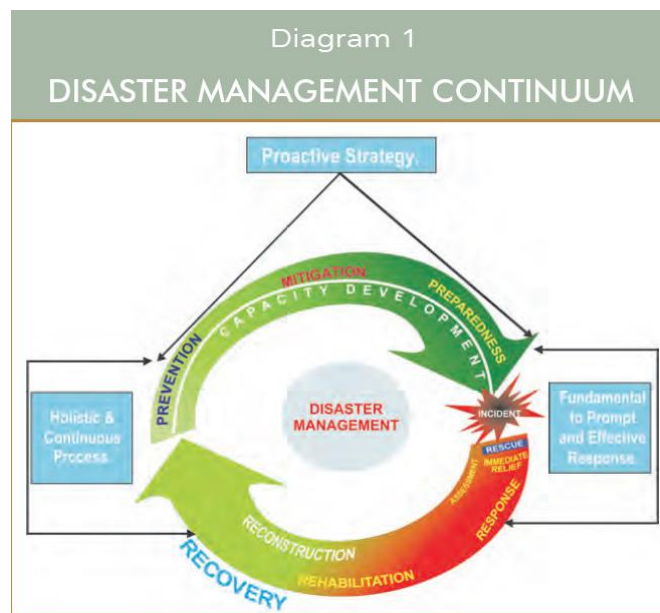
VISION

To build a safe and disaster resilient India by developing a holistic, proactive, multi-disaster oriented and technology driven strategy through a culture of prevention, mitigation, preparedness and response. Disaster Management (DM).

A disaster refers to a catastrophe, mishap, calamity or grave occurrence from natural or man-made causes, which is beyond the coping capacity of the affected community. DM involves a continuous and integrated process of planning, organising, coordinating and implementing measures which are necessary or expedient for:

- Prevention of danger or threat of any disaster.
- Mitigation or reduction of risk of any disaster or its severity or consequences.
- Capacity building including research and knowledge management.
- Preparedness to deal with any disaster
- Prompt response to any threatening disaster situation or disaster.
- Assessing the severity or magnitude of effects of any disaster.
- Evacuation, rescue and relief.
- Rehabilitation and reconstruction.

A typical DM continuum comprises six elements; the pre-disaster phase includes prevention, mitigation and preparedness, while the post-disaster phase includes response, rehabilitation, reconstruction and recovery. A legal and institutional framework binds all these elements together (Diagram I).



1.2 INSTITUTIONAL MECHANISM TO RESPONSE TO DISASTER

1.2.1 Disaster Management Act, 2005

The Act lays down institutional, legal, financial and coordination mechanisms at the National, State, District and Local levels. These institutions are not parallel structures and will work in close harmony. The new institutional framework is expected to usher in a paradigm shift in DM from relief-centric approach to a proactive regime that lays greater emphasis on preparedness, prevention and mitigation. The Disaster Management Act 2005 lays down a three tier institutional structure for disaster management at the national, state and district levels in the form of NDMA, SDMA and DDMA. National Policy on Disaster Management (NPDM) has further specified the roles and responsibilities of various organizations for disaster response.

1.3 INSTITUTIONAL FRAMEWORK UNDER THE ACT:

1.3.1 National Disaster Management Authority (NDMA)

The NDMA, as the apex body for disaster management, is headed by the Prime Minister and has the responsibility for laying down policies, plans and guidelines for DM and coordinating their enforcement and implementation for ensuring timely and effective response to disasters. The guidelines will assist the Central Ministries, Departments and States to formulate their respective DM plans. It will approve the National Disaster Management Plans and DM plans of the Central Ministries/ Departments. It will take such other measures, as it may consider necessary, for the prevention of disasters, or mitigation, or preparedness and capacity building, for dealing with a threatening disaster situation or disaster. Central Ministries/ Departments and State Governments will extend necessary cooperation and assistance to NDMA for carrying out its mandate. It will oversee the provision and application of funds for mitigation and preparedness measures.

NDMA has the power to authorise the Departments or authorities concerned, to make emergency procurement of provisions or materials for rescue and relief in a threatening disaster situation or disaster. The general superintendence, direction and control of the National Disaster Response Force (NDRF) is vested in and will be exercised by the NDMA. The National Institute of Disaster Management (NIDM) works within the framework of broad policies and guidelines laid down by the NDMA.

The NDMA is mandated to deal with all types of disasters; natural or man-made. Whereas, such other emergencies including those requiring close involvement of the security forces and/or intelligence agencies such as terrorism (counter-insurgency), law and order situations, serial bomb blasts, hijacking, air accidents, CBRN weapon systems, mine disasters, port and harbour emergencies, forest fires, oilfield fires and oil spills will continue to be handled by the extant mechanism i.e., National Crisis Management Committee (NCMC).

1.3.2 National Executive Committee (NEC)

The NEC comprises the Union Home Secretary as Chairperson, and the Secretaries to the GoI in the Ministries/Departments of Agriculture, Atomic Energy, Defence, Drinking Water Supply, Environment and Forests, Finance (Expenditure), Health, Power, Rural Development, Science & Technology, Space, Telecommunications, Urban Development, Water Resources and the Chief of the Integrated Defence Staff of the Chiefs of Staff Committee as members. Secretaries in the Ministry of External Affairs, Earth Sciences, Human Resource Development, Mines, Shipping, Road Transport & Highways, and the Secretary, NDMA will be special invitees to the meetings of the NEC.

The NEC is the executive committee of the NDMA, and is mandated to assist the NDMA in the discharge of its functions and also ensure compliance of the directions issued by the Central Government. The NEC is to coordinate the response in the event of any threatening disaster situation or disaster. The NEC will prepare the National Plan for Disaster Management based on the National Policy on Disaster Management. The NEC will monitor the implementation of guidelines issued by NDMA. It will also perform such other functions as may be prescribed by the Central Government in consultation with the NDMA.

1.4 STATE LEVEL

At the State level, the SDMA, headed by the Chief Minister, will lay down policies and plans for DM in the State. It will, inter alia approve the State Plan in accordance with the guidelines laid down by the NDMA, coordinate the implementation of the State Plan, recommend provision of funds for mitigation and preparedness measures and review the developmental plans of the different Departments of the State to ensure the integration of prevention, preparedness and mitigation measures.

1.5 STATE DISASTER MANAGEMENT AUTHORITY (SDMA)

1. Meeting of the SDMA shall be convened on the direction of Chief Minister
2. SDMA will take stock of the situation.
3. SDMA shall give necessary directions to SEC, Deptt. Of Disaster Management and other Departments/agencies of the State Government and concerned DDMA's.
4. SDMA shall decide on Inter-State assistance and cooperation.

The State Government shall constitute a State Executive Committee (SEC) to assist the SDMA in the performance of its functions. The SEC will be headed by the Chief Secretary to the State Government and coordinate and monitor the implementation of the National Policy, the National Plan and the State Plan. The SEC will also provide information to the NDMA relating to different aspects of DM.

1.6 STATE EXECUTIVE COMMITTEE (SEC)

1. Home Commissioner/Secretary (NSDMA) shall convene the meeting of SEC
2. SEC shall assess the situation and give directions to the concerned Departments/agencies of the State Govt. and DDMA's concerned regarding measures to be taken by them in response to any specific threatening disaster situation or disaster.
3. SEC shall coordinate response of various agencies
4. SEC shall requisition NDRF or Armed Forces if the situation so demands.
5. SEC may depute a team of Officials to visit the affected Districts for on the spot assessment of the situation and supervise the response & relief measures.
6. SEC shall mobilize resources and dispatch them to concerned Districts.
7. SEC shall monitor and review the situation on a regular basis
8. SEC shall keep the NEC and NDMA informed of the situation.
9. SEC shall constantly evaluate their own capabilities to handle that situation and project the anticipated requirements for the central resources well in time.
10. SEC shall deploy State level Incident Command Team on the request of the DDMA as and when required.
11. In the event of calamity of severe nature, the SEC will consider appointment of Senior Officers, delegate powers and assign specific areas for timely and effective, efficient management of disasters.
12. SEC will also take necessary steps to pool the resources for better management of crisis situation. This includes the pooling of food grains funds and other resources available in the districts under various Government schemes. However, these resources will be reimbursed to the respective schemes/ Departments once the situation becomes normal.

1.7 DISTRICT DISASTER MANAGEMENT AUTHORITY (DDMA)

The DDMA will be headed by the District Collector, Deputy Commissioner or District Magistrate as the case may be, with the elected representative of the local authority as the Co-Chairperson. The DDMA will act as the planning, coordinating and implementing body for DM at the District level and take all necessary measures for the purposes of DM in accordance with the guidelines laid down by the NDMA and SDMA. It will, inter alia prepare the District DM plan for the District and monitor the implementation of the National Policy, the State Policy, the National Plan, the State Plan and the District Plan. The DDMA will also ensure that the guidelines for prevention, mitigation, preparedness and response measures lay down by the NDMA and the SDMA are followed by all the Departments of the State Government at the District level and the local authorities in the District.

1.7.1 District Disaster Management Authority (DDMA)

1. DDMA shall assess the situation and give directions to the concerned Line Departments/Agencies at the District level regarding measures to be taken by them in response to any specific threatening disaster situation or disaster.
2. DDMA shall take such other action as may be necessary for coordinated response to natural disasters. These may include the following:
 - a. Assessing situations based on reports received from various sources and giving directions to different agencies for immediate response, relief and restoration of critical infrastructure
 - b. Reviewing the resources and capacities of different agencies to deal with the situations and giving directions for pooling available manpower, equipments and resources available with different agencies for speedy and effective response
 - c. Requisitioning assistance from SDRF/NDRF/ Armed Forces/ other specialized agencies, if necessary
 - d. Coordinating with civil society and Non-Governmental Organizations for supplementing the efforts of government agencies
 - e. Monitoring and reviewing the situations on a regular basis.

Home Department, Nagaland State Disaster Management Authority (DM) and Relief and Rehabilitation (RR) shall be the nodal department for disaster management and Home Commissioner shall implement the decisions of the SEC pertaining to State level Response to natural disasters.

Disaster response being a multi-agency function, other Departments of the State Governments will provide emergency support in their relevant domains at the State/ District levels.

1.8 FOLLOWING SHALL BE THE SEQUENCE OF ACTION AT THE STATE LEVEL: SEOC SHALL DISCHARGE THE FOLLOWING FUNCTIONS:

1. On receipt of information either from NEOC/DEOC or from Early Warning Agencies or any other reliable sources, State Emergency Operation Centre, shall be activated fully as per laid down protocol.
2. SEOC shall issue alerts/warning to all designated authorities at the State level and Districts including for Public Information to AIR/Doordarshan/Press.
3. SEOC shall send First Information Report to NEOC, MHA and thereafter Daily Situation Report till situation normalizes.
4. SEOC shall collect all relevant information and appraise the status to the designated decision making authorities.
5. It shall arrange Meetings of SEC
6. It shall activate ESFs of State if the situation so warrants

1.9 ROLE OF OTHER DEPARTMENTS/AGENCIES

1. On activation of State ESF Plan, the concerned Department/Agency shall depute the designated officials to SEOC for coordination of response measures.
2. Departments/Agencies shall coordinate with their National counterparts and mobilize central assistances, such as specialized manpower, equipments, materials etc. to meet immediate needs in their respective sectors.
3. Departments/Agencies shall provide resources both in terms of men and material for assistance to the DDMA's.

1.10. VILLAGE DISASTER MANAGEMENT AUTHORITY AND VILLAGE DISASTER MANAGEMENT

Core Committee:

The Village Disaster Management Authority (VDMA) is consisting of the Village Council headed by the Chairman along with its members and the Secretary of Village Development Board (VDB) shall constitute the Village Disaster Management Authority (VDMA).

There shall be a Village Disaster Management Core Committee (VDMCC) to assist and coordinate with Intra-Village/Sub-Divisional Authority/District Authority and State Authority with regard to Disaster Management and Response at the Village Level. The following are the Terms of Reference (ToR) for the members of Village Disaster Management Core Committee (VDMCC);

1. The Village Disaster Management Core Committee shall function under the Village Council.
2. The Village Disaster Management Core Committee shall consist of minimum 5 members and not exceeding 10 members.
3. No two members of the Village Disaster Management Core Committee should be from the same household.

4. The member of Village Disaster Management Core Committee should be a regular resident of the village.
5. The eligible age limit for the member of the Village Disaster Management Core Committee shall be between 30-50 years. The membership of the Village Disaster Management Core Committee shall co-terminate with the eligible age criteria.
6. The Village Disaster Management Core Committee shall comprise of at least one woman member or more depending on the Village Council membership composition.
7. The Village Disaster Management Core Committee shall consist of key line committee existing in the Village Level such as Health, Power, Water & Sanitation, and Education etc.
8. The Village Disaster Management Core Committee shall coordinate with Intra-Village/Sub-Division Authority and District Authority and State Authority before/during and after Disaster.

The Powers of Chairperson of Village Disaster Management Authority and Powers and Functions of Village Disaster Management Authority shall remain the same as per Section 32 and 34 of Nagaland State Disaster Management Rules 2008.

1.11 FIRST RESPONSE

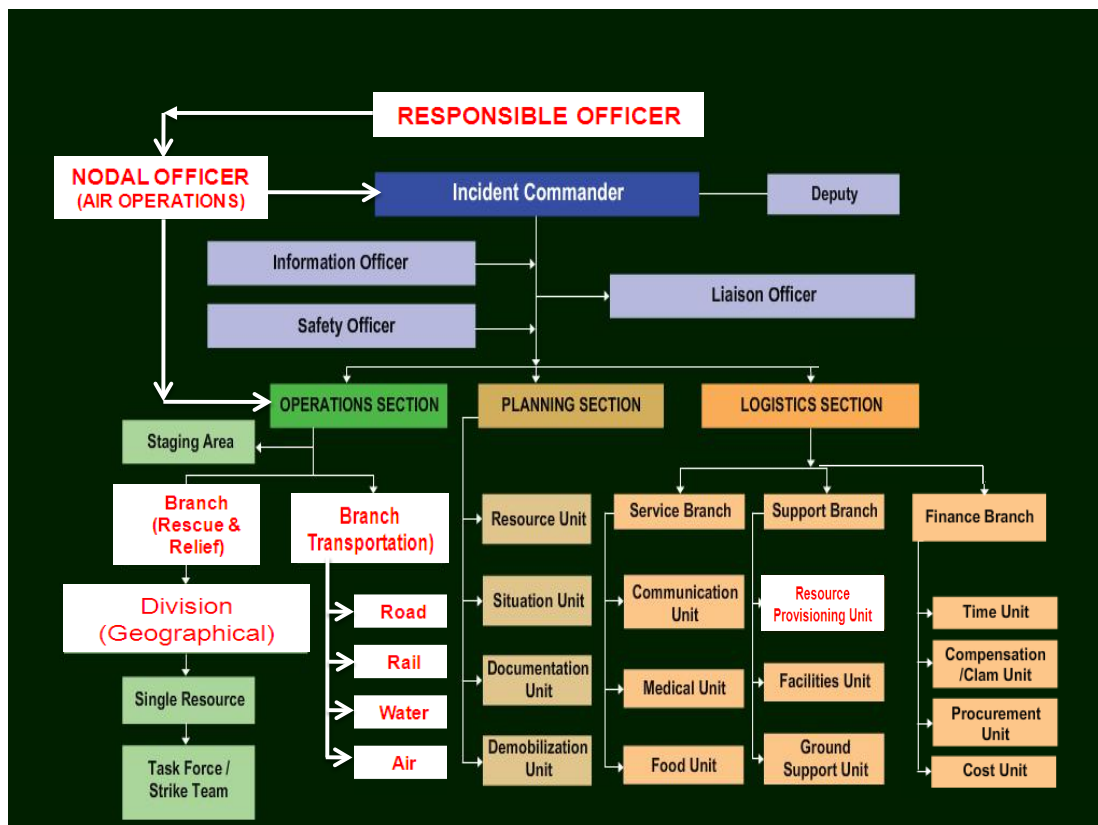
In disasters where there are no early warning signals available, the community members will be the first responder. However, immediate support and assistance shall be available from other important first responders like the police, State Disaster Response Force (SDRFs), Fire and Medical Services. Other important responders will be the Civil Defence, Home Guards and youth organizations such as NCC, NSS and NYKS drawn from local units.

CHAPTER 02

IRS INCIDENT RESPONSE SYSTEM

What is IRS

- IRS is a mechanism which reduces adhocism in response through a well conceived team.
- It incorporates all the task that may need to be performed during the response.
- It identifies and pre-designates officers to perform various duties and get them trained in their roles.
- It is flexible system and only those Sections/Branches may be activated in the team which is required to meet the disaster situation.



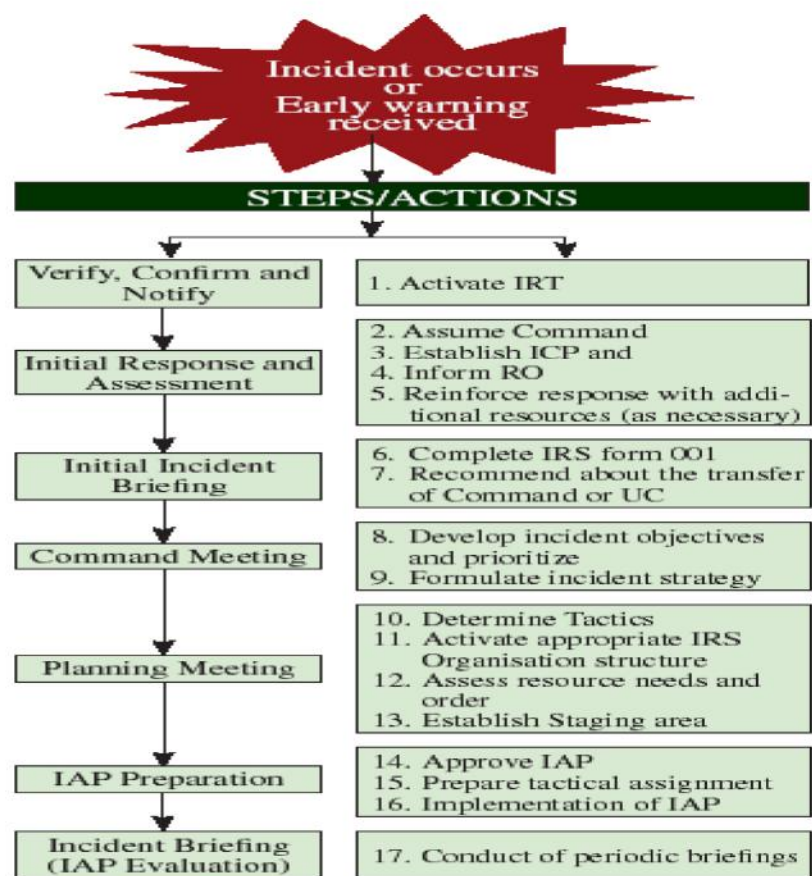
2.1 FUNCTIONAL RESPONSIBILITIES

Responsible Officer	Primary Responsible for effective Response
Command	Overall incharge of the incident Response Team and its Effective Functioning
Operations	Direct and Supervise all Tactical Actions
Planning	Collect/ Analyze Data, Workout need of Required Resources and Prepare Action Plan
Logistics & Finance	Provide Logistics Support, Procurement and Cost Accounting

2.2. FEATURES OF IRS

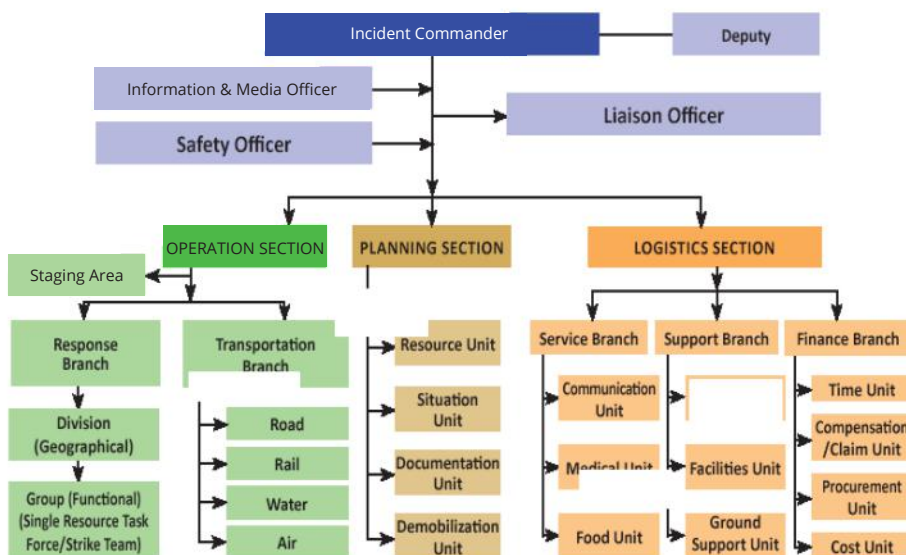
1. Management by Objectives & Incident Action Plan
2. Flexibility
3. Span of Control
4. Multi Tasking
5. Accountability
6. Resource Management
7. Common Terminology
8. Unity Of Command and Chain of Command
9. Transfer of Command
10. Unified Command
11. Medical Plan
12. Communication Plan
13. Demobilization Plan

MANAGEMENT BY OBJECTIVES & INCIDENT ACTION PLAN



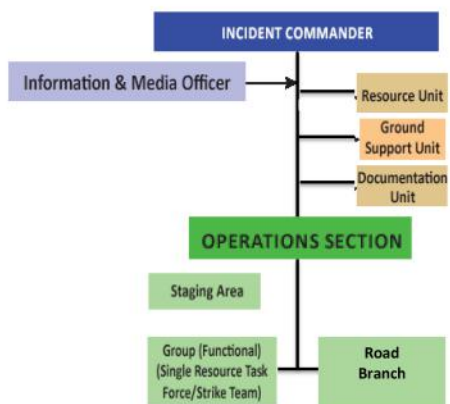
FLEXIBILITY

IRT FOR BIG INCIDENT

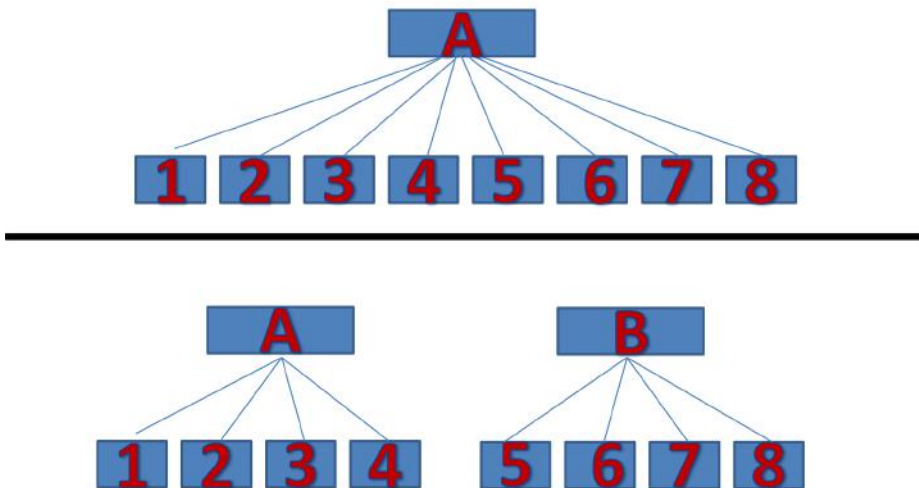


FLEXIBILITY

IRT FOR SMALL INCIDENT



SPAN OF CONTROL



2.3 UNIFIED COMMAND

A team effort which allows all agencies with responsibility for the incident, to jointly provide management direction to an incident through a common set of incident objectives and strategies established at the command level.

2.4. CIRCUMSTANCES FOR IMPLEMENTING UNIFIED COMMAND

When incident become larger or when complexity of the incident require involvement of multiple agencies

2.5 AREA COMMAND

Area command is an expansion of the incident response function, primarily designed to manage a very large number of incidents that has multiple IRTS assigned or area being isolated because of geographical reasons.

It is established for overseeing response and to ensure that conflicts, jurisdictional or otherwise, do not arise amongst deployed responding teams.

2.6 TRANSFER OF COMMAND

The transfer of command in any incident may take place for the following reasons:
When an incident becomes overwhelming for the IC and IRT;
More qualified and experienced senior officers arrive at the scene;
The incident situation changes over time, where a jurisdictional or agency change in command is operationally required; and Normal turnover of personnel in the case of long or extended incidents.

2. 7. COMMON TERMINOLOGY

IRS FACILITIES

Emergency Operations Center

Incident Command post



Staging Area



Base



Camp



Relief Camp



Heli Base



Heli Pad



2.8 EMERGENCY OPERATION CENTER

One Sr. Administrative officer as eoc in-charge having experience in dm with required assistants; representation of all concerned line departments with authority to quickly mobilize their resources; Adequate space with proper infrastructure to accommodate the participating agencies and departments; communication facilities with last mile connectivity; A vehicle mounted with hf, vhf and satellite telephone for deployment in the affected site to provide immediate connectivity with the headquarters and icp; A representative of central teams (NDRF, armed forces) whenever they are deployed to integrate their resources, expertise and to resolve conflicts that may arise during the response effort; provision and plan for dovetailing the NDRF, armed forces communication capabilities with the local communication set up. There will be proper plan so that all are able to connect with each other in case of large scale disasters or failure of the local communication systems;

Map depicting affected site, resources deployed, facilities established like incident command post, staging area, incident base, camp, relief camp, helibase, helipad, etc.

DM PLANS OF ALL LINE DEPARTMENTS;

DM PLANS OF THE STATE AND THE DISTRICT:

- Directories with contact details of all emergency services and nodal officers;
- Connectivity with all district headquarters and police stations;
- Database of NGOs working in different geographical areas;
- Demographic details of the state and districts;

ONLINE / WEB BASED DSS WITH THE AVAILABILITY OF AT LEAST THE FOLLOWING COMPONENTS:

- Standardisation of command structure with the details of the earmarked and trained personnel in IRS;
- Proactive planning facilities;
- Comprehensive resource management system;
- Geographic information system (GIS) for decision support; and
- Modeling capability for predicting casualties and resources for large scale incidents including cbrn emergencies.
- Socio-economic, demographic and land use planning;
- Resource inventories of all line departments and connectivity with database of india
- Disaster resource network (IDRN) india disaster knowledge network (IDKN) and
- Corporate disaster resource network (CDRN);

2.9 INCIDENT COMMAND POST

The ICP is the location at which the primary command functions and coordination are performed.

The ic will be located at the ICP.

There will only be one ICP.

This also applies to situations with multi-agencies or multi jurisdictional incidents operating under a single or unified command.

Normally ICP is not relocated

STAGING AREA

The staging area is an area where resources are collected and kept ready for deployment for field operations. These may include things like food, vehicles and other materials and equipment.

The SA will be established at a suitable area near the affected site for immediate, effective and quick deployment of resources.

More than one sa may be established if required.

If resources are mobilised at other locations to be ultimately despatched to the affected areas, these locations are also known as SAs.

BASE

Normally base is the location where all uncommitted / out-of-service equipment and personnel to support operations are located.

It will be designated by incident name.

The management of the incident base comes under the facility unit of ls.

CAMPS

- Temporary locations to provide services to incident personnel.
- May be moved – from one place to another.
- All base activities may be performed at camps.
- Designated by geographic name or number.

HELIBASE

Location where helicopters may be parked, maintained, fueled, and loaded.

Helibase can be located at airport or other off-incident location.

Helibase will be managed by helibase manager.

HELIPAD

Temporary locations where helicopters can safely land and take off.

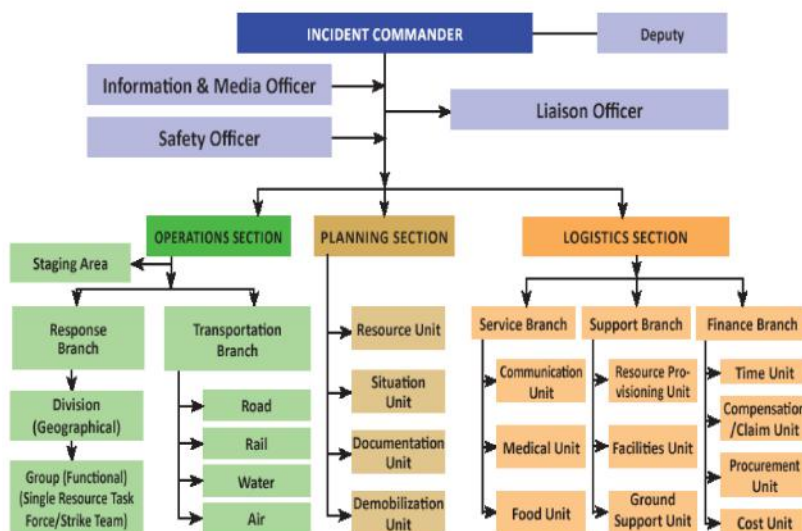
Can be used to load or off-load personnel, equipment, and supplies.

Helipad managers will be on the ground.

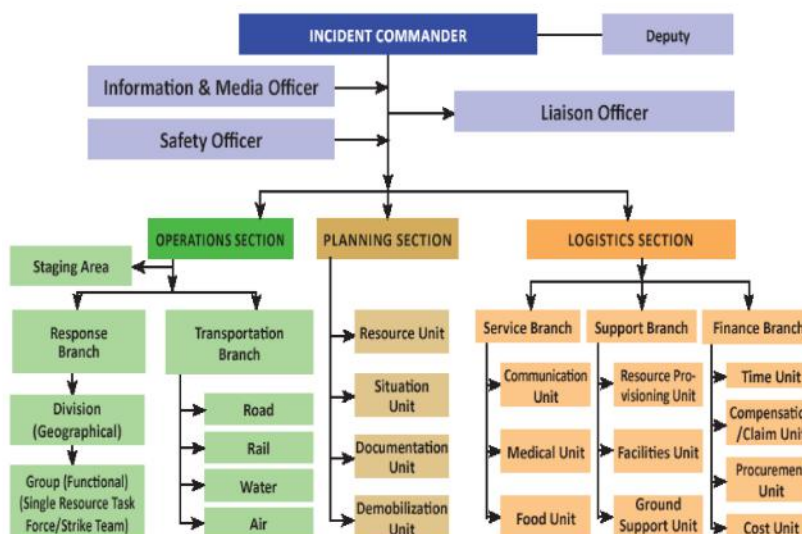
Helipad manager reports to helibase manager.

2.10 LEVELS OF INCIDENT RESPONSE TEAMS

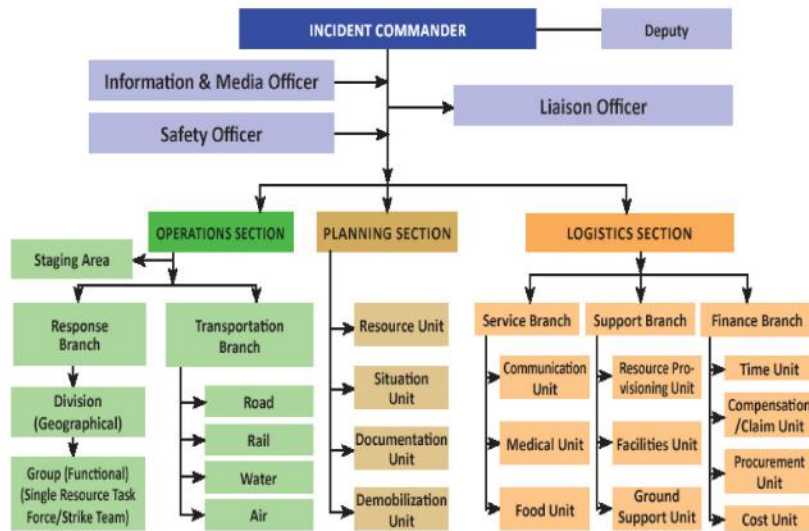
STATE LEVEL:



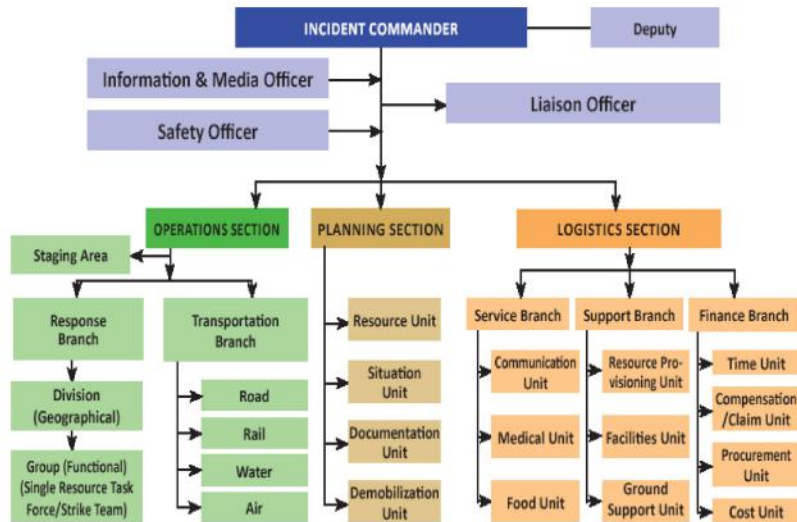
DISTRICT LEVEL



SUB-DIVISIONAL LEVEL



BLOCK LEVEL



CHAPTER 03

COMMUNITY FIRST RESPONDER TEAM

ROLE OF COMMUNITY FIRST RESPONDER AND CHARACTERISTIC OF COMMUNITY FIRST RESPONDER

3.1 TEAM COMPOSITION

Physically and Psychologically sound volunteers male and female, having demonstrated ability, capacity and willingness to work in an emergency, could constitute a rescue team. Volunteers, of both the sex, above 18 years of age, with a minimum education level to read and write in local language.

Preference would be given to ex-military or army personnel and artisans from the village or from the locality. It is essential that each safe shelter form a rescue group, comprising of 8 members, out of which a minimum of 2 members should be skilled persons. The members should be from the safe shelter, community and from the periphery villages.

1. Team leader or Incident Commander: 1
2. Liasoning person: 1
3. Rescuers: 4 members
4. First Aid: 4 members

The members should have interest to participate in the training courses on search and rescue organised by the Nagaland State Disaster Management Authority, Home Department, Govt. of Nagaland, Civil Society Organisation or any other NGOs.

3.2 Duties of the Rescuer

3.2.1 Assessment:

Proper assessment saves time and improves better performance. Collect information on the extent of; the damage, approach to the damaged area, particulars of the damage, and if any further damage is likely to occur. The assessment can be done in two methods.

3.2.2 Information:

Information provided by the local leaders or the group leader or from the Disaster Preparedness Committee is important.

3.2.3 Observation:

Follow the 3 key principles during the survey or assessment

- I. LOOK: See physically the incidents and make a thorough visual inspection.
- II. LISTEN: Listen to all sources of information from the community, from the people, Government records etc. Assess the community data regarding people in danger.
- III. FEEL: Feel convinced regarding the facts, the gravity of the dangers and your own capacity to respond.

3.2.4. Plan

Rescue is a team effort that needs coordination and planning amongst the members for an optimum response operation. After the assessment, the Rescue team would be in a position to adequately plan the Rescue Operation based on the following details and specifications;

1. Manpower
2. Equipments
3. Methods

3.3 Job of Community First Responder

The First Responder may function in the context of a broader role. With a limited amount of equipment, the Community First Responder provides immediate support to the community in times of any disaster. The Community First Responder:

1. Functions in uncommon situations.
2. Has a basic understanding of stress response and methods to ensure personal well-being.
3. Has an understanding of body substance isolation.
4. Understands basic medical-legal principles and first aid.
5. Functions within the scope of care as defined by state, regional, and local regulatory
6. Agencies and Nagaland State Disaster Management Authority, Home Department.
7. Complies with regulations on the handling of the deceased, protection of property, and evidence at the scene while awaiting additional resources for response operation.

8. Before initiating patient care, the Community First Responder will size up the scene to determine that the scene is safe; identify the mechanism of injury or nature of illness and the total number of patients, and request additional help if necessary. In the absence of law enforcement, the Community First Responder creates a safe traffic environment.
9. Using a limited amount of equipment, the Community First Responder renders emergency medical care to adults, children, and infants on the basis of assessment findings.

The role of the CFR is highly varied and encompasses many elements, the main ones being:

- To provide community level preparedness before the incident of Disaster (pre), to attend to provide support during Disaster and to provide support for demobilization after Disaster.
- To attend appropriate emergency as the first call for search & rescue before any outside help reaches.
- To provide an appropriate and necessary treatment to a patient before any outside resource arrives.
- To accurately document, record and inform the attending SDRF/NDRF to come with appropriate equipments and personnel to respond to the incident of Disaster.
- To remain at the scene of an incident until de-briefing is done by the SDRF/NDRF.

3.4 Characteristic of Community First Responder

a. Community First Responder Characteristics:

The Community First Responder must be a person who can remain calm while working in difficult and stressful circumstances.

The Community First Responder is expected to be a team player. Personal qualities such as the ability to take charge and control the situation are essential, as are maintaining a caring and professional attitude, controlling his/her own fears, presenting a professional appearance, staying physically fit, and keeping his/her skills and abilities up to date. Self-confidence, a desire to work with people, emotional stability, and tolerance for high stress, honesty, a pleasant demeanour, and the ability to meet the physical and intellectual requirements demanded by this position are characteristics of the competent Community First Responder. The Community First Responder also must be able to deal with adverse social situations. The Community First Responder ideally possesses an interest in working for the good of society and has a commitment to doing so.

b. Physical Demands:

Aptitudes required for work of this nature are good physical stamina, endurance, and body condition that would not be adversely affected by having to walk, stand, lift, carry, and balance, at times. Motor coordination is necessary because the patient's and the Community First Responder's well-being, as well as that of other workers, must not be jeopardized while on uneven terrain.

c. Additional Skills:

1. Use of the telephone or radio dispatch for coordination of prompt emergency services is essential.
2. Accurately discerning street names through map reading and correctly distinguishing house numbers or business addresses are essential to task completion in the most expedient manner.
3. Concisely and accurately describing orally to dispatcher and other concerned staff one's impression of patient's condition is critical as the Community First Responder works in emergency conditions where there may not be time for deliberation.
4. The Community First Responder must also be able to accurately report all relevant patient data, which is generally, but not always, outlined on a prescribed form.
5. Verbal and reasoning skills are used extensively.

CHAPTER 04

PERSONAL AND SCENE SAFETY OF CFR

Whilst problems are relatively rare, entering strange places and situations can present real dangers to both responders and emergency crews due to a combination of factors including unfamiliar surroundings, persons present, general environment etc. Therefore, ***the number one priority before attending any incident is your own personal safety and security and this should remain so regardless of the circumstances.***

Danger can present itself in many forms including bystanders, relatives, the patient, traffic, environment, animals, chemicals to name but a few. So you must ensure that you continually make both audible and visual observations as you approach the incident and throughout.

- If you feel that it is not safe to attend the incident (i.e. a crowd outside the house etc) then simply drive past, park up at a safe distance, out of sight from the scene and inform the SEOC of the situation immediately.
- The SEOC will notify the situation to the higher authority and SDRF for resource and the Police if necessary.
- Await further instruction from the SEOC and never be tempted to return back to scene without prior clearance from the Police, the SEOC or the SDRF.

Remember to:

- Look – Can you see any potential hazards?
- Listen – Can you hear anything of concern?
- Think – Is it truly safe to approach?
- Act – Only approach when you are certain that it is safe.

When assessing a scene consider:

- Yourself – will approaching the scene place you in danger?
- The Scene – Is the scene safe?
- The Patient – Can you safely assess and treat the patient?

4.1 Entering premises or in any emergency situation:

- After you have been greeted at the door introduce yourself by saying '*Community First Responder, how may I help?*'
- Invite the person who greeted you to '*Lead the way*' try not to let them get behind you as this may place you in danger if the person has an ulterior motive.
- If possible, keep an escape route open and say '*may we leave the door open as the SDRF will be here soon*' if necessary state that you will close the door, however simply leave it on the latch so that it can be opened quickly and easily from both the outside and inside.
- Try to make a mental note of doors that you have come through to aid a rapid escape if needed. Many houses are large and/or with a complex layout compounded by the fact that all of the doors may be the same style and colour which may cause confusion in the event of a rapid escape being required.

As mentioned previously, problems at scene are relatively rare, however your personal safety should be your number one priority at all times, so if at any time you become uncomfortable with the situation politely but firmly say '*I am just going back to the car to get some extra equipment*' this can then provide you with an opportunity to get out of the house, back to the car, and drive off.

Once at a safe distance (out of direct vision of the incident), immediately inform the SEOC of what took place so that they can make the ambulance crew aware of the problem and call for police assistance if necessary. In true emergency situations, it may be necessary for you to use the 999 system and inform the ambulance call taker who you are.

Remember that situations constantly change. Dangers may present at any time, so be prepared to withdraw if necessary

CHAPTER 05

Art of Communication

5.1 THE ART OF COMMUNICATION

Effective patient communication is arguably one of the most important yet complex skills that anybody can have within pre-hospital care. Whilst certain elements can be taught, the majority rely upon natural abilities and experience gained throughout our everyday lives.

Therefore, here are some simple guidelines regarding communicating with patients:

1. Always use a calm approach (voice and body language): people under stress will often have a heightened state of anxiety with a raised voice and erratic, rushed movements. Talking to them in a calm and controlled manner will help alleviate any stress and allow you to gain control of the situation
2. Respect personal space: everybody's personal space boundaries are different and there is no ideal distance. So be mindful not to initially 'crowd' a patient and if possible, kneel down so that you are speaking at eye level as this is deemed less threatening.
3. Use non-verbal techniques: such as smiling, open body language and appropriate gestures
4. Always apply due respect to the cultures, values and beliefs of the patient.
5. Try to pronounce names correctly: if unsure, ask the patient or relative. If the name is unknown then use sir or madam as appropriate.
6. Try to avoid over familiarity with the patient and relatives.
7. Introductions: introduce yourself, your role and explain your action.
8. Try to use open questions: such as 'How can I help?' 'Where does it hurt?' 'Can you describe the pain for me?' Most successful questioning techniques rely upon a mixture of both open and closed (yes/no) questioning and will vary considerably between patients.
9. Give patients time to answer: do not be tempted to finish sentences off for them.
10. If a medical or other condition has an adverse effect upon the patient's speech capabilities, then you can ask a relative or bystander but be mindful to always include the patient in your conversation and never talk over or ignore them.

11. Remember that initially patients may be anxious, frightened, confused or even aggressive, however good communication techniques can very often overcome these hurdles and afford you the trust to effectively assess and treat the patient.
12. Never assume who people are in relation to a patient, always ask!
13. Language or cultural barriers may hinder communication, so if possible use reliable relatives or bystanders to translate.
14. Be aware that it may take longer for some patients to fully understand things; this is particularly applicable to those with learning difficulties, the elderly, the young or patients who have suffered a stroke etc.

Sometimes patients appear to make decisions concerning their health, safety and welfare that may seem at direct odds with what others may consider as 'sensible', including relatives, bystanders and professionals helping them. However it must be borne in mind that in the majority of circumstances every person has a right to refuse treatment or reject offers of help and any unlawful enforcement against the patient's wishes may be in direct contravention of the law.

Some points to remember:

1. A patient may refuse treatment at any time, even if you have previously commenced treatment/provided help.
2. All treatment/assessment procedures should be explained clearly so that the patient can make an informed choice.
3. Relatives may express a view but cannot directly give legal consent in most instances. If there are any issues surrounding this, then you must contact the EOC immediately.
4. It is permissible to act without consent for unconscious patients or those in cardiac arrest. However, again be mindful of the concerns/thoughts of relatives/bystanders and any increased risk providing treatment may cause if they deem it unnecessary or against their wishes.
5. Whilst relatives generally cannot legally refuse a responder delivering care, they may become aggressive if you do not stop when asked. In these circumstances, if you feel at risk, withdraw and inform the EOC
6. Attempts to treat a conscious patient when consent is not given may lead to conflict and may even instigate a charge of physical assault.

CHAPTER 06

CONSENT AND CONFIDENTIALITY

The assessment and treatment of children is an incredibly complex area and often highly emotive. It should be remembered that at all times you should keep the interests and welfare of the child in mind, yet also respect the wishes of parents. Once children reach the age of 16, they are presumed in law to be competent (as long as they fulfill the criteria below). In many respects they should be treated as adults and can give consent for their own medical treatment.

Children under 16 years of age are not deemed to be automatically legally competent to give consent unless they are able to fulfill the following criteria.

A person (adult or child) is deemed as competent when:

1. They are able to understand and retain the information relating to the decision about their care, i.e. the type, reason and possible consequences of the proposed treatment, as well as the consequences of not having treatment.
2. They are able to use this information to consider whether or not they should consent to the treatment offered.
3. They are able to communicate their wishes.

If the child is deemed competent and wishes to receive treatment, then those with parental responsibility cannot over-ride them. If a competent child is refusing treatment, those with parental responsibility can consent if the treatment is deemed to be in the child's interests.

6.1 PATIENT CONFIDENTIALITY

Patient confidentiality is treated very seriously within any field of healthcare and everybody involved in patient care has a duty under law to observe and respect that.

To remain both compliant and within the law, follow these simple rules:

1. Any information provided to you as a responder is confidential and must be treated as such at all times
2. You must never disclose confidential information to others (i.e. relatives, neighbours, bystanders, the press etc). Whilst this may potentially raise some issues with concerned relatives/friends, the patient's confidentiality must be respected and you may have to highlight this to the relative/friend.
3. You may only hand over confidential information to the next person who will be directly responsible for the patient's care (e.g. ambulance crew). Remain mindful of the presence of others when undertaking any handover.
4. Any information documented on a report form should also be handed over as above.
5. Schemes are not permitted to keep or share any confidential details, regardless of the circumstances, nor are you permitted to disclose confidential information to your own relatives, friends etc.

CONFIDENTIALITY

is a legal right and we all have a duty to respect that how would you feel if your GP discussed your medical file with your neighbours.

CHAPTER 07

INFECTION CONTROL & USE OF GLOVES

Effective infection control procedures are vital in the provision of the safe and effective treatment and management of any patient to provide protection to both patient and carer. Just take a moment to consider if you would be happy to be treated by someone who has just been to the toilet yet failed to wash their hands after? The germs have to go somewhere!

Therefore a few simple rules should be followed:

1. Keep cuts and grazes covered at all times.
2. Maintain good personal hygiene at all times.
3. Keep nails short and clean.
4. Ensure that your hands are washed thoroughly after patient contact or if this is not possible, the use of an antibacterial hand rubs.
5. All clinical waste should be disposed of in a yellow clinical waste bag and passed to crew for disposal. It must never be placed in domestic rubbish!
6. Consumables are for single patient use only and should not be re-used (these will be highlighted throughout your course)

7.1 USING GLOVES

Latex free disposable gloves are one of the main infection control measures used when directly treating a patient, but should always be complimented by good hand cleansing techniques such as washing and anti-bacterial rubs.

7.2 WHEN TO WEAR GLOVES

1. Most gloves used within emergency care simply act as a protective barrier and are not sterile; therefore all attempts must be made to keep them as clean as possible before patient contact.
2. Never wear gloves to or from an emergency, particularly where you have to touch other objects including steering wheels, door handles/latches etc.
3. Only put gloves on once you are at the patient's side.

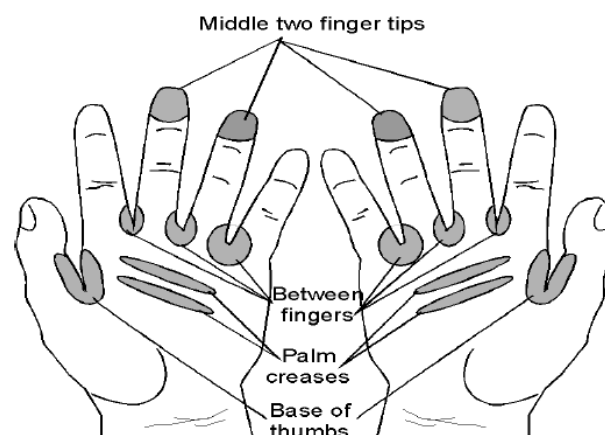
4. If potential contact with blood, body fluids, secretions, excretions, the exception being perspiration.
5. When in contact with patients under isolation precautions.
6. If you are in contact with patients with obvious skin abrasions.
7. If the patient is not socially clean.

7.3 THE USE OF GLOVES

1. Wearing gloves is not a substitute for hand hygiene
2. Gloves should only be worn as single use items
3. Gloves should be put on beside the patient
4. Apply alcohol hand rub before putting on gloves (if possible)
5. Change gloves between patients and between dirty and clean procedures on the same patient
6. Hands must always be decontaminated after removal of gloves
7. Gloves must be disposed of as clinical waste (yellow bag)
8. Do not wash or use alcohol hand rub on gloves
9. Gloves are not necessary for most clinical procedures
10. Wear gloves for the minimum period possible, ideally for periods no greater than 20 minutes at a time
11. Frequent use increases risk of sensitisation so appropriate use of gloves is recommended.

7.4 EFFECTIVE HAND WASHING

Technique is more important than the solution used. An effective hand washing technique involves 3 stages: Preparation, Washing & Rinsing and Drying. When hands are washed in a hasty manner certain areas tend to be missed. The diagram below highlights the areas of skin that are commonly missed during poor hand washing.



Remove jewellery (wedding rings may be kept on if necessary).

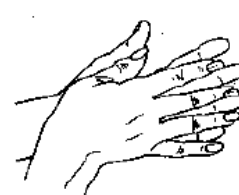
1. Preparation requires wetting your hands with water and then applying a liquid soap/solution.
2. This should be followed by vigorous rubbing of hands for 10-15 seconds paying particular attention to tips of fingers, thumbs and between the fingers.
3. Hands should be thoroughly rinsed and properly dried using paper towels.
4. The wearing of gloves is never an alternative to good hand hygiene.



1. Rub palm to palm



2. Rub the backs of both hands



3. Rub palms again with fingers interlaced



4. Rub backs of interlaced fingers



5. Remember to wash both thumbs



6. Rub both palms with fingertips

7. Wash hands under running water using soap, rinse and dry thoroughly.

This handwashing technique is based on a procedure described by G.A.J. Aycliffe et al. J. Clin. Path. 1978; 31: 923
We would like to gratefully acknowledge ICI Pharmaceuticals UK for providing guide drawings.
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CHAPTER 08

Part II

SEARCH DEFINITIONS AND STANDARDS

8.1 DEFINITIONS

The following definitions of search have become accepted standards for conducting disaster search operations. It is possible that the local Incident Commander may use different terms to define search strategies and tactics. For consistency and common operating language the following definitions are generally accepted:

Unit Objectives

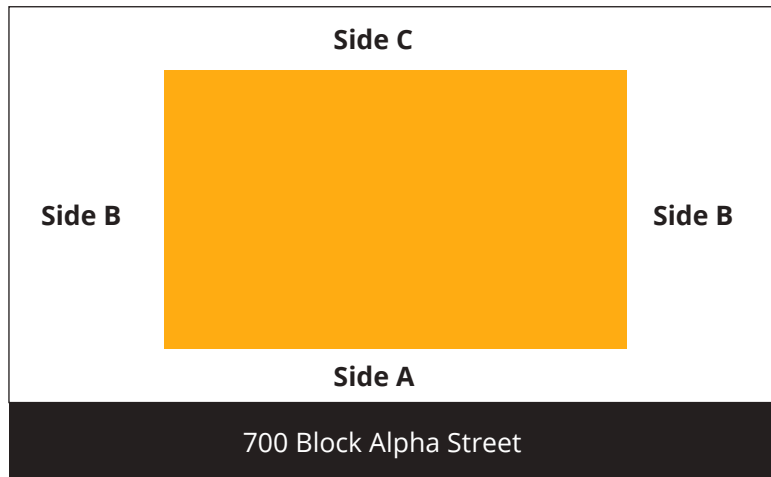
Successful participants will understand and be capable of utilizing the following standardized disaster marking systems:

- Grid and Block Marking System
- Structure Hazard Evaluation Marking System
- Structure/Hazard Marking System
- Survivor and Human Remains Marking Systems

Grid and Block Marking Systems

The U.S. National Grid (USNG) has become the standard for establishing a reference point. When trying to identify a location on a map or document an important “find”, the USNG serves well as the required standard. At incidents involving several structures or large areas of damage, the identity and location of individual structures are crucial. The use of existing street names and addresses should always be considered first.

Consistent with the standard grid and block marking system there is a standard reference system for the various sides and floor levels of the buildings themselves. As one stands on the street facing the structure that side of the building would be referred to as Side A. To the left of Side A is Side B and the rear of the building is called Side C (see figure below). Regardless of where the front door or the back door is, the street side of the building is referred to as Side A.



For a point of reference in multi-story structures most first responders refer to the ground level floor as Floor 1. The second story is referred to as Floor 2 and so on up the building. Basements and floors below the ground level floor are referred to as B-1 for the first floor below ground level and B-2 for the second floor below.

8.2 STRUCTURAL HAZARD MARKING SYSTEMS

Structure hazards identified during initial size-up activities and throughout the incident should be noted. This Structure/Hazards Mark should be made on the outside of all normal entry points. Orange spray paint seems to be the most easily seen color on most backgrounds and line marking or downward spray cans apply the best paint marks. Lumber chalk or lumber crayons should be used to mark additional information inside the search mark itself because they are easier to write with than spray paint.

A large square box (approximately 2 ft x 2 ft) is outlined at any entrance accessible for entry into a compromised structure. Specific markings will be clearly made adjacent to the box to indicate the condition of the structure and any hazards found at the time of this assessment. Normally the square box marking would be made immediately adjacent to the entry point identified as safe. An arrow will be placed next to the box indicating the direction of the safe entrance if the Structure/Hazards marking must

be made somewhat remote from the safe entrance.



- The structure is relatively safe for S&R OPS and there is little chance of further collapse.
- Survivors could be trapped by contents.
- Survivors could be unconscious.
- The structure is significantly damaged and some areas may be relatively safe, but others may need shoring, bracing, removal, and/or monitoring of hazards.
- Building could be completely pancaked.

The structure is NOT SAFE for search and rescue operations and may be subject to sudden collapse.

- Remote Search operations may proceed at significant risk.
- If search and rescue operations are undertaken, safe haven areas and rapid evacuation routes (with structure monitoring) should be created.
- An arrow next to the marking box indicates the direction of safest entry to the structure.
- HM indicates a hazardous material condition in or adjacent to the structure.
- Search and rescue operations normally will not be allowed until the condition is better defined or eliminated.

8.3 SEARCH MARKING SYSTEMS

Search markings must be easy to make, easy to read, and easy to understand. To be easily seen, the search mark must be large and of a contrasting color to the background surface. Orange spray paint seems to be the most easily seen color on most backgrounds, and line marking or downward spray cans apply the best paint marks. A lumber marking device may be used to write additional information inside the search mark itself when it would be difficult to write the additional information with spray paint.

A large distinct marking will be made outside the main entrance of each building or structure searched. This “Main Entrance” search marking will be completed in two steps.

- First, a large (approximately 2 ft) single slash shall be made near the main entrance at the start of the search.
- After the search of the entire structure has been completed, a second large slash

shall be made in the opposite direction forming an "X".

Additional information will be placed in the remaining three quadrants of the Main Entrance "X" summarizing the entire search of the structure.

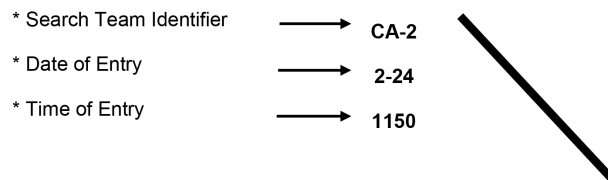
- Left Quadrant – will already contain the search team identifier, date, and time when the team first entered the structure.
- Top Quadrant – date and time the search team left the structure.
- Right Quadrant – any significant hazards located inside the structure.
- Bottom Quadrant – number of survivors or human remains **still inside** the structure. ("L" or "D" = LIVE or DEAD; small "x" = no survivors or human remains.)

During the search function while inside the structure, a large single slash shall be made upon entry of each room or area. After the search of the room or area has been completed, a second large slash shall be drawn in the opposite direction forming an "X".

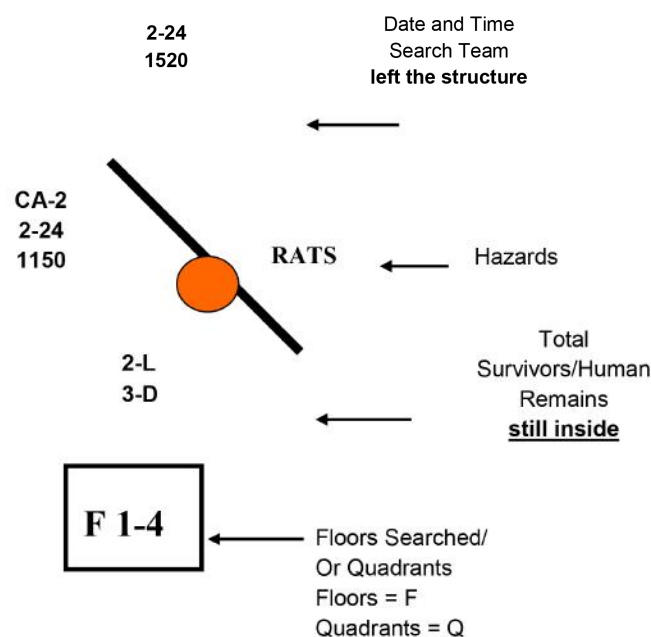
The only additional information placed in any of the "X" quadrants while inside the structure shall be that pertaining to any significant hazards or the number of "LIVE" or "DEAD".

Main Entrance Search Marking

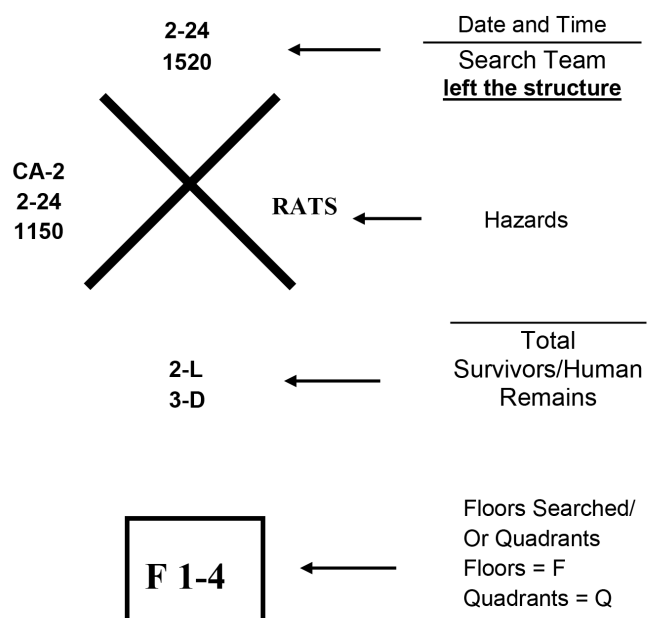
WHEN YOU ENTER



WHEN YOU EXIT – INCOMPLETE SEARCH / NO ENTRY

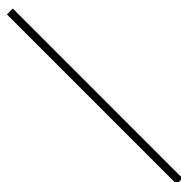


WHEN YOU EXIT – COMPLETED SEARCH

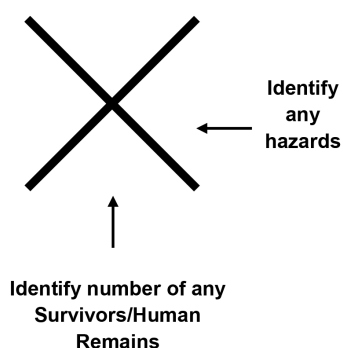


Interior Search Markings EACH ROOM OR AREA

WHEN YOU ENTER



WHEN YOU EXIT



8.4 SURVIVOR MARKING SYSTEMS

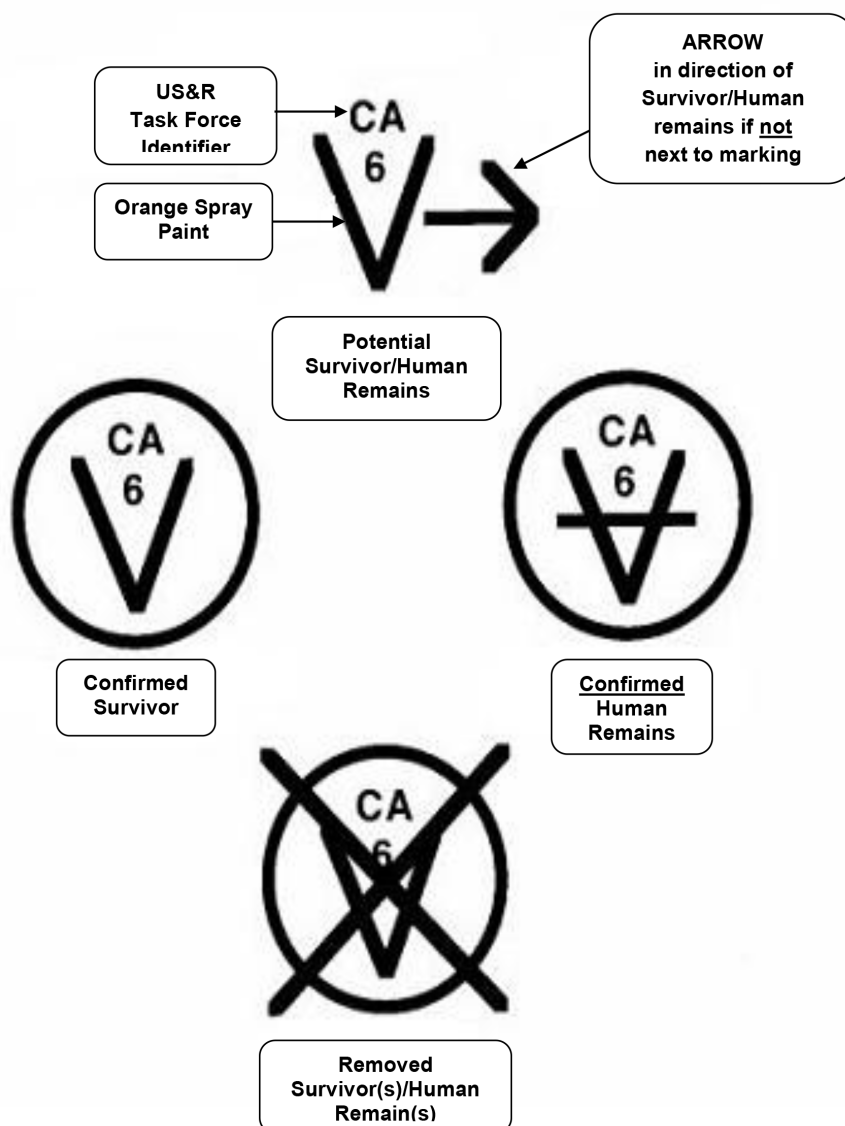
Make a large (2' x 2') "V" with orange spray paint near the location of a **potential** survivor and/or human remains.

Mark the name of the Search Team or Crew identifier in the top part of the "V" with paint or a lumber marker type device. An arrow may need to be painted next to the "V" pointing towards the survivor and/or human remains when the location is not immediately near where the "V" is painted.

Paint a circle around the “V” when a potential survivor is **confirmed** to be **alive** either visually, vocally, or hearing specific sounds that would indicate a high probability of a survivor. If more than one confirmed survivor, mark the total number of survivors under the “V”.

Paint a horizontal line through the middle of the “V” when a **confirmed** human remains is determined. If more than one confirmed human remains is found, mark the total number of human remains under the “V”. Use both the live and human remains-marking symbols when combinations of survivors and human remains are determined to be in the same location.

Paint an “X” through the confirmed human remains symbol after **all** survivors and/or human remains(s) have been removed from the specific location identified by the marking.



CHAPTER 09

VARIOUS METHODS FOR RESCUE OF VICTIMS

SEARCH AND RESCUE

Search and rescue are almost always performed in tandem, yet they are separate operations. The purpose of search operations is to locate living victims. The purpose of rescue operations is to physically remove an occupant or victim from a dangerous environment. Search and rescue is a technical activity rendered by a group of specially trained personnel, who rescue and attend to the casualties under adverse conditions, where life is at threat. Search and rescue is organized in close cooperation with the community and in a team approach. The search and rescue activities are undertaken in two ways;

Community Local Rescuers: With adequate safety measures, rescue immediately after any natural calamities such as cyclone, flood, earthquake and fire in a community.

Outside Community Resources: Circumstances where the situation is grave and the local rescuers do not have required efficiency and equipments, and then specialist assistance from outside the community is required. Rescuers to immediately take up; the rescue activities after a cyclone, flood, earthquake and fire where people might be trapped by fallen debris and in need to be rescued without delay.

The community rescuers shall have to be in readiness to respond quickly, when a cyclone is likely to strike. The rescuers efficiency level to be maintained thorough practice and demonstrations / mock-drills during the no disaster period. The rescue team should undergo standard training from time to time.

Objectives;

1. To rescue the survivors trapped under the debris, from the damaged buildings or from a cyclonic storm surge, flood, earthquake and fire.
2. To provide First Aid services to the trapped survivors and to dispatch them for medical care.
3. To take immediate necessary actions, as necessary, for temporary support and protection to endangered collapsed buildings to structures.
4. To hand-over, recover and dispose-off the bodies of the deceased.
5. To train, demonstrate and raise awareness on how to use the local materials for self-rescue amongst the community people.

RESCUE STAGES

STAGE-1

Surface Casualty (Emergency Rescue)

To locate the surface casualty the rescue is conducted from the outer-edges of the damaged area and rescued shall be provided First Aid services. In case the rescued is more severely injured, after providing the First Aid services, dispatch as quickly as possible to the nearest hospital for medical care.

STAGE-II

Search in Slightly Damaged Buildings (Immediate Rescue)

The rescue team should move towards the slightly damaged buildings after responding to the surface casualty. It might happen that some persons trapped can be contacted but cannot be reached easily. In such events, before entering to the damaged building or house, a careful analysis of the methods best suited to safely rescue the trapped is to be made. The team leader has to take proper decisions without risking the lives of the rescuers or the injured. Safety at all points is to be ensured. The same procedures shall be followed in the case of the trapped people or cyclone/flood -marooned people.

STAGE-III

Search of Possible Survival Points (Specialised Rescue)

Any chances of a person being trapped or injured are to be searched at all possible places and all options. The rescue team should try with all means to rescue with the appropriate method. Consider safety as top priority.

STAGE-IV

Selected Debris Clearance (Specialised Rescue)

The rescue team should search until all the persons are accounted for and identities are ascertained.

STAGE-V

General Debris Clearance (Specialised Rescue)

Clear up the debris and reach to the trapped persons, when all possible ways of contacting the trapped persons has failed. Specialised Rescue Teams should preferably carry out the last three stages.

EMERGENCY RESCUE

Sometimes rescue materials are not available to the rescue team at site in emergency situations. There are various other methods, which could be useful for rescue. Such methods are known as, "Emergency Methods of Rescue". The adequate methods of rescue is to be determined depending upon the nature of the casualty, the nature of the injuries and the position in which the casualty is found.

RESCUES WITH ONE RESCUER

Human Crutch.

The rescuer acts as crutch to the injured. This method is used when the casualty is in a position to help them. The rescuer stands and assists the injured to place their arm around the shoulder. The rescuer grasps it with the hand. At the same time, the rescued place the other hand around the injured person's waist and assist the person to move. This is called "Human Crutch".



Pick-a-back

This method is applicable only when the casualty is conscious, without any injury but not able to walk. The rescuer lifts the injured person onto his/her back. The victim holds on with his legs and arms around the waist and neck of the rescuer. The rescuer passes both hands behind and back or under the knees and supports the injured person. This is known as "Pick a-Back" method.

Pick-a-Back (Reverse)

This method is required when the casualty is conscious with an injury such as a burn on the belly or chest, wound on the neck or face (upper part of the body). The rescuer supports the patient as leans backward against the rescuer.



The rescuer passes both hands backwards and grips around the waist of the injured person. The rescuer leans forward and lifts the injured person off their feet and upon the rescuer's back. This method is known as the "Pick-a-Back (Reverse)".

Fireman's Lift.

"Fireman's Lift" is a nine-step method to lift the casualty and carry. If the casualty is unconscious but without injury to the body. It is an easy method for a single rescuer to carry the casualty down from the higher elevated areas or bring the casualty up from the basement via upper stairs and ladders also.

- a) If the casualty is laying on his / her back, the rescuer kneels on one knee.



Step 1

- b) The rescuer turns the casualty on his/ her back gently, supporting the face of the casualty with one hand and the forearm of the casualty with other.
- c) The rescuer then puts his/ her hands underneath the armpits of the casualty and lifts the chest of the injured, first onto the rescuer's knees.
- d) The rescuer then gradually lifts the casualty up to a kneeling position of the casualty.
- e) The hands of the rescuer are then passed the casualty is lifted on to their feet around the body of the casualty.
- f) The casualty is lifted on to their feet. The body of the casualty is to be supported against the body of the rescuer.
- g) The rescuer then faces the casualty sideways and holds any wrist of the casualty, passed over the shoulder of the rescuer, with the other hand.
- h) The rescuer then bands down and picks up the casualty on to the shoulder, one hand of the rescuer now passes in between the legs and the other hand holds the wrist of the casualty.
- i) The rescuer now lifts the casualty and transports.



Step 2

Rescue Crawl

This method is applicable when the casualty is found unconscious, in a smoke filled room, or in a confined place limiting movement or the casualty is too heavy.



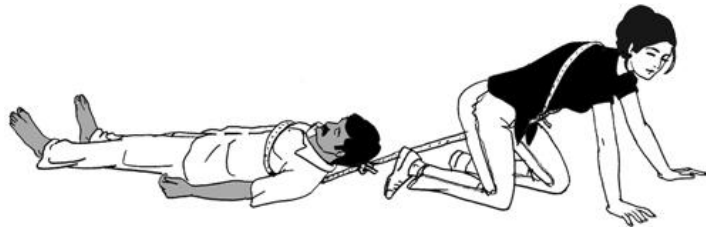
Steps:

1. Gently turn the casualty on their back and tie their wrist together using a triangular bandage or handkerchief, napkin etc.
2. The rescuer kneels astride the casualty facing their head, and places their head through the loop formed by their arms. In one palm hold and neck and head of the casualty to avoid sweating or further injury.
3. The rescuer crawls forwards on; their hands and knees and drags the casualty forwards along the ground.

Removal Downstairs:

This method is applicable when a casualty is found on the up-stair floors but not in position to be transferred via the staircase. The rescue of the casualty has to be done with specific procedures as detailed below;

- To move a casualty downstairs, lay him/her on his/her back and tie his/her wrists together. With his /her head pointing downwards on the stairs, the rescuer will keep their arm under his /her armpits so; that his /her head rest on the rescuers arm, and ease him/ her downstairs.



Bowline Drag

This method of rescue is useful, when a casualty is found in a narrow space/confined area. Turn the casualty onto his /herd back and tie his/her wrist together using a triangular bandage, handkerchief, napkin etc.

1. Use a sash cord of 15 feet (4.5mtrs) length or 40 ft. (12mtrs) lashing line, tie a Bowline at each end to form the loops.
2. Place one loop over the casualty's chest and under his /her armpits, with the knot resting under his/her head so that it will keep his /her head off the ground while he /she is being pulled.
3. The rescuer will place the other loop over their shoulders and under the armpits, forming a harness with the knot in line with the center of the back or between the shoulders.
4. The rescuer drags the casualty out by crawling on their hands and knees.

Toe Drag

This method of rescue is required when a casualty is found in a narrow place where the Rescuer finds difficulty enters.

1. The rescuer sits down at the casualty's head-side and places his/her feet under the casualty's armpits.
2. With both hands free, the rescuer pulls him/her back and at the same time drags the casualty with his / her feet.

MORE THAN TWO RESCUERS

These methods are suitable when two or more rescuers are available for rescue.

Two-Handed Seat

Two rescuers face one another on either side of the casualty, bend down, and pass his/her arm under the casualty's back, below the shoulders, and grip his/her clothing. The casualty's back is raised and the rescuers slip their other arms under the middle of his/her thighs holding their hands with a handgrip. The casualty is lifted and the rescuers move with short pace.

Three-Handed Seat

This method is used for carrying a casualty who is conscious, heavier or might have bleeding or injured to one of the legs.

1. Two rescuers face each other and keep their hands to form a threehanded seat as shown in the picture.
2. One of the rescuers provides support and holds the injured person's limb in the free hand.
3. The rescuers support the casualty to sit on; the three-handed seat. The victim is carried and the rescuers supports his/ her injured limb.

Four-handed Seat

This method is useful when the victim is heavy but without any injury.

1. Two rescuers face each other and keep their hands as positioned in the picture to form a four handed seat.
2. The rescuers support the casualty to sit onto the so formed seat and the casualty puts one arm or both arms around the necks of the rescuers. The rescuers transfer the causality with short paces.



Fore and After Method

In this method a casualty who has an injury in the abdomen and is unable to move can be rescued. The rescuers place the casualty onto his /her back. One rescuer raises and holds the casualty through the shoulders passing his/her hands under the arms from behind and clasping them in front of the chest as shown in the picture. The other rescuer takes one leg under each arm and the casualty is transported.



Two-Person Human Crutch

This method can be used when the victim is injured conscious and can help, but is unable to walk.

- a) Rescuers take up their positions either side of the casualty.
- b) Place the victim's arms round the shoulders and grasp his/her wrists with the other hands.
- c) Pass the arms round the victim's waist, grasping the clothing at the hip and assisting him/her as crutches.

Clothes Lift

This method is applicable when the casualty is found in a condition that he /she cannot move himself /neither she nor any equipment is available with the rescuers for transportation of the casualty.

Four rescuers are required for this lift. Two rescuers kneel on either side of the casualty, at the shoulders and hips, and turn him / herd onto his / her back.

The rescuers hold the casualty's clothing and the collar of person's shirt or dress behind the neck with one hand, and with the other hand holds the clothing at his her side.

The rescuers will hold clothing at the causality at the hips with one hand, and at the same time control the casualty's arms. With the other hand they hold the casualty's trousers, pant or dress, thus supporting his /her legs. Now the rescuers can move with short places.



Step 1



Step 2

Blanket Lift

This method is applicable when the rescuers do not have a stretcher to carry the casualty who is found in a grave condition and is to be shifted in a flat position.

- In line with the casualty, place the blanket lengthwise on; the ground and roll up half of its width. Carefully turn the victim onto their side.
- Place the rolled-up portion of the blanket close to the victim, and gently place onto their back upon the unrolled portion of the blanket.
- Unroll the rolled portion accordingly so that the victim lies in the center of the blanket.
- Roll up the two edges of the blanket against the casualty's body, hold by two rescuers on either side of the casualty and support the head shoulders, hips and legs.

RESCUES FROM DAMAGED BUILDING

Precautions Before Entering the Damaged Building;

- a) Observe the construction of the building and collapsed portions
- b) Check whether the walls need any supporting.
- c) Be careful for possible hazards, which may occur from the exposed household equipment.
- d) Precautions when Entering the Damaged building
- e) Use a helmet
- f) Work in pairs
- g) Listen for possible sounds
- h) Keep calling
- i) Do not touch or disturb any damaged walls or blocked doors which are broken and /or projecting.
- j) Treat all necked wires as live wire

PRECAUTIONS WHILST MOVING INSIDE THE DAMAGED BUILDING

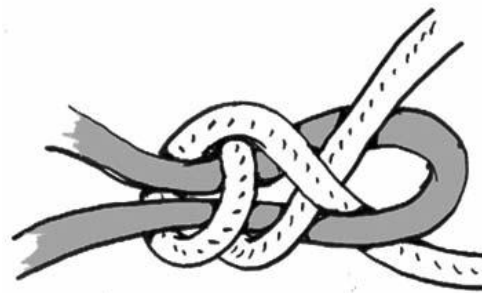
- Do not ignite fire.
- Keep close to the walls
- Be careful in all of your movements.
- Do not pull anything projecting out from the collapsed portions.

SEARCH AND RESCUE DURING ADVERSE CONDITIONS:

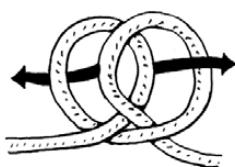
Rescuers to immediately take up, the rescue activities after a cyclone, flood, fire and earthquake where people might be trapped by fallen debris and in need to be rescued without delay. The community rescuers shall have to be in readiness to respond quickly, when a cyclone or flood is likely to strike. The rescue or wet ropes. Single sheet bend is formed by making a loop in the thicker one of the two ropes, hold the rope in one hand, enter the thinner rope upwards through the loop forming a half hitch around the two thickness or rope.

Double Sheet-Bend

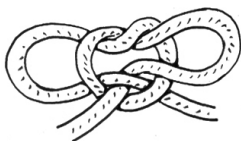
This is required to join two ropes of different materials or when there is a great difference in the sizes of the ropes. It is formed somewhat like the Single Sheet-Bend, except that after having made the Half Hitch with the thinner rope, continue turning its short end to make another round turn around the two thickness of the thickness of the thicker drops and towards the bight.



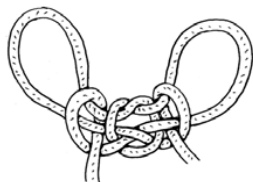
CHAIR KNOT



Step 1



Step 2



Step 3



Step 4

Used as a sling for rescue when a person may be lowered from a height and then to recover the rope very easily. Used as a sling for rescue when a person may be lowered from a height and then to recover the rope very easily.

Chair Knot

It is useful for rescue, and then recovers the rope very easily. The chair knot is used to rescue a sling in which a person may be lowered from heights. Grasping the rope near its center in the left hand palm downward, right hand palm upwards forms it. Turn the left palm upwards forming a loop (anti-clock wise) and turn; the right hand palm down forming a loop. Pass the standing part through the loops of the opposite hand pulling them through, thus forming two loops with a knot in the center adjust the loop, and make a half hitch on each loop. The Chair knot is prepared.

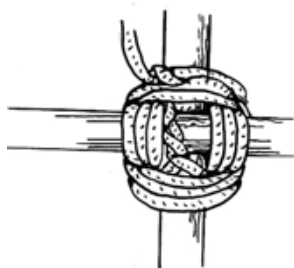
This is useful to recover the casualty from under the debris or from basement, where the rescuer has to crawl to the casualty and back again. Take the running end of the rope in one hand, pull it across the upturned palm of the left hand, through the fingers of the left hand, forming a loop to required size, pass the running end, which is; held in the right hand, up through the loop. Tighten the two ends. It can also be converted into a running Bow-line by simply passing the knot under the standing part. A running baseline can be put on a ring bold or object to drag an object floating debris, animals or human body standing from a remote place.

Lashings

Lashing means to “tie something firmly to something else”. Lashing is mainly used to secure two or more poles together. There are four common types of lashings.

Square Lashing

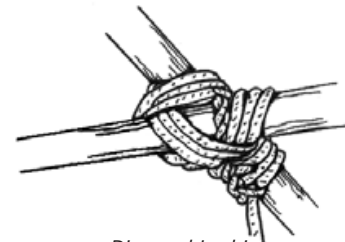
This is used for lashing together two poles that touch and cross at right angles. Put a clove hitch around the spar or leg and below the crosshead or ledger. Marry the running end to the standing parts tie up and around both the poles as shown in the figure. Repeat this circuit three to four times, drawing the rope as tightly as possible. Then take three to four flapping turns around the whole lashing between the poles. Tighten off with a clove hitch on the vertical pole above the horizontal.



*Square Lashing:
Used for lashing together two poles that touch and cross at right angles.*

Diagonal Lashing

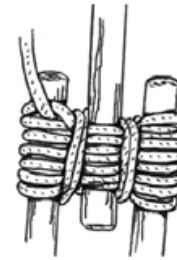
This is used for lashing two poles where they cross at an angle and the poles are likely to spring apart when put under load or strain. Put a hitch around both the poles horizontally. Then take four vertical turns and draw them tight. Then take four horizontal runs and draw them tight. To finish put four turns over the lashing and between the poles. Draw them tight and end with a clove hitch.



*Diagonal Lashing:
Used for lashing together two poles that touch and cross at an angle and the poles are likely to spring apart when put under load or strain.*

Figure of Eight Lashings

This is used for lashing three poles together to form a tripod's before lashing, insert spacers between the poles. Marry the ends and working upwards continue lashing in the figure of eight fashion with 6-8 turns. Add two to three turns between each pole and round the lashing. Finish with a clove hitch above and on the opposite to the starting pole.



*Figure of Eight Lashings:
For lashing three poles together to form a tripod.*

Round lashing

This is used for lashing two poles together, when they are parallel to each other to form a sheer leg. This is also called sheer lashing. Before starting, insert spacers between the poles. Put a clove hitch around one pole and marry the ends and continue with 6-8 close turns around both; the poles, going upwards Add 2 or 3 turns around both the poles going upwards. Add 2 or 3 turns around the lashing and between the poles. End with a clove hitch above and on the opposite pole to the starting pole.



*Round Lashing:
For lashing two poles together when they are parallel to each other to form a sheer leg.*

STRETCHER AND CASUALTY TRANSPORTATION

Wounded casualty is to be transported with utmost safety to avoid further risk. It may happen that the trained rescuers have to rescue the casualties from a collapsed structure, to from a confined place, or on the uneven ground with obstacles. Different techniques are required for different ground conditions. The knowledge of First Aid Services and adequate transportation of the casualty is important for the rescuers. In case of shock or serious injuries, the patient needs warmth, this could be provided by using blankets.

Standard Ambulance Stretcher

The standard stretchers used in the Ambulances are 230 cm pole length, 180 cms canvas 57 cms width, and 15cms height from the ground and weight about 14 kgs.



Improvised Stretcher Preparation

Very often the rescuers do not find a standard stretcher in rural areas or during a big emergency, in such situations stretchers could be improvised from the locally available materials. Collect two or three shirts or thick materials. Inserted two equal sized bamboo poles in between the shirts. Keep both the poles separated by tying both sides with short pieces of bamboo. The stretcher is prepared. Collect two paddy/sugar sacks, make small holes in both edges (vertical) of the sacks and insert two poles. The stretcher is prepared. Wooden planks, doors covered with straw or clothes can be used as stretchers. The charpai (rope bed) can be used as a stretcher.

Stretcher Carriage

Between two rod four bearers of equal height can carry a stretcher. The stretcher could be carried by hand or on the shoulders. Two bearers are sufficient on a level ground and without obstacles.

Four Stretcher Bearer Loading

Keep the stretcher at about 1mtr. Distance from the casualty. Three rescuers on one side and one on the other side will lift the patient onto the knees of the three rescuers side. The 4th rescuer will prepare the stretcher with the blanket, and place the stretcher under the patient. Then all four rescuers will lower the casualty onto the stretcher. The rescuers will all simultaneously lift the stretcher at one to avoid patient imbalance.

Two Stretcher Bearer Loading

Two bearers will prepare the stretcher and place it parallel to the casualty. Both the bearers stand at the hand and the foot of the casualty, together they lift and place the patient.

Securing the Casualty to a Stretcher

A casualty has no danger of slipping upward to downward on a level ground when carried horizontally on a stretcher, however the casualty needs securing to the stretcher to prevent from slipping in more uneven terrains. It may happen that the casualty needs to be carried by a stretcher from the basement, lowered from an upper floor, or carried over rough ground. Where the bearers may stumble and the casualty may stumble and the casualty into the stretcher. Tie the right head side of the stretcher handle with clove hitch and pass the rope of about inches and take a round over the chest of the casualty and under the stretcher with Half-Hitch knot. The second and third round is made over the body. The third round should be placed below the knees.

Secure the feet and the ankles with rope. Tie the end with the handle. The casualty is secured to the stretcher.

Precautions:

The lashing should not be secured so tightly around the casualty as to hurt the injured part or to interfere with their breathing. The hitch around the feet and ankles must be sufficiently tight to hold the casualty firmly, when the stretcher is held up vertically.

WATER RESCUE

Flood and cyclone disasters take thousands of human lives every year; rescue from water related disasters is one of the important challenges for the rescuer. The rescuers must be equipped with swimming and floating aids and should have adequate swimming capacity for rescuing the drowning casualty. The rescuers must have knowledge and practice of swimming in order not to risk him /her whilst rescuing the victims.

Use of life Jackets

Life Jackets in rescue are important for water rescue. A life jacket is a standard life saving equipment, which gives confidence to the rescuee that he /she is safe. The life jacket is made out of waterproof canvas and is filled with; fine cotton, weighing about 4 kgs equivalent 8.82 (pounds). Normally the life jacket is to be worn like a jacket, and has three tying ropes to secure the jacket.

Improvised Swimming and Floating Aids

Standard manufactured life jackets may not be available in rural areas or during an emergency, however swimming and floating aids could be improvised from the locally available materials.

Empty Tins and Jerricanes.***Steps for preparing floating equipment:***

1. Collect 20 ltr. capacity empty tins.
2. Seal the openings of the empty tins.
3. Collect two equal size 4 feet (120 cm) bamboo pieces.
4. Place both the tins with a gap of 1.5 feet (45 cms) from each other or equal to the width of the chest of the rescuer.
5. Tie the empty tins with the bamboo poles at two places with coconut fiber ropes by square lashing, and tighten as far as possible to prepare the floating aid .
6. This can help to float a person in the water. The rescuer can use the device for water rescue also.
7. Empty and air tight 15 ltr. Capacity Jerricanes also could be used as floating aids

Empty glass bottles

1. Collect 8 empty bottles of 750 ml capacity.
2. Seal the openings of the bottles with polythene or waterproof materials to make them airtight
3. Tie each bottle at two places at the bottom edge and at the neck edge by using clove hitch and thumb knots in a series to prepare the floating aid as shown in the picture. This can help to float a person in the water.

Dry Coconuts

Collect dry coconuts. Continue adding the numbers of coconuts until, these can carry the weight of the rescuer. Tie the dried coconuts with coir fibbers to prepare the swimming aid. This can help to float a person in the water.

Bamboo Bundles

Collect bamboo pieces of 1.5feet to 2 feet length (45 cms- 60 cms). Continue adding the numbers of the bamboo pieces until sufficient amount that can carry the weight of the rescuer. Tie the bamboo pieces with coir fibbers to prepare the swimming aid. The swimming aid can help to float a person in the water.

Metal pitcher

Collect 2 metal pitchers. Cover the openings with polythene or any waterproofing materials, place the two pitchers within a gap of 1.5d feet (0.5 mtr) or according to the width of the rescuer. Tie the two pitchers with two bamboo pieces of 4 feet (120 cms) length with coconut fibber ropes and tighten as strong as possible.

The swimming aid is prepared. This can help to float a person in the water. The rescuer can use the device for water rescue also. This is also known as “ pot water wing”.

Motor Tubes

Collect good leak-proof motor tubes (Jeep, Truck, Car, Bus only). Fill up with air. The swimming aid is prepared. This can help to float a person in the water. This also can be used for water rescue.

Raft

During flood or cyclones availability of boats for rescue is likely to be difficult. Rafts could be improvised from locally available materials and used for rescue and relief activities. Collect 4 good quality empty barrels of 200 ltrs capacity (Kerosene barrels). Seal the empty barrels to make watertight. Tie the empty watertight barrels with a bamboo frame as shown in the figure. Ensure the Raft is fixed properly with ropes and becomes compact. 8-10 persons with safety can be transported on one Raft.

Breast- Line (Life-Lines)

Water rescuers and lifeguards practice “Breast-line-Throw” for life saving. Breastline-Throw is life saving skill. This can help and save the life of an individual who is drowning in water. This method has the additional advantage that the person who is throwing the line will be standing either in a boat or on the ground, steadily able to rescue the individual who is drowning.

Rules of Breast-Line-Throwing:

Breast- Line should be a minimum of 40 to 60 feet long (16 mtrs to 20 mtrs), of 1.5 inch rope (3.5 cms) thickness. Breast- Line should be thrown in the same fashion as we do in case of a “ Discuss Through or Fishing Net”, the only difference being, that while doing a Breast-line throw we do not take a full circle but throw the rope by swinging the hands.

RESCUE EQUIPMENT***Personal Equipments for Rescuer***

- Helmet
- Torch
- Life-line
- Gum-Boots
- Life-Jackets (Water Rescue)
- Whistle

Team Equipments for Rescuer

- Rope-3-inch (7 cms) diameter of 200 ft (61.5 mtrs)
- Lashing lines-1.5 inches (3.8cms) circumference of 40 ft (12.32 mtrs) length
- 6 Sash-cord-inch (2.54cms)
- Pulley blocks with different sheaves
- Ladder (Wood/Bamboo)
- Small cutting tools
- First Aid Box
- Life Buoy
- Crow Bar
- Hammer
- Stretcher
- Blanket

MORE ILLUSTRATIONS METHODS:

ONE-PERSON LIFT 	This only works with a child or a very light person. 1. Place your arms under the victim's knees and around their back.
FIREFIGHTER CARRY 	This technique is for carrying a victim longer distances. It is very difficult to get the person up to this position from the ground. Getting the victim into position requires a very strong rescuer or an assistant. 1. The victim is carried over one shoulder. 2. The rescuer's arm, on the side that the victim is being carried, is wrapped across the victim's legs and grasps the victim's opposite arm.
PACK-STRAP CARRY 	When injuries make the firefighter carry unsafe, this method is better for longer distances than the one-person lift. 1. Place both the victim's arms over your shoulders. 2. Cross the victim's arms, grasping the victim's opposite wrist. 3. Pull the arms close to your chest. 4. Squat slightly and drive your hips into the victim while bending slightly at the waist. 5. Balance the load on your hips and support the victim with your legs.

TWO RESCUERS

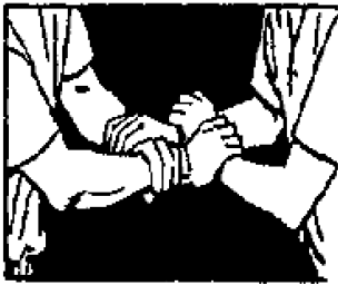
HUMAN CRUTCH/ TWO-PERSON DRAG



For the **conscious victim**, this carry allows the victim to swing their leg using the rescuers as a pair of crutches. For the **unconscious victim**, it is a *quick* and easy way to move a victim out of immediate danger.

1. Start with the victim on the ground.
2. Both rescuers stand on either side of the victim's chest.
3. The rescuer's hand nearest the feet grabs the victim's wrist on their side of the victim.
4. The rescuer's other hand grasps the clothing of the shoulder nearest them.
5. Pulling and lifting the victim's arms, the rescuers bring the victim into a sitting position.
6. The **conscious victim** will then stand with rescuer assistance.
7. The rescuers place their hands around the victim's waist.
8. For the **unconscious victim**, the rescuers will grasp the belt or waistband of the victim's clothing.
9. The rescuers will then squat down.
10. Place the victim's arms over their shoulders so that they end up facing the same direction as the victim.
11. Then, using their legs, they stand with the victim.
12. The rescuers then move out, dragging the victim's legs behind.

FOUR-HANDED SEAT



This technique is for carrying conscious and alert victims moderate distances. The victim must be able to stand unsupported and hold themselves upright during transport.

1. Position the hands as indicated in the graphic.
2. Lower the seat and allow the victim to sit.
3. Lower the seat using your legs, not your back.
4. When the victim is in place, stand using your legs, keeping your back straight.

TWO-HANDED SEAT



This technique is for carrying a victim longer distances. This technique can support an unconscious victim.

1. Pick up the victim by having both rescuers squat down on either side of the victim.
2. Reach under the victim's shoulders and under their knees.
3. Grasp the other rescuer's wrists.
4. From the squat, with good lifting technique, stand.
5. Walk in the direction that the victim is facing.

CHAIR CARRY



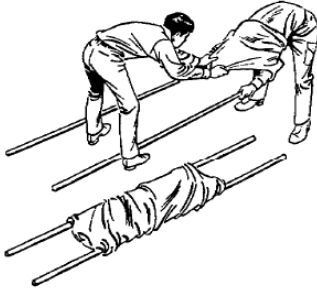
This is a good method for carrying victims up and down stairs or through narrow or uneven areas.

NOTE: The chair used should be a sturdy one. Don't use aluminum beach chairs, resin patio chairs, swivel chairs, or lightweight folding chairs.

REMEMBER: Chairs with wheels can be used to roll the victim, but should not be used for a carry.

1. Pick the victim up and place them or have them sit in a chair.
2. The rescuer at the head grasps the chair from the sides of the back, palms in.
3. The rescuer at the head then tilts the chair back onto its rear legs.
4. For short distances or stairwells, The second rescuer should face in and grasp the chair legs.
5. For longer distances, the second rescuer should separate the victim's legs, back into the chair and, on the command of the rescuer at the head, both rescuers stand using their legs.

IMPROVISED STRETCHER



This technique requires two poles/pipes strong enough to support the victim's weight and at least two shirts.

REMEMBER: Rescuers should not give up clothing if, for any reason, this might affect their health, welfare, or reduce their effectiveness.

1. While the first rescuer is grasping the litter poles, the second rescuer pulls the shirt off the head of rescuer one.
2. All buttons should be buttoned with the possible exception of the collar and cuffs.
3. The rescuers then reverse the procedure and switch sides.

BLANKET STRETCHER

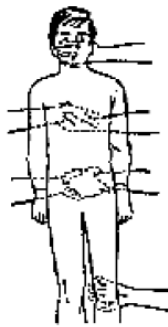


This technique requires two poles and a blanket.

1. Place the blanket down on the ground.
2. Place one pole approx. 1 foot from the middle of the blanket.
3. Fold the short end of the blanket over the first pole.
4. Place the second pole approx. 2 feet from the first (this distance may vary with victim or blanket size).
5. Fold both halves of the blanket over the second pole.

THREE OR MORE RESCUERS

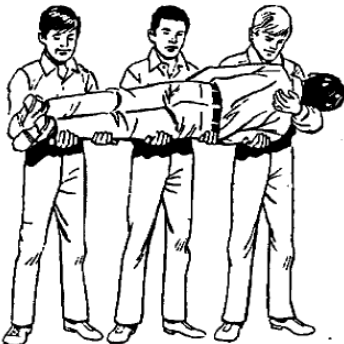
HAMMOCK CARRY



Three or more rescuers get on both sides of the victim. The strongest member is on the side with the fewest rescuers.

1. Reach under the victim and grasp one wrist on the opposite rescuer.
2. The rescuers on the ends will only be able to grasp one wrist on the opposite rescuer.
3. The rescuers with only one wrist grasped will use their free hands to support the victim's head and feet/legs.
4. The rescuers will then squat and lift the victim on the command of the person nearest the head, remembering to use proper lifting techniques.

THREE-PERSON CARRY OR STRETCHER LIFT



This technique is for lifting patients onto a bed or stretcher, or for transporting them short distances.

1. Each person kneels on the knee nearest the victim's feet.
2. On the command of the person at the head, the rescuers lift the victim up and rest the victim on their knees.

If the patient is being placed on a low stretcher or litter basket:

On the command of the person at the head, the patient is placed down on the litter/stretcher.

If the victim is to be placed on a high gurney/bed or to be carried:

At this point, the rescuers will rotate the victim so that the victim is facing the rescuers, resting against the rescuers' chests.

3. On the command of the person at the head, all the rescuers will stand.
4. To walk, all rescuers will start out on the same foot, walking in a line abreast.

BASIC INTRODUCTION TO THE BODY

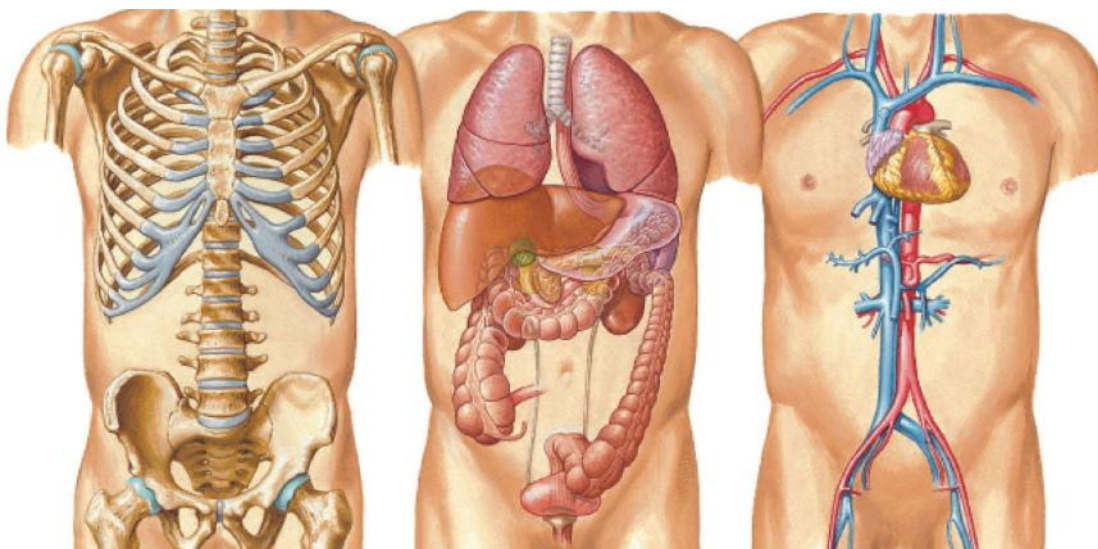
The human body is both complex and diverse with several distinct systems that work closely together to allow us to live our life in work, rest and play. The body is made up of trillions and trillions of cells and medical scientists cannot be more precise than this as the cells in the body are constantly changing.

To understand illness, we first need to understand the body in health. For your role as a Community First Responder we will only require you to have a very basic knowledge of anatomy and physiology and a small insight are provided on the following pages.

Included are general introductions to:

- Skeletal system in health and illness
- Respiratory system in health and illness
- Circulatory system in health and illness
- Nervous system in health and illness

These sections are simply to provide some background knowledge and will be expanded upon throughout your course.



10.1 THE SKELETAL SYSTEM

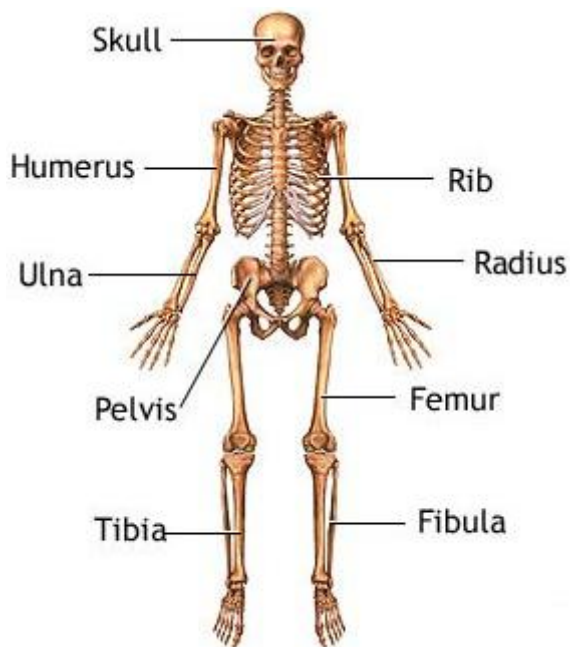
Functions of the Skeleton

- **Support** for the soft tissues of the body, giving shape and form. To provide a point of attachment for the skeletal muscles.
- **Protection** of the vital organs such as the brain, heart and lungs.
- **Movement** is facilitated by the bones and joints of the skeleton which act as levers to the muscles that are attached.
- **Mineral storage** in the bones which are distributed to other parts of the body when needed.
- **Blood cells** that are red and carry oxygen and some white cells that help fight infection are produced in the marrow of certain bones.

The skeleton is made up of 206 bones that vary in shape and form but one common feature is that they may fracture as a result of injury. Other injuries such as a dislocation may also occur if the joint is put under excessive force.

Types of injury likely to cause fractures to bones are

- **Direct force** which cause damage to that particular area or
- **Indirect force** when during a fall a person lands on an outstretched arm and dislocates/fractures the shoulder joint.



You will cover different types of injury to the skeletal system and their treatment in greater details throughout the induction course.

10.2 THE RESPIRATORY SYSTEM

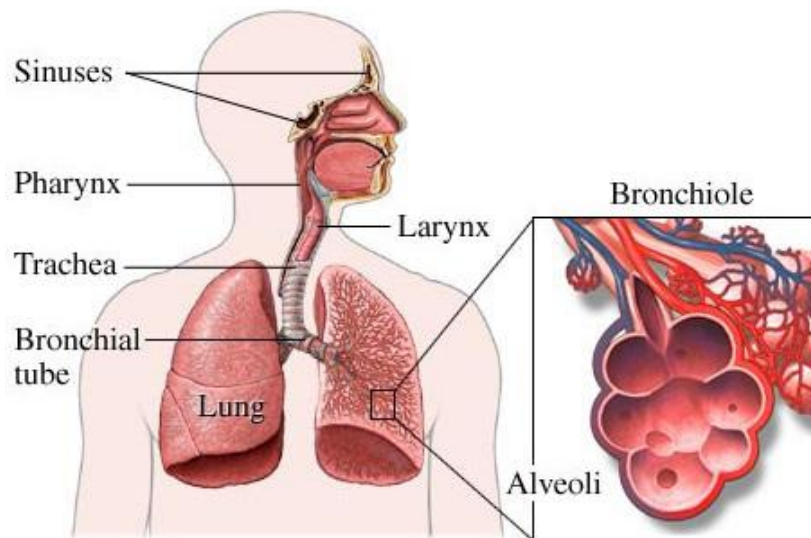
The Respiratory system has four principle functions:

- Extract oxygen from the atmosphere and transfer it to the bloodstream in the lungs
- Excrete water vapour, carbon dioxide and other waste gases
- Maintain the normal acid-based content of the blood
- Ventilation of the lungs.

All parts of the body consume oxygen, and produce carbon dioxide as a waste product. To cover this need, respiration takes place internally (at the cellular level) and externally (ventilation/breathing).

Ventilation involves the inhalation of atmospheric air which contains approximately 20-21% oxygen into the lungs via the nose and mouth through branching passageways into the right and left lungs, and the exhalation of carbon dioxide reversed through the same route comprising approximately 4-5% within exhaled air. The key function of the lungs is to bring air and blood into intimate contact within the alveolar air sacs so that oxygen can enter the blood and carbon dioxide may leave.

At rest, humans breathe at a rate of approximately 12 to 20 times per minute, bringing in approximately 500ml (1 pint) with each breath. Exercise and certain diseases such as asthma, emphysema and bronchitis may result in a marked increase of breathing rate and effort. The respiratory system is also crucial in maintaining a normal blood acid balance (PH 7.35) and body temperature.



10.3 THE CIRCULATORY SYSTEM

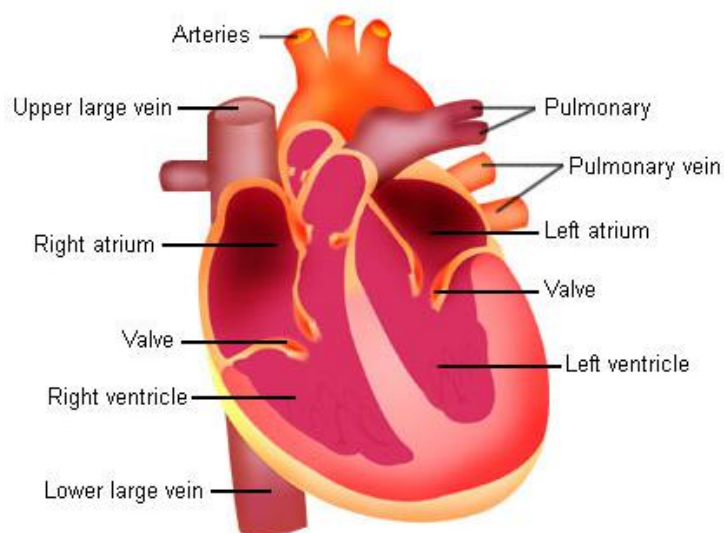
The human circulatory system basically resembles a simple closed plumbing network consisting of a pump (heart), tubes (arteries and veins) and fluid (blood that carries oxygen). The heart is a hollow organ that lies between the lungs and is often compared in size with the owner's fist.

It has two upper chambers (atrium) that receive blood and two larger lower chambers (ventricles) with one responsible for pumping blood to the lungs the other to the rest of the body. This pumping action of the heart causes it to beat approx 60-100 times per minute or 100,000 times a day sending the blood through an average 60-70,000 miles of blood vessels.

The heart is made up of three distinct layers:

- An outer layer (pericardium) that prevents over distension of the heart with a special fluid that allows for smooth movement.
- A middle layer that consists of very specialised muscle tissue (myocardium) created out of cells that are able to function/pump automatically.
- An inner layer (endocardium) that has a very smooth lining which prevents local blood clotting.

The arteries carry oxygenated blood from the left side of the heart, under pressure, to the whole of the body, whilst the veins carry deoxygenated blood from all areas of the body back to the right side of the heart to be pumped back to the lungs for waste disposal and oxygenation.



Many problems can occur with the heart including:

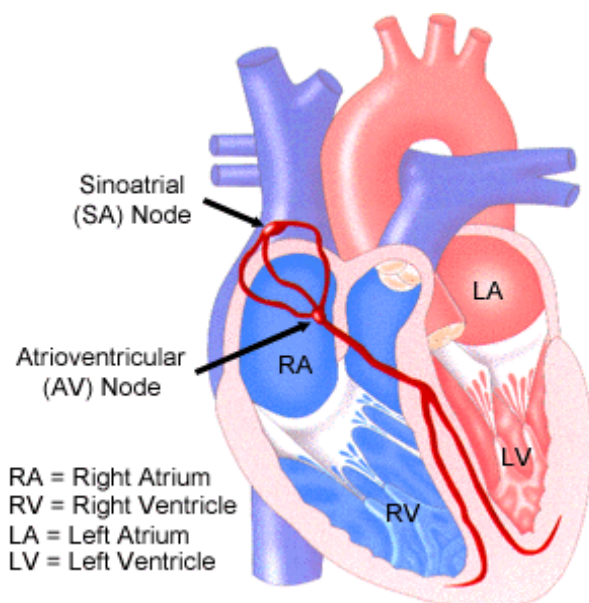
- Heart attack
- Angina
- Conduction system failure
- Left Ventricular Failure
- Infection
- Injury

ELECTRICAL CONDUCTION SYSTEM OF THE HEART

When we look at the circulatory system, we can see that the heart is divided into a pump (heart), tubes (blood vessels) and fluid (blood). However we also need to understand how our heart harnesses the energy to become a self regulating body component that effectively delivers life giving oxygen to every cell, tissue and organ of our body.

The heart has a unique pathway that allows a wave of electrical activity to spread from the upper chambers of the heart through to the lower chambers and thus creating a wave of contraction within the heart muscle. This electricity is created through a complex movement of chemicals which are already present naturally within both the cells and the body. This contraction forces blood from the upper chambers through to the lower chambers and then to the lungs and the body as a whole.

The normal controlling part of the heart is the pacemaker and is best described as a group of specialised cells situated within the right upper chamber of the heart that in medicine is called the Senatorial (SA) node.



If working correctly and we were able to view this electrical activity on an electrocardiogram (ECG), it would show a rhythm that health care professionals recognise as normal sinus rhythm (NSR).



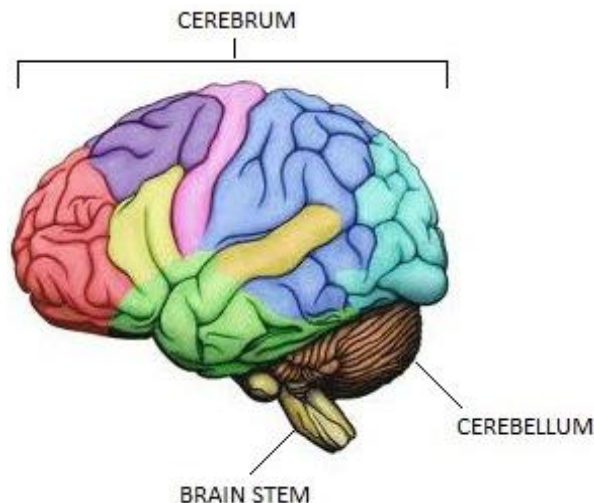
The heart rhythm can for many reasons vary from this natural course and may need medicine or medical procedures that are beyond the scope of this pre-learning text and your Induction course. However, there are life threatening rhythms that will be recognised by an Automatic External Defibrillator (AED) that are used by CFR's in the community.

10.4 THE NERVOUS SYSTEM

The adult brain is made up of approximately 100 thousand billion neurons (or brain cells) and is one of the largest and arguably most important organs of the human body.

A complex computer, our brain is the centre that:

- Stores information
- Controls emotion
- Manages our intellect



Our brain can also excite, be creative and direct our behaviour toward others. The brain is made up of several key areas but the area we need to be aware of as a CFR is the autonomic (automatic) part of our brain stem.

Our brain and brain stem communicates with other parts of the body via electrical signal transmitted down the spinal column and into individual nerves into connective tissue.

Some of the important functions of our brainstem

- Regulates both the rate and force of our heart beat
- Regulation of the diameter of our blood vessels to govern our blood pressure
- Coughing
- Swallowing
- Sneezing
- Vomiting

The nervous system is an incredibly complex area and during your induction course, the tutor will guide you through the relevant features in health as well as illnesses that may affect the casualty including:

- Head Injuries
- Stroke
- Epilepsy/Seizures
- Febrile Convulsions

10.5 ASSESSING AND TREATING ILLNESS AND INJURY

The following pages contain information relating to both medical and trauma related subjects that you may experience whilst undertaking your role as a Community First Responder (CFR) /Fire and Rescue Co-responder.

The supplied information has been deliberately designed to be succinct and concise to provide a background knowledge base in readiness for your forthcoming training. Further and more in-depth information on the major subjects will be issued to you and discussed during your induction course. How these subjects are covered will be at the discretion of your tutor but may include:

- PowerPoint presentation
- Working from your Induction booklet
- Group and individual discussion
- Scenarios and the practical elements of your induction course

10.6 HEART CONDITIONS

Introduction

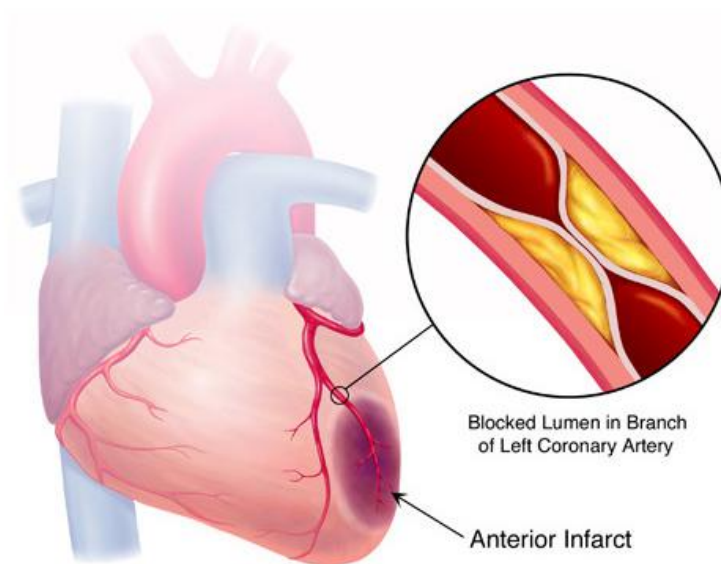
The heart is a very complex organ, made up of many specialised structures designed to work in unison. The heart can suffer from a variety of problems with the most common being heart attack and angina. However, any patient presenting with a suspected cardiac condition can be safely treated in a similar way.

What is a Heart Attack?

A heart attack is also commonly referred to as a Myocardial infarction (MI) and is usually caused by a blood clot that stops blood flow within a heart (coronary) artery. 'MI' simply means that part of the heart muscle suddenly loses its blood supply and without prompt treatment this can lead to permanent damage to the affected part of the heart. During an MI, a coronary artery or one of its smaller branches is suddenly blocked. The part of the heart muscle supplied by this artery loses its blood (and oxygen) supply and is at risk of permanent damage unless the blockage is quickly undone. (The word infarction means the death of tissue due to a blocked artery which stops blood from getting past).

Risk Factors for Heart Problems

- Smoking
- High blood pressure
- Excess weight/obesity
- High Cholesterol/poor diet
- Lack of exercise
- Diabetes
- Family history
- Certain ethnic groups



How can we help the casualty?

- Provide reassurance
- Encourage and assist the patient to sit slightly reclined and loosen any tight clothing (neck/chest)
- Monitor the patient until further help arrives

10.7 SHOCK

What is Shock?

Shock is a life-threatening condition that occurs when vital organs do not get enough oxygen due to reduced blood circulation. The most common cause of shock is severe blood loss, but it may also be caused by:

- Severe trauma including fractures and internal bleeding
- Allergic reaction
- Severe burns
- Heart conditions

Signs and Symptoms

- The skin may be cool to touch and pale or grey in colour
- Breathing may be quicker
- Pulse may be rapid and possibly weak
- Nausea and/or vomiting
- Feeling of faint or dizzy
- Confusion
- Unconsciousness

How can we help the casualty?

- Provide reassurance
- If possible, try to treat the cause (i.e. stem any bleeding and elevate the affected limb)
- Advise or assist them to loosen any tight clothing such as collars, ties or belts
- Keep the casualty warm by using a blanket or similar
- Monitor the casualty until further help arrives
- If at any time the patient becomes unconscious but continues to breathe normally, gently roll them onto their side (recovery position) ensuring that their head is tilted gently back

10.8 SEVERE BLEEDING

Introduction

Blood conveys oxygen around the body from the heart via a series of tubes called blood vessels. These vessels are called arteries and they take blood that is rich in oxygen to every cell of the body and is then returned to the heart via other blood vessels called veins.

What is severe bleeding?

Severe bleeding can occur due to damage to an artery, vein or other smaller blood vessels and dependent upon the location, size, depth and severity, it can be both dramatic and distressing. Severe bleeding can rapidly become life threatening.

How can we help the casualty?

- Provide reassurance
- Examine the wound for any embedded object but **do not** attempt to remove it
- Try to stem the flow of blood coming out of the wound. Place something clean such as a towel, shirt or even the patient's hand over the wound to help staunch the bleed (this will buy time and enable you to don your gloves and prepare a dressing)
- Try to minimise the effects of shock
- Help to prevent the risk of infection and be aware of cross-infection between you and the casualty

10. 9 BURNS AND SCALDS

What causes burns and scalds?

Burns and scalds may be caused by:

- Thermal – for example flames or hot surfaces (including scalds from hot water, steam and fats)
- Electrical
- Friction – rope or carpet burns etc
- Chemical – acids or alkalis etc
- Radiation – Sun/UV etc

How do we recognise that someone has received a burn or scald?

- History of the event from casualty or bystanders
- Redness and/or blistering
- Pain which can be extreme

How can we help the casualty?

Our number one priority must be our own safety and to avoid putting ourselves at risk

- Try to stop/remove the cause of the burning/scald
- Cool the burn/scald under tepid running water for at least 10 minutes (20 minutes if chemical)
- If tap water is not readily available use bottled water etc
- Try to alleviate the pain (this is often naturally achieved during the cooling of the burn/scald)

Once cool, cover wound with Clingfilm lengthways over the area **avoid wrapping it tightly around the limb**

- Minimise the risk of infection
- If possible, remove anything that will constrict such as jewellery etc
- If it is a limb injury, try to raise it above the level of the casualty's heart
- Treat for possible shock

10.10 FRACTURES AND DISLOCATIONS

What is a fracture?

Sometimes, excess pressure is applied to a bone which results in the breaking of the bone, this is called a fracture. The cause may either come from direct force (directly onto the bone) or indirect force (where the force is transmitted through one or more bones, injuring another i.e. falling onto an outstretched hand and fracturing a collar bone).

Fractures are a very common injury and most people suffer at least one during their lifetime. Children's bones are relatively more flexible and less likely to break and falls or other accidents that may not cause harm in a child can easily cause complete fractures in older adults. Older adults also generally suffer from fractures more than children because their bones are comparatively brittle.

The skin overlying a fracture may be intact (closed fracture) or open and exposing the bone (open/compound fracture) which can be particularly dangerous due to the high risk of infection. Bones can fracture in several different ways with the most common being simple (the fracture occur along one line), avulsion (where a fragment of bone breaks off) or comminute (multiple bone fragments).

What is a dislocation?

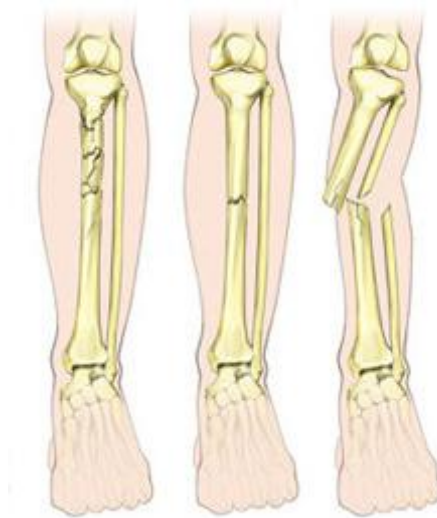
A dislocation is a separation of two bones where they meet at a joint. (Joints are areas where two bones come together). A dislocated bone is no longer in its normal position, which may result in damage to ligaments, nerves, and blood vessels.

Dislocations are usually caused by a sudden impact to the joint following a blow, fall, or other trauma and can be hard to distinguish from a fracture. Dislocations may also have an associated fracture and these can be very dangerous to the long term health and viability of the affected limb (such as the ankle and foot).

Signs and Symptoms of a fracture or dislocation

- **S**welling
- **L**oss of power
- **I**rregularity
- **P**ain
- **D**eformity
- **U**nnatural Movement
- **C**repitus (where the bone ends grate together, do not actively look for this!)
- **T**enderness
- **B**ruising

Comminuted Transverse Compound



How can we help the casualty?

- Provide reassurance
- Your aim is to avoid moving casualty unless absolutely necessary as this will increase pain and may exacerbate the damage
- Encourage and assist the casualty to support the affected area
- Control any bleeding if present
- Keep the casualty warm by using a blanket or similar

10.11 FAINTING

What is Fainting?

Fainting can be described as a brief loss of consciousness and is a common disorder that may affect people of all ages. Some of the common causes are:

- Anxiety
- Emotional upset
- Stress
- Missing meals

- Dehydration
- Standing up too quickly
- Standing up for long periods of time
- Existing medical conditions such as
- Diabetes or Low Blood Pressure
- Side effects of medication

Signs and Symptoms

Just before someone actually faints they may exhibit or experience one or more of the following signs and symptoms:

- Nausea
- Dizziness
- Excessive sweating
- Rapid heart beat
- Blurred vision
- Anxiety
- Emotional upset
- Stress
- Missing meals
- Dehydration
- Standing up too quickly
- Standing up for long periods of time
- Existing medical conditions such as Diabetes or Low Blood Pressure
- Side effects of medication

How can we help the casualty?

- Provide reassurance
- If they are not already on the floor advise/assist them to do so
- Advise or assist them to loosen any tight clothing such as collars, ties or belts
- If possible elevate their feet just above hip level by placing an item under their feet/legs

Fainting should be classed as a medical emergency until proven otherwise. The ambulance crew will evaluate the casualty's medical history along with clinical indicators and base their treatment accordingly.

10.12 SEIZURES

What is a seizure?

A seizure may be described as the result of a sudden burst of excess/random electrical activity within the brain. This causes the brain's messages to become temporarily halted or mixed up. The type of seizure a person has is dependent upon the area of the brain where this activity occurs.

Possible causes

- Epilepsy
- Diabetic emergencies
- Head/brain injury
- Alcohol withdrawal
- Poisoning
- Stroke
- Hyper/hypothermia

Recognition

- History of seizures/other relevant history
- Loss of consciousness (may be transient)
- Reduced level of response
- Muscle twitching/rigidity/shaking
- Incontinence
- Breath holding
- 'Glazed' appearance
- Abnormal/inappropriate behaviour
- 'Aura' (smell, taste, sensation)

How can we help the casualty?

- Provide reassurance
- Make the area safe to reduce risk of injury
- Time the seizure (where possible)
- Monitor the casualty whilst awaiting help
- If unconscious but breathing normally, gently roll them onto their side (recovery position) ensuring that their head is tilted gently back

Do NOT restrain the patient**Do NOT allow anyone to force the mouth open or force objects into it****Febrile Convulsions / Seizures**

Febrile seizures are a relatively common childhood condition, referring to a child having a seizure when they have a high temperature most usually as a result of an infection. Although febrile seizures may be very frightening, most are harmless and do not pose a direct threat to a child's health.

Most children have what is known as a tonic clonic seizure. During a tonic clonic seizure, the child's body becomes stiff, they lose consciousness and their arms and legs twitch. Some children may also wet themselves.

Febrile seizures are quite common with an estimated 1 in 20 children having at least one febrile seizure at some point. Most febrile seizures occur between the ages of six months and three years with the average age being 18 months.

The actual cause is unknown, although the condition appears to run in some (but not all) families. Around 1 in 4 children who are affected by febrile seizures will have a family history of the condition; however in half of all cases, there are no obvious causes or risk factors. Many parents worry that if their child will develop epilepsy when they get older. While it is true that children who have a history of febrile seizures may have an increased risk of developing epilepsy, it should be stressed that the risk increase is still quite small.

How can we help the casualty?

Treat in the same way as an adult seizure (described previously) **In addition:**

- Suggest that the parents remove most of the child's clothing (e.g. to baby grow/vest & nappy level), but do not allow the child to become hypothermic!

STROKE

What is a Stroke?

A stroke can be described as a brain attack and may occur as a result of either a blockage or bleed within one or more of the blood vessels that supply the brain with oxygenated blood. When brain cells do not receive sufficient oxygen they will start to shut down and die.

Signs and Symptoms

- Weakness
- Numbness and paralysis to one side of the body (face, arms and/or legs)
- Difficult in speaking and swallowing
- Headache
- Confusion
- Vomiting
- Blurred vision

THE F.A.S.T. TEST

Using the simple acronym of 'FAST' can help us to recognise if a stroke has occurred:

Facial Weakness – Can the person smile? Has their mouth or eye drooped?

Arms – Ask them to try to raise both arms above their head

Speech – Can the casualty speak clearly and understand what you say?

Time – It is time for us to take action to help the casualty

How can we help the casualty?

- Provide reassurance
- If the casualty is conscious encourage and assist them to sit with their head and shoulders gently raised and their legs flat
- Monitor the casualty until further help arrives
- If unconscious but breathing normally, gently roll them onto their side (recovery position) ensuring that their head is tilted gently back

DIABETES

What is Diabetes?

Diabetes is a common life-long health condition affecting approximately 2.8 million people within the UK and an estimated 850,000 people are believed to have the condition, but are presently unaware.

It is a condition where your pancreas either does not produce any or enough insulin to help glucose enter your body's cells (Type 1), or the insulin that is produced does not work properly (Type 2).

There are two common types of diabetic emergency Hyperglycaemia (High blood sugar)

- A much rarer emergency call
- Gradual onset (hours to days)
- Slow, deep breathing
- Rapid pulse
- Flushed, dry skin
- Tiredness, lethargy, drowsiness
- Blurred vision
- Excessive thirst, hunger or urination
- Smell of acetone/pear drops on the breath
- Seizure

Hypoglycaemia (Low blood sugar)

- The most common diabetic emergency
- Rapid onset (minutes)
- Fast, shallow breathing
- Slow, bounding pulse
- Pale and sweaty
- Irritable/confused/aggressive behaviour
- Inability to concentrate
- Confusion, dizziness & headache
- Hunger
- Seizure
- Unconsciousness

How can we help the casualty?

- Provide reassurance
- If conscious: Encourage the patient to eat or drink something with a high sugar content if they are able
- If unconscious: and breathing normally, gently roll them onto their side (recovery position) ensuring that their head is tilted gently back
- Monitor the casualty until help arrives

HYPOTHERMIA

What is Hypothermia?

Hypothermia is defined as a core body temperature below 35°C. This drop in temperature may be rapid as in immersion in near-freezing water, or slow as in prolonged exposure within a temperate environment.

Who is at risk?

- Very old or very young
- Chronically ill, especially with cardiovascular disease
- Malnourished
- Exhausted
- Intoxicated with alcohol or drugs
- Mental impairment, e.g. Alzheimer's disease
- Underlying medical conditions, e.g. stroke, severe arthritis, Parkinson's disease, spinal cord injuries, burns

Signs of Hypothermia

- Shivering
- Slurred speech
- Abnormally slow rate of breathing
- Lethargy and fatigue.
- Depressed level of consciousness (the most common feature)
- Skin is cold to touch and appears grey/blue in appearance.
- The patient's pulse and respiratory rates may be depressed and/or variable

How can we help the casualty?

- Provide reassurance
- If possible, prevent further heat loss by removing the casualty from the cold environment and replacing any wet, cold clothing with warm, dry clothing/blankets
- Do not allow the patient to smoke, eat or drink alcohol.

CHAPTER 11

Part IV

INTRODUCTION TO FIRST AID

- Every year thousands of people die or permanently injured because they do not receive emergency care in time.
- The time immediately after an accident is known as the “golden hour”. this is the time when lives that hang in the balance can be saved by proper emergency care.
- Too often those who arrives first are not trained to give proper care
- As a result, patients who might have been saved die.
- First-aid is a special responsibility for which you require proper training.
- First Responder is the one who arrives first at the scene.
- Their duty is to give First AID

11.1 WHAT IS FIRST AID?

Def: Immediate assistance or help to a casualty or sick person by a first aider before arrival of medical help.

First Aid should ideally start at :

- The place of injury
- Continue during transportation
- Till a doctor takes charge of the patient

11.2 AIMS OF FIRST AID:

- Preserve Life
- Prevent worsening
- Promote recovery

11.3 GENERAL PRINCIPLE OF FIRST AID:

- Simple and minimum essential procedures only should be carried out .
- Minimum handling should be done.
- Prescribed equipment, if not available, improvisation should be made.

General Hint

- Act confidently and courageously
- If required, use the skilled or unskilled assistance of the onlookers
- Arrange for speedy, safe and convenient transport.
- Treat shock if it has set in
- Immobilize fracture before moving, using splint and bandage
- Splint limbs badly damaged
- Don't remove clothing, cut it open, if required
- Don't apply wet dressing
- Don't give drinks to unconscious or belly wound casualty
- Don't try to do more than just is necessary
- Remember that no case is to be regarded as hopeless.
- Death is not to be assume.
- Ensure final disposal of case to its correct destination
- First aider must not leave the casualty unattended at any time
- Work in close liaison with rescuers
- Do the right things in right order and do them swiftly and correctly.

11.4 APPROACH TO THE PATIENT

- Ensure Personal safety (PPE)
- Ensure scene safety
- Identify yourself & Consent
- Treat life-threatening injuries
- Carry out initial assessment
- General impression
- Assess responsiveness
- Assess (A)airway
- Assess (B)breathing
- Assess (C)circulation
- Updating incoming EMS

11.5 CARDIO-PULMONARY RESUSCITATION(CPR)

This is a life –saving procedure done to revive an unconscious Victims with no breathing & heartbeat.

When to give CPR?

- Unconsciousness
- No signs of breathing
- No pulse
- Pupils wide open
- Very pale in appearance
- Increasing blue or grey color of the skin

Objectives of CPR

- The key principle is to oxygenate and circulate the blood to all tissues and vital organs of the body until advanced cardiac life support can be provided by the trained emergency personnel.
- The shorter the time between the cardiac arrest and the beginning of CPR, greater is the chance of survival of the casualty

Sequence of CPR

- Determine unresponsiveness
- Activate EMS
- Check ABC`s
- Airway: Head- tilt Chin-lift or Jaw thrust.
- Breathing :LLF, If patient is not breathing, provide two rescue breathing (small Puffs for infants)
- Circulation: Check Carotid pulse for adult and child and brachial for infants .If no pulse, start CPR immediately.

ASSESSING THE VICTIM



Make sure the victim, any bystanders, and you are safe.

- Check the victim for a response.
- Shake shoulders gently
- Ask "Are you all right
- If he responds
- Leave as you find him.

- Find out what is wrong.
- Reassess regularly
- If he does not respond:
- Activate Code Blue and get AED
- 4 --Keeping the airway open, look, listen, and feel for normal breathing.
- OPEN AIRWAY
- Look, listen and feel for NORMAL breathing
- Do not confuse agonal breathing with NORMAL breathing



Keeping the airway open, look, listen, and feel for normal breathing.OPEN AIRWAY



Look, listen and feel for NORMAL breathing

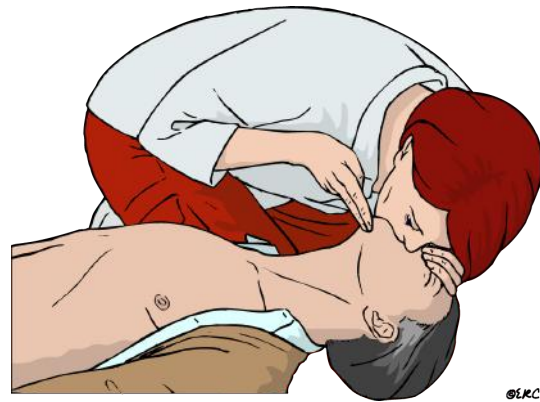
If he is breathing normally;

- *Turn him into the recovery position*
- *Send or go for help, or call for an ambulance*
- *Check for continued breathing.*

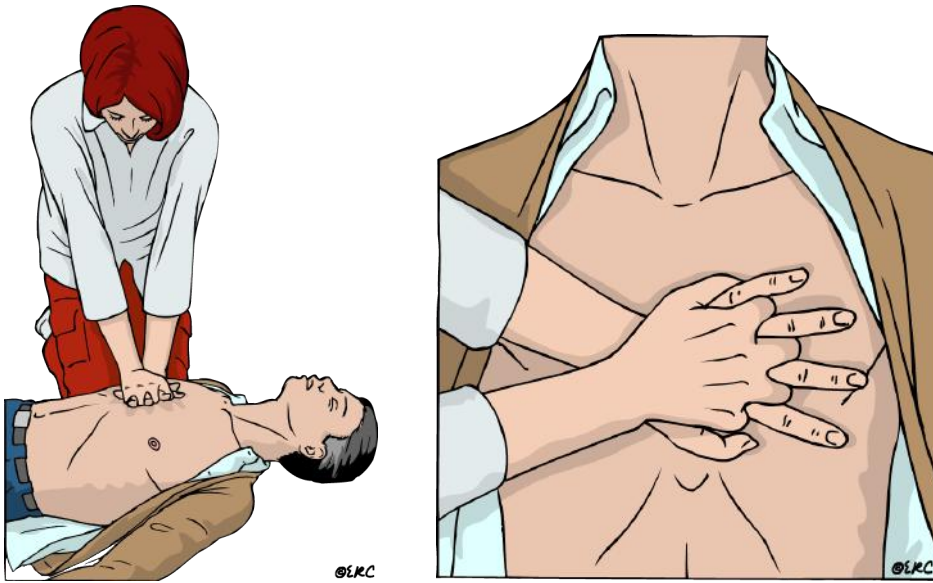


If he is not breathing normally

- Give 2 rescue breaths
- Pinch the nose
- Take a normal breath
- Place lips over mouth
- Blow until the chest rises
- Take about 1 second
- Allow chest to fall
- Repeat



CHEST COMPRESSIONS 30 CHEST COMPRESSIONS



TECHNIQUES FOR OPENING AIRWAY

- Head-Tilt Chin-Lift method – Method of choice. Do not use this method if you suspect head, neck or spinal injury.
- Jaw Thrust method – only maneuver recommended on an unconscious patient with suspected head, neck or spinal injury.
- Precautions: Always keep the patient's slightly open- use your thumb to hold down the patient's lower lip.



Head -Tilt Chin – Lift



Jaw thrust

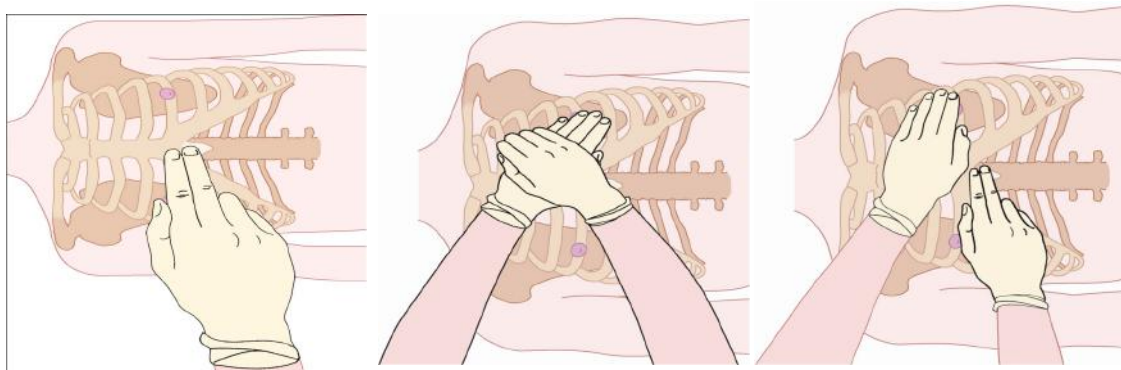




Carotid pulse

CHEST COMPRESSION FOR ADULTS (8 & ABOVE)

- Position the Patient
- Expose the Patient's chest
- Get in position: kneel close to the pt's side, with your knees about as wide apart as your shoulder
- Locate the Compression site
- Position your hands, shoulders.
- Perform Chest compressions: Keeping your arms straight and your elbows locked.



CPR FOR ADULT (8 YEARS & ABOVE)



ADULT CPR (8 YEARS & ABOVE)

- Compression depth : 4-5 cm
- Compression rate : 80 – 100 per min
- Each ventilation : 1.5 – 2 sec/breath
- Pulse location : carotid artery
- One-Man Rescuer Cycle : 30(compressions) : 2(breaths)
- Two-Man Rescuer Cycle : 15 : 2

CHEST COMPRESSION FOR INFANTS & CHILDREN (BELOW 8 YEARS)

Usual cause of Cardiac arrest in infants is hypoxia due to injuries, suffocation, smoke inhalation etc. You should resuscitate for one minute before alerting EMS.

CHEST COMPRESSION FOR INFANTS & CHILDREN

- Position the Patient : Child same as adult If an infant, Place him or her on your forearm, using your palm to support the head.
- Expose the Patient's chest.
- Locate the compression site: In a child same as an adult. In infants, one finger below an imaginary line between the nipples.
- Perform Chest compressions: For infant, use the flat part of your middle and ring fingers. For child used the heel of one hand.

CPR FOR CHILDREN(1-8YRS)



Child CPR –1 to 8 years of age

- Compression depth : 3-4 cm (1/3 to ½ of total chest depth)
- Compression rate ; 80 – 100 per min
- Each ventilation : 1.5 – 2 sec/breaths
- Pulse location : carotid artery
- One-Man Rescuer Cycle : 30 : 2
- Two-Man Rescuer Cycle : 15 : 2



CPR FOR BABIES UNDER 1 YEAR (INFANTS)

INFANT CPR – BELOW 1 YEAR

- Compression depth : 1.5 – 2.5 cm (1/3 – ½ total chest depth)
- Compression rate : 100 per min or more
- Each ventilation : 1 – 1.5 sec/puffs
- Pulse location : Brachial Artery
- One-Rescuer Cycle : 30:2
- Two-Rescuer Cycle :15:2

Signs of successful CPR

- Successful CPR does not mean the patient survives – it only means that you performed correctly. Very few will survive if they do not receive ACLS. The goal is to prevent the death of cells and organs for a few crucial minutes. A pulse should be felt with every compression.
- The chest should rise and fall with each ventilation/rescue breathing.
- The pupils may begin to react normally.
- Patient's skin colour may improve.
- Patient may attempt to move and try to swallow.
- Heart beat may return.
- Monitoring is essential to see if CPR is effective.

When not to begin or initiate CPR

When any of the signs of certain death are present.

- Lividity
- Rigor mortis
- Decomposition
- Still birth
- Other

Complication caused by CPR

- Fracture of the sternum and ribs
- Pneumothorax
- Haemothorax
- Cuts and bruises to the lungs
- Laceration to the liver

NB:- Most of these complications are rare. Even if CPR results in complications, the alternative is death.

MISTAKES IN PERFORMING CPR

PROBLEM

- 1- Patient is not on hard surface
- 2 - Patient is not on horizontal position
- 3- Head-tilt chin-lift maneuver improperly performed
- 4- Incomplete seal around the patient's mouth and / or nose
- 5- Nostrils are not completely pinched and the patient's mouth is not fully open during mouth- to -mouth ventilation
- 6- Hands not in correct position or compressions incorrectly placed
- 7-- Compressions too deep or too frequent
- 8- Improper compression / ventilation ratio

RESULT

- 1- Compressions are not effective
- 2 - If patient's head is higher than the rest of the body, there is insufficient blood to reach the brain
- 3- Open airway not ensured
- 4- Ventilations are not effective
- 5- ventilations are not effective
- 6- Fractured ribs ; fractured sternum, lacerated liver, spleen, lungs or heart or injured pleura as a result of fractured ribs
- 7- Insufficient amount of blood is pumped
- 8- Inadequate oxygenation of blood

Once you begin CPR, you should not interrupt for more than a few seconds to check for pulse and breathing, or to reposition yourself for the patient. In addition, you interrupt CPR to :

- Move the patient onto a stretcher
- Move the patient down a flight of stairs or through a hallway
- Loading or unloading the patient onto the ambulance
- Allow for defibrillation or ACLF measures to be initiated
- Recover from physical exhaustion

Recovery Position

- Unconscious casualty/victim with breathing.
- What to do ?
- Turn to recovery position.



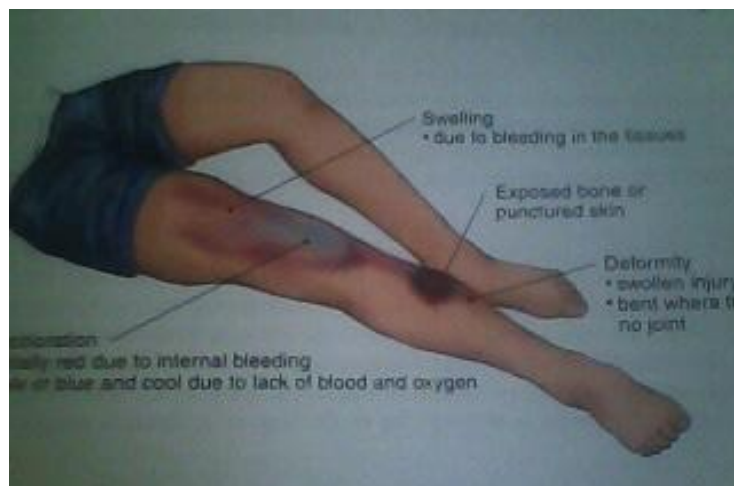
Benefits:

- Airway remains open in stable position.
- Anything coming through the mouth will automatically drain out.
- As the chest is off the ground, breathing becomes easy.
- If you have to place the patient in recovery position for long period, change the side every 1 hour to prevent pressure sore.
- Recovery position for an Infant:
- Cradle the infant in ipsilateral position on your forearm with head slightly lower than the body.

How to recognize closed wounds

- Swelling
- Tenderness
- Discoloration
- Possible deformity

INJURY TO THE SOFT TISSUES BENEATH UNBROKEN SKIN



Pre – hospital treatment for closed wounds

- Use universal precautions and secure the scene.
- Apply “RICE” method : rest, ice, compress, elevate,
- Monitor the patient for any Rapid changes in vital signs that might indicate internal bleeding, which should be treated by a physician.
- Treat for shock.
- Transport the patient as soon as possible.

Bleeding**Internal bleeding due to :**

- Damaged organs
- Fracture pelvis & femur

Symptoms

- Thirst
- Pale, cool skin
- Vomiting of blood
- Distention of abdomen
- Change in mental status

Treatment

- Airway care & artificial respiration if needed
- Keep the patient warm
- No oral fluids in patients with abdominal injury

Open wound

- A soft tissue injury resulting in breaking of the skin

Methods of bleeding Control

- Direct pressure
- Elevation
- Pressure point
- Immobilization by splinting
- Pneumatic pressure devices
- Use of tourniquets (rare)

Direct Pressure

- External hemorrhage is controlled by direct pressure over injury site
 - Usually controls bleeding in 4-6 minutes



Artery must

- Be proximal to injury site
- Overlie a bony structure against which it can be compressed

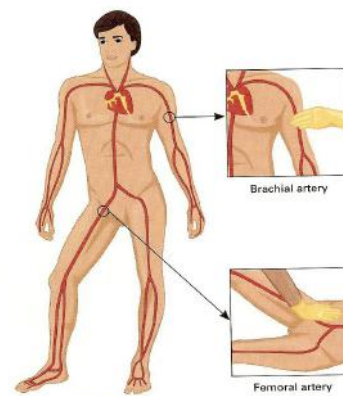
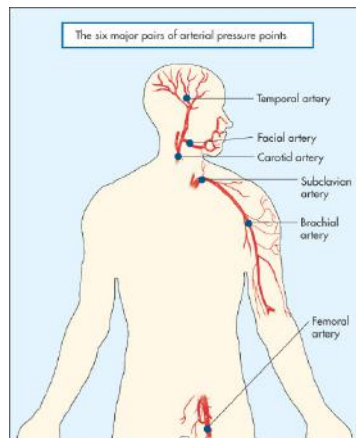


Figure 17-7 Pressure points in the extremities.



Elevation

- Venous bleeding in an extremity is reduced by elevating extremity above level of the heart.
- Supplement to direct pressure

Pressure Point

- Use when direct pressure and elevation have not controlled hemorrhage



Immobilization by Splinting

- Extremity injuries immobilized by splinting devices or
- Patient fully immobilized on long spine board



Pneumatic Pressure Device

- Helps provide direct pressure to injury site and immobilization
- Applied over dressed wound after bleeding controlled.



Tourniquet

- Little indication for tourniquet
- Last resort
- Use when essential to save patient's life

Pre- hospital treatment for open wounds

- Use universal precautions and secure the scene.
- 1-Expose the wound. Remove all clothing and expose soft tissue. Avoid removing clothing by pulling it over the patient's head . Best method is to remove clothing by cutting with trauma scissors.
- Control bleeding.
- Begin with direct pressure or indirect pressure and elevation. If wound continues to bleed use a pressure point. Use a tourniquet only as last resort
- Prevent contamination.
- Remove debris and contamination around the surface of the wound. Do not try to remove embedded particles.
- Dress and bandage.
- Use a sterile dressing and secure with a bandage to cover the wound.
- Cover the patient. Keep patient calm.
- 6- Treat for shock.
- Transport the patient as soon as possible.

DRESSINGS & BANDAGES

- Dressing: Any material used to cover a wound that helps control bleeding & also aids in the prevention of additional contamination
- Bandage: Any material used to hold a dressing in place
- Occlusive dressing: Any water-resistant material (plastic or waxed paper) applied to a wound to prevent the entrance of air & the loss of moisture from the internal organs
- Bulky Dressing: Multiple stacked dressings (2-3cm thick)

Benefit

- Control bleeding
- Apply the dressings using aseptic technique
- Cover the wounds completely
- Ensure that the dressing & bandages are firm, fixed & comfortable, but not so tight as to affect circulation
- Ensure there are no loose ends that can get caught
- Avoid covering the fingers



FIGURE 18-18a Secure a self-adhering roller bandage with several snug, overlapping wraps.



FIGURE 18-18b Cover an area larger than the wound.



Shoulder Dressing



Ankle Dressing



Torso Dressing



Thigh Dressing



Finger Dressing

Bandaging Unusual Wounds

Impaled Objects

- Do not remove unless impaled in the cheek or obstructing the airway or CPR
- Control bleeding.
- Stabilize the object with a bulky dressing and apply a bandage.

Penetrating Injury

- Cover any open wound completely.
- Examine the patient for possible exit wound.

Avulsion (skin flap)

- Clean the wound surface
- Return skin flap to original position
- Control bleeding
- Cover with bulky dressing and apply a bandage.

Amputations or unattached avulsion

- Clean the wound
- Control bleeding.
- Apply dressing and bandages.
- Keep amputated part cool and moist, but not wet .

Treating Amputations

- Apply pressure dressing over the stump.
- Use pressure points to control bleeding.
- Take care of the amputated part. Wrap in a sterile dressing. Place in plastic bag and keep cool. Do not immerse in water or put directly on ice.

Wounds to the Eyes

- Bandage the good eye to prevent movement of injured eye
- In an unconscious patient, close the eyes before blindfolding the patient to prevent the eyes from drying, which may cause blindness.

- Treat an extruded eye the same way as you would treat an eye with an impaled object. Do not replace the eye if it has been expelled. Cover it with a cup or card board cone before applying the bandage.

Wounds to the Ear

- Never probe the ear
- Never pack it to stop bleeding from the ear canal
- Place a loose, clean dressing across the opening to absorb the fluids
- Do not apply pressure

Pre-hospital treatment for nosebleeds

- Use universal precautions and secure the scene.
- Maintain open airway.
- Pinch nostrils together or place a dressing between the upper lip and the gum and apply pressure.
- Keep patient seated and still.
- Do not pack the nose; check for clear fluid (CSF) which may indicate a skull fracture.
- Do not remove any objects you may find inside the nose
- For avulsions, apply a compressive dressing.

Treating Neck Wounds

- Do not delay! Place your gloved hand over the wound.



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Place an occlusive dressing over the wound. It must be heavy plastic, sized 2 inches larger in diameter than the wound site.



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Treating Neck Wounds
Seal the dressing with tape on all four sides



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- Cover occlusive dressing with a large gauze dressing. Bring bandage over the dressing and wrap it under the opposite armpit. Do not wrap around the neck.

PRE-HOSPITAL TREATMENT FOR INJURIES TO THE NECK

Use universal precautions and secure the scene.

1. If there is bleeding from a neck wound, apply slight to moderate pressure with an occlusive dressing. Tape down all edges of the dressing to form an airtight seal, to avoid air embolism. Do not delay treatment; cover injury with a gloved hand and apply direct pressure if necessary.
2. For patient without spinal injury, place patient on left side with a 15-degree incline (head lower), if possible.
3. If an object is impaled in the neck, stabilize it in place with bulky dressings. Do not remove it.
4. Treat for shock.

PRE HOSPITAL TREATMENT FOR ABDOMINAL INJURIES

- use universal precautions and secure the scene. be alert for patient vomiting.
- cover all open wounds
- donot replace exposed internal organs. cover them with thick , moist sterile dressing. keep exposed area warm by placing a dressing or towel over the occlusive dressing

PRE HOSPITAL TREATMENT FOR RIB FRACTURES

- Apply a sling and swath to hold the patient's arm against the injured side of the chest Give the patient a pillow or blanket to hold against the ribs for support
- If alert , allow the patient to assume a comfortable position

SPLINTING

- Stabilize
- Check distal circulation, motion, and sensation
- Apply splint
- Re-check circulation, motion, and sensation after splint is applied

SPLINTING EXAMPLES



Ankle Injury



Knee Injury



Lower Leg Injury



Finger Injury



Forearm Injury



Shoulder Injury



Elbow Injury



Sling and Swathe

EMERGENCY CONTACT NUMBER

Sl. No	NAME	DEPARTMENT	DESIGNATION	PHONE NUMBERS
1.	State Emergency Operations Centre	NSDMA	Control Room	1070 (toll free) 0370-2291122 0370-2291120
2.	NSDMA Secretariat	NSDMA	Secretariat	0370-2270050
3.	Shri. Johnny Ruangmei	NSDMA	OSD	+91 9856680933
4.	Shri. RendemoShitio	NSDMA	Coordinator Response	+91 9402489435
5.	DDMA Kohima	DDMA	Chairman	0370- 2290355
6.	Kohima	DEF	S.P	0370- 2244286
7.	DDMA Dimapur	DDMA	Chairman	03862- 226530
8.	Dimapur	DEF	S.P	03862- 225519
9.	DDMA Phek	DDMA	Chairman	03865- 223037
10.	Phek	DEF	S.P	03865- 223090
11.	DDMA Wokha	DDMA	Chairman	03860- 222021
12.	Wokha	DEF	S.P	03860- 222015
13.	DDMA Mokokchung	DDMA	Chairman	0369- 2226231/ 2226055
14.	Mokokchung	DEF	S.P	0369- 2226207
15.	DDMA Tuensang	DDMA	Chairman	03861- 220333
16.	Tuensang	DEF	S.P	03861- 220277
17.	DDMA Longleng	DDMA	Chairman	03869- 2236271
18.	Longleng	DEF	S.P	03863- 225567
19.	DDMA Kiphire	DDMA	Chairman	03869- 225551
20.	Kiphire	DEF	S.P	03863- 225567
21.	DDMA Mon	DDMA	Chairman	03869- 221246
22.	Mon	DEF	S.P	03869- 221271
23.	DDMA Peren	DDMA	Chairman	03862- 267220
24.	Peren	DEF	S.P	03862- 267279
25.	DDMA Zunheboto	DDMA	Chairman	03867- 220325
26.	Zunheboto	DEF	S.P	03867- 220368
27.	NHAK Kohima			0370- 2222916
28.	OKING Hospital			0370- 2243339
29.	Police Control Room			100/0370- 2244279
30.	Fire Service			101/0370-2222952
31.	NHAK Ambulance			0370- 2222893
32.	IRCS Ambulance			0370- 2244350
33.	District Ambulance Dimapur			03862- 232224
34.	Referral Hospital			03862- 242533
35.	Police Control Room			100/03862- 228400
36.	Fire Service			03862- 232201
37.	Lions Club Ambulance			03862- 230986/ 225532

Do's & Don'ts

Earthquake

- Do not panic no matter how hard the tremor
- Make sure that overhead electrical fixtures are well secured to the ceiling & move heavy unstable objects away from exit routes
- Store emergency supplies like water, food, first-aid kit, medicines, tools, portable radio, flash light, batteries, blankets, fire extinguisher etc.
- Try to run safely to the nearest open space which is not surrounded by buildings, trees and overhead power lines but do so with great caution
- If you feel it is not possible to get out of the house/building fast & safely, especially when you are inside a high rise building, stay calmly inside
- Do not light candles, gas stove, and cigarette (to prevent any fire due to possible leakage of gas)
- Shut off your gas connection
- Do not stay inside a room/house where cracks have developed along the walls, ceiling. Get everyone out of the house if it is found unsafe
- Be prepared for additional earthquakes (after-shocks)
- Wear rubber soled shoes while moving around
- Attend to injured persons and inform the medical authorities as soon as possible

Do's & Don'ts

Fire

- Install smoke alarms. Place smoke alarms on every level of a multi-storey building at spots close to fire-causing sources
- Test and clean smoke alarms once a month and replace batteries at least once a year
- Review escape routes with your family
- Make sure windows are not nailed or permanently bolted
- Teach family members to stay low on the floor (where the air is safer) when escaping from a fire
- Never smoke near flammable liquids
- Place heaters at least three feet away from flammable materials. Make sure the floor and nearby walls are properly insulated
- Use only the type of fuel designated for your unit and follow manufacturer's instructions
- Keep matches and lighters away from children, and, if possible, in a locked cabinet
- Never smoke in bed or when drowsy or medicated
- Have the electrical wiring in your residence checked by a certified electrician
- Make sure wiring does not run under rugs, over nails, or across high-footfall areas
- Do not overload extension cords or outlets.
- Make sure insulation does not touch bare electrical wiring
- Install fire extinguishers at your residence and read the instructions on the labels carefully. Teach family members how to use them
- Consider installing an automatic fire sprinkler system in your residence
- If your clothes catch fire, you should stop, drop, and roll until the fire is extinguished.

Running only makes the clothes burn faster

- Cover your nose / mouth, possibly with a moist cloth or in its absence with your hands, to prevent inhalation of smoke and asphyxiation
- While escaping from a burning house, it will help if you could cover yourself with a thick blanket
- Check closed doors for heat before you open them. If you are escaping through a closed door, use the back of your hand to feel the top of the door, the doorknob, and the crack between the door and door frame before you open it.
- Never use the palm of your hand or fingers to test for heat - burning those areas could impair your ability to escape a fire (for ladders and crawling)
- The window is your best escape option. If you cannot escape, hang a white or light-colored sheet outside the window, alerting fire fighters to your presence
- Crawl low under any smoke to your exit - heavy smoke and poisonous gases collect first along the ceiling
- Close doors behind you as you escape if you can to delay the spread of the fire
- Do not re-enter once you have escaped. Call the local fire department

Landslide

- Investigate susceptible areas to identify factors of instability and carry out corrective measures to prevent/minimize instability
- Carry out re-forestation in barren areas as the roots of plants / trees will arrest slippage of soil. Plant trees on vulnerable areas
- Always be watchful on hill roads and try to note features like cracks on road surface and slopes
- Do not build house near steep slopes, close to mountain edges, near drains or natural water outlets
- Listen for any unusual sound that might indicate moving debris, trees cracking or rolling boulders (large stones)
- Be alert when there is a sudden increase in volume of water in streams and a marked transformation from clear to muddy water
- Alert local authorities
- Make yourself less vulnerable and protect your head if escaping is not possible

PRE-LEARNING QUIZ

Please use these questions to check your understanding and progress with the pre-learning booklet.

Do not worry if you cannot remember all the answers, you are free to read the relevant sections again to answer the questions.

Q1. What must you consider whilst responding to an emergency incident?

(Hint: You must adhere to all road traffic road laws)

What else must you also consider?

Q2. As a CFR you must make every effort to keep safe. Give three example of how this can this be achieved?

- 1.
- 2.
- 3.

Q3. As a CFR you may experience something that might affect you personally when attending an incident. Whom may you consider seeking support from?

Q4. When you need to find out information from your patient, list three possible communication skills can you use?

- 1.
- 2.
- 3.

Q5. Give 3 examples of what must be present in both adults and children for you to judge they are competent to make decisions?

- 1.
- 2.
- 3.

Q6. Who may legally be classed as having parental responsibility?

Q7. If at any time there are any issues regarding consent for assessment or treatment for any patient, regardless of age, who must you contact?

Q8. As a CFR we must respect patient confidentiality at all times and follow a few simple rules. Provide three people to whom it may not be appropriate to disclose confidential details to:

- 1.
- 2.
- 3.

Q9. To whom may you safely handover patient information to?

Q10. As a CFR you are a vital link in **'keeping it clean'**. What simple rules must you adhere to?

Q11. What does **T.I.L.E.** help you remember?

Q12. The skeleton has several key functions. What are they?

Q13. The skeleton is made up of how many bones?

- A) 220
- B) 240
- C) 206
- D) 300

Q14. What two causes of injury are likely to fracture a bone?

- 1.
- 2.

Q15. The respiratory system has four principle functions. What are they?

- 1.
- 2.
- 3.
- 4.

Q16. What is the approximate percentage of oxygen within atmospheric air?

- A) 40%,
- B) 32%,
- C) 25-30%
- D) 20-21%

Q17. At rest, what is the approximate breathing rate for an adult?

- A) 20-30 per minute
- B) 12-20 per minute
- C) 27-35 per minute
- D) 40-42 per minute

Q18. What factors may lead to an increase in our breathing rate?

Q19. How many chambers does the heart have, and what are their medical names?

Q20. The middle layer of our heart is called the myocardium. What is it made up of?

GLOSSARY OF TERMS

A brief selection of standard terms whose meanings are useful to know:

Acute (of disease): Severe, rapidly developing, or of a sudden onset.

Ambulance Technician: Experienced ambulance crew member capable of delivering a wide range of drugs and treatments to patients.

Angina: Condition of gripping chest pain associated with disease and the narrowing of the arteries of the heart which can be described as cramping of the heart muscle.

Asphyxia: Suffocation by smothering or any condition that prevents oxygen being taken up by the blood.

Aspirator: A suction device used in the removal of fluids from the airway and other cavities.

Asthma: Tightening or restriction of the lower small airways accompanied by a sense of suffocation or tightness of the chest.

Cardiac: Relating to the heart.

Casualty: Any victim of an accident or sudden illness.

Catheter: A tube designed to be passed into a body cavity.

Chronic (of disease): persistent and lasting disease or medical condition, or one that has developed slowly.

Communication assistance device: A portable device which may provide a communication-challenged person with a means of communication. (i.e. an enhanced or artificial voice, script on a monitor screen).

Community Nurse: A nurse who specialises in care for people within their own home or local health centres.

Coronary Thrombus: Blockage of one or more of the arteries that supply blood to the cardiac muscle usually caused by blood clots and/or fatty tissue.

Cyanosis: A dusky bluish tint to the skin due to a lack of oxygen in the blood.

Diabetes Mellitus: Disease caused by either insulin deficiency or uptake problems.

Dyspnoea: Difficult or laboured breathing.

Emergency Care Assistant: Ambulance crew member usually working alongside a more experienced colleague in the delivery of emergency care.

Emergency Care Practitioner: Senior and highly skilled ambulance crew member capable of delivering advanced medical skills and treatments above and beyond that of a Paramedic.

Emergency Operations Centre (EOC): Where 999 calls are received and ambulance resources despatched/managed from.

Emphysema: A chronic and debilitating condition affecting the very small airways within the lungs, the primary cause being smoking.

Epilepsy: Convulsive seizures caused by a disorder of the normal functioning of the brain.

Fibrillation: Uncoordinated contraction of muscle fibres and cells within the heart.

Hyperglycaemia: High levels of glucose in the blood.

Hypoglycaemia: Low levels of glucose in the blood.

Hypoxia: Low levels of oxygen within the blood and tissues of the body.

Incident: Any accident, occurrence or other unforeseen event requiring an ambulance response.

Pacemaker: An apparatus for artificially controlling the rhythm and rate of the heart.

Paramedic: Senior and highly skilled ambulance crew member capable of administering a large range of drugs and medical skills.

Personal protective equipment (PPE): Specialised equipment provided for your safety such as hi-visibility jacket, gloves etc

Pleurisy: Inflammation of the covering of the lungs.

Pneumonia: Infection of the lung tissue.

Pulmonary: Relating to the lungs.

Response times: The time lapse between notification of an emergency and the arrival of an ambulance response.

Tachycardia: A fast heart rate, normally >100 beats per minute.

Vaccination: Immunisation by giving a vaccine.

Vaccine: Substance created from the germs of an infectious disease used to treat that disease (vaccine may be either active or inactive).

