NDRF · INDIA

Saving Lives & Beyond...

Community Action for Disaster Response (CADRE)

Instructor's Guide

(CADRE) is designed to train the community first responders with basic knowledge and skills to respond safely to disasters and emergencies.

DG'S Forwarding

It is a matter great pleasure and honor that NDRF-National Disaster Response force has prepared a dedicated and thoroughly researched CADRE (Community Action for Disaster Response) designed especially for the CADRE course. This Instructor's Guide has been prepared to enhance the understanding of various lessons as per the respective syllabus. I am sure precise will go a long way in standardization of the course contents and will help streamline the training across all units, the NDRF Academy of Nagpur & SDRFs too.

NDRF believes that "strong and resilient Society" of the Nation can only possible through community as voluntary activity, that comes together to serve its people so as to overcome devastating impact's from disasters therefore, an endeavour has been made by NDRF to develop training modules that include the survival skills and sustain higher recovery rate post disaster. The training modules deal with essential tasks to be performed by community for their survival and provide backup to the local administration.

This module on "CADRE" aims to enhance existing emergency first aid training for communities. In addition, it provides additional technical skills and knowledge to help community responders deal with the complex, traumatic and volatile situations they may face.

I extend my sincere appreciations to the Board of officers under the leadership of Sh Pranshu Srivastava, Second-in-Command (Trg) for their dedication and hard work in preparing this invaluable resource. I am confident that this CADRE book will help the understanding the concept community response to local volunteers and civilian community.

"Shri Piyush Anand, IPS"
Director General, NDRF

IG'S Forwarding

It is a matter of pride and honour that National Disaster Response Force (NDRF) has prepared a **comprehensive instructor guide** designed specifically for the ToT CADRE (Community Action for Disaster Response) course participants. The instructor guide has been prepared to enhance the understanding of various disasters in their area and obtaining basic lifesaving techniques and skills included in National and International training modules. These skills will further strengthen the capacity of community volunteers' responder in assessing the community's needs for first response to any disasters in their area.

We all are aware of hazards and vulnerability profile of Country. Majority of land and population in India are prone to multiple natural and human induced disasters. Communities in these vulnerable areas are always at risk. The emphasis laid on the disaster risk reduction and the disaster resilience of the communities by the Sendai Framework for Disaster Risk Reduction-SFDRR (2015 -2030), can only be achieved through empowerment of the communities. Thus, the endeavour is to share knowledge and train the community volunteers, so that they obtain necessary knowledge and skills to strengthen the capacity of community through awareness thereby, reducing the risks of any disasters.

CADRE training incorporates simple medical first responder training elements, dead body management, community incident command systems, and basic search and rescue techniques into a four-day modular course. CADRE training focuses on knowledge and skills that help prepare vulnerable communities to respond to the impact of local hazards in the community.

This Instructors guide will help them standardization of course content among the disaster response agencies and other stake holders.

"Shri Narendra Singh Bundela, IPS"
Inspector General, NDRF

DIG'S Forwarding

Local community members are crucial first responders in the immediate aftermath of disasters, mainly where access to many rural areas is hindered by extreme geography and inadequate infrastructure, and professional capacity to respond is limited. The critical role played by community members was clearly evident after major earthquakes and aftershocks, when emergency aid services took days to reach many communities in the affected country, and the only frontline responders were often family members, neighbors, and other community members. But unfortunately, most of them had no training in disaster response.

I extend my heartfelt gratitude to the **team members** specially Sh Kaushal Kumar, AC from NDRF Academy who has given his contribution for this book , whose extensive experience with the PEER-India project and his active involvement

It is heartening to learn NDRF-National Disaster Response force has prepared a dedicated and thoroughly researched **CADRE** (Community for Disaster Response) designed especially for the respective CADRE course. Natural phenomena, particularly disasters-natural or Man-made do not recognize boundaries. It therefore becomes imperative for nations to join hands to meet the vagaries of nature. Disasters need real-time response and building resilience to minimize the damage, as disasters impact the poor and the lesser privileged the most. The preparation of a list of Do's and Don'ts is a step in the right direction to enhance our preparedness whenever disasters strike and it will help for all community Before, during and post disaster as well as basic skills to be learnt by local volunteer to all emergency and district services.

I also express my deep gratitude to Shri Piyush Anand, IPS Director General, NDRF and Shri Narendra Singh Bundela, IPS, Inspector General, for their invaluable guidance and encouragement throughout this project. Their support has been a cornerstone of this accomplishment.

Shri Bhrat Bhushan Vaid,
DIG TRG, NDRF

BOO/TEAM CONTRIBUTION

This book has been prepared by the dedicated efforts of well experienced and knowledgeable team members which comprising, Shri Pranshu Srivastava, Second-In-Command, NDRF HQ, Shri Dev Darshan Belwal, Dy Commandant, 13th NDRF, and Shri Kaushal Kumar, Asstt Commandant, NDRF Academy. The efficient team has diligently compiled vital information to equip rescuers with the skills and understanding needed in challenging situations.

The contents of this book have been taken from INDIA CADRE Instructors Guide framed under ADPC & USAID and content has been revised and integrates the practical insights of NDRF personnel with global best practices. This content will be utilized for Training of CADRE Course only.

IN GRATITUDE

Sincere gratitude to PEER experts and instructors who review, make recommendations and update the CADRE curriculum and training materials to include new updates on international standards and guidelines in pre-hospital care.

CADRE INDIA NATIONAL ADAPTATION

The NDRF would like to acknowledge the work led by PEER program India and following individuals whose professional vision, expert contribution, and hard work have made the national adaptation of the CADRE curriculum possible. We are also grateful to the regional experts from ADPC, NSET, and regional subject matter specialists.

In 2021 a Technical Curriculum Review Group formed who have reviewed the CADRE book last time.

CADRE INDIA TECHNICAL CURRICULUM REVIEW GROUP

Mr. Pranshu Srivastava, Dy. Commandant, HQ, NDRF, New Delhi, India Mr. Anup Kumar Singh, *Dy. Commandant, 01 NDRF, Guwahati, India*

Special appreciation to Mr. Arun Rawat for mentoring the TCRG and Mr. Tarique Sohail in coordinating the review process.

The nationally adapted CADRE materials have incorporated recent developments in emergency response skills/techniques and methodologies/guidelines, local priority hazards, mitigation and response mechanisms, and policy/practices in the national context of India as applicable for community-level search and rescue.

We are also thankful to all NDRF units and NDRF Academy for their valuable feedback.

TABLE OF CONTENTS

ABBREVIATION

SRL. NO.	ACRONYM	FULL FORM
1.	AED	Automated External Defibrillator
2.	ALS	Advanced Life Support
3.	AMS	Acute Mountain Sickness
4.	ATI	Administrative Training Institute
5.	AVPU	ALERT, VERBAL, PAINFUL & UNRESPONSIVE
6.	BLS	BASIC LIFE SUPPORT
7.	BPDOC	B – Bleeding P – Pain D – Deformity / Rigidity O – Open Wounds C – Crepitus
8.	C-A-B	CIRCULATION, AIRWAY, AND BREATHING
9.	CADRE	COMMUNITY ACTION FOR DISASTER RESPONSE
10.	CBDRM	Community-Based Disaster Risk Management
11.	CBRN	Chemical, Biological, Radiological, and Nuclear
12.	CERT	COMMUNITY EMERGENCY RESPONSE TEAM
13.	CMO	Chief Medical Officer
14.	CPR	CARDIOPULMONARY RESUSCITATION
15.	C-QRST	Community-Quick Response Sorting Technique
16.	CRT	Community Response Team
17.	CSAR	Community Search and Rescue
19.	CSSR	Collapse Structure Search and Rescue
20.	CW	Cyclone Warning
21.	DCH	Drop Cover Hold
22.	DDMP	District Disaster Management Plan
23.	DDMA	District Disaster Management Authority
24.	DMS	Disaster Management System
25.	DMTP	Disaster Management Training Program
26.	DVI	Disaster Victim Identification
27.	EHS	Environmental Health and Safety
28.	EMS	Emergency Medical Services
29.	EWS	EARLY WARNING SYSTEM
30.	F&ES	Fire and Emergency Services
31.	FBAO	FOREIGN BODY AIRWAY OBSTRUCTION
32.	FIR	First Information Report
33.	GIS	Geographic Information System
34.	GLOF	GLACIAL LAKE OUTBURST FLOOD
35.	GPS	Global Positioning System
36.	HADR	Humanitarian Assistance and Disaster Relief
37.	HAM	Amateur Radio Operator
38.	HAZMAT	Hazardous Material
39.	HF	High Frequency
40.	HVRC	HAZARD VULNERABILITY RISK AND CAPACITY
41.	ICS	INCIDENT COMMAND SYSTEM
42.	IDRN	India Disaster Resource Network of Rescue and Response Operations
43.	IMD	India Meteorological Department

44.	INCOIS	Indian National Centre for Ocean Information Services
45.	INSARAG	INTERNATIONAL SEARCH AND RESCUE ADVISORY GROUP
46.	IRS	INCIDENT RESPONSE SYSTEM
47.	IRT	Incident Response Team
48.	LEMA	Local Emergency Management Authority
49.	LOC	LEVEL OF CONSCIOUSNESS
50.	MCI	MULTIPLE-CASUALTY INCIDENT
51.	MFR	MEDICAL FIRST RESPONDER
52.	NCDC	National Civil Defence College
53.	NDMA	National Disaster Management Authority
54.	NDRF	National Disaster Response Force
55.	NFPA	NATIONAL FIRE PROTECTION ACT
56.	NIDM	National Institute of Disaster Management
57.	NYKS	NEHRU YUVA KENDRA SANGATHAN
58.	PASS	P-Pull the pin A-Aim the nozzle S-Squeeze the lever S-Sweep
59.	PEER	PROGRAM FOR ENHANCEMENT OF EMERGENCY RESPONSE
60.	PPE	PERSONAL PROTECTIVE EQUIPMENT
61.	PTSD	Post Traumatic Stress Disorder
62.	QRT	Quick Reaction Team
63.	RCM	Rapid Clearance Marking
64.	RO	RESPONSIBLE OFFICERS
65.	ROV	Remotely Operated Vehicle
66.	SAR	Search and Rescue
67.	SDMA	STATE DISASTER MANAGEMENT AUTHORITY
68.	SDMP	STATE DISASTER MANAGEMENT PLAN
69.	SDR	Stop Drop Roll
70.	SDRF	State Disaster Response Force
71.	SITREP	Situation Report
72.	SOPD	Standard Operating Procedure Document
73.	TOT	Training of Trainers
74.	TRP	Triage and Rescue Point
75.	TSP	Technical Support Package
76.	TSUNAMI	Tidal Surge Usually Near Any Marine Island
77.	UAV	Unmanned Aerial Vehicle
78.	UHF	Ultra-High Frequency
79.	USAID	United States Agency for International Development
80.	USAR	Urban Search and Rescue
81.	VHF	Very High Frequency

LESSON

01

COURSE INTRODUCTION

Time - 03 Periods

LESSON OBJECTIVES

Upon completion of this lesson, you will become familiar with:

1. Other participants and the respective organizations they represent, the course coordinator, the instructors and the support staff.

2. The following aspects of the course: Purpose, objectives, evaluation and methodology, materials to be used, course schedule, facilities and ground rules.

► *PPT 1-1 to 1-2*

Suggested Duration:
1 hour and 20 minutes

Methods:
Interactive lecture method

Materials:
- PWB
- IG
- Flip Chart
- Multimedia Projector
- Projection Screen

Suggested Instructors Activity

1 Personal Introduction

Instructors, assistants and support personnel should introduce themselves to the group. The Instructors will have the participants introduce themselves or introduce a fellow participant.

2 Expectations

Ask the participants what they wished to learn and acquire in the course.

3 Course Purpose

To train the community participants with basic knowledge and skills to respond safely in disasters and emergencies.

► *PPT 1-3*

4

Course Performance Objectives

In the final practical exercise, the participants will be divided in two groups and will be given a scenario in which the both teams will respond using the procedures learnt in this course. You will be able to:

4.1 Secure your well-being and of the family

4.2 Receive the information and request for assistance

4.3 Organize and Plan for response

4.4 Select all necessary logistical needs

4.5 Safely respond to the scene, evaluate it and report the situation.

4.6 Secure the scene and request resources

4.7 Gain access to the affected person and evaluate the situation and provide appropriate care.

4.8 Conduct triage and extrication of trapped person if appropriate and stabilization of the injured

4.9 Package and prepare for transport

4.10 Share relevant information with professional pertaining to the condition of the patient and treatment given

4.11 Assist professional responder when needed

4.12 Community Discussion after response/action

4.13 Prepare for the next emergency

To accomplish the above objectives, each group will work through different simulated cases embedded on the overall scenario of a disaster. Each group will be provided all the basic equipment and Personal Protective Equipment.

All groups must complete the response within 1 hour and 30 minutes to complete all the necessary steps to respond to an incident for the first 24-72 hours.

► *Ask participants about the common hazards in their respective areas.*

5

Course Materials

- Participants Workbook
- Reference Materials

6 Participant Equipment

► *PPT 1-4*

You should have brought with you to the course a set of personal protective equipment and other work equipment and materials, as indicated:

Required Equipment

- Hard hat (industrial or fire-fighter)
- Eye protection/safety goggles
- Work gloves, leather
- Safety steel-toe boots
- Safety whistle
- Work clothes (Long sleeve shirt)
- Water bottle, minimum 1-litre capacity

Optional

- Overalls or jump suit
- Sunscreen lotion
- Insect repellent
- Raincoat
- Knee pads
- Cap or hat

Other Required Materials

- Two passport-sized photo (for the Class Directory and Registration Form)
- Office or work uniforms for the opening and closing Ceremonies

7 Course Methodology

The course methodology is highly participatory and allows constant interaction between the instructor and participants. Participants will be required to gain some background knowledge as well as acquire manual skills.

8 Evaluation Method

► *SL 1-5*

100% participation at all activities is mandatory. This includes all lesson, practices and evaluations. You will be evaluated in this course using three methods:

8.1 **Unit Tests:** There will be two unit tests in the CADRE course: one after lesson seven, covering contents of lesson one to seven and next after lesson eleven, covering contents of lesson eight to eleven. Minimum passing score is 70%. Your overall average must be a minimum of 70% in order to receive the certificate of completion. If you don't receive the passing score on one of the unit test, you will receive one make up opportunity per test. The makeup unit test will be in the same format, but different set of questions in the presence of at least one lead instructor. The highest score possible on the makeup test is 70% regardless of your actual score. If you are unable to pass anyone of the makeup test, you will be able to continue the course, but will get only a certificate of attendance, after completing all remaining course activities, including exercises.

8.2 **Practical Evaluations**, which will be given in lessons with a performance component. Duration will depend on complexity and number of tasks. There are components that each participant will be evaluated individually and by group or teams on some skills.

8.2 **The Final Practical Evaluation** at the end of the course will include a simulated disaster situation in a community. The class is regrouped into 2 teams, composed of 14 members for each team and is expected to complete all steps identified in the performance objective.

9 Activities

9.1 Course Schedule and Attendance

The rules for attendance and participation are as follows:

- Participation in all classes and course activities is mandatory.
- Punctuality promotes mutual respect and responsibility among participants.

Absences and tardiness: Tardiness and missing classes is not acceptable. Only under very special circumstances will an exception be made for one late arrival, to a maximum of 05 percent of total class Missing a class or arriving late for no special reason will disqualify you from passing the course.

Participants are not allowed to receive or make calls during classes (indoor/outdoor).

Participation in all course activities (lectures, practical exercises, and evaluations) is **MANDATORY**.

9.2 Participant Feedback

- **Daily Course Evaluation** – At the end of the day you will ask to identify what went well and what needs to be improved. We will also ask you to fill out the Lesson Evaluation Form at the end of each lesson.
- **Course Review** – Summarizing key points of the lesson. Review objectives of the lesson and answer all questions in the file. We highly value your comments, as they will greatly assist us in improving the course for the future. (Passing of Participant Course Evaluation Form before conducting of last daily evaluation of the course.)

10 Certification

The certificate issued as per performance of participants

10.1 Certificate of completion: If participants complete all necessary requirement set by course will be awarded the certificate of completion.

10.2 If any of the participant is unable to complete any set requirements (completely or partially) or failed to complete steps identified in the final practical evaluation will not receive any certificate.

The course coordinator will have overall authority for any decision regarding the matter.

11

Registration

If you have not already done so, please make sure you have completed and turned in the CADRE Course registration form, which contain the health, dietary and liability release form.

12

The File

We will post a blank flipchart labeled "File" on one of the walls. We will use it to record questions and issues that will need to be clarified in later lessons or in the general review at the end of the course. You can also write down your questions here for future reference.

13

Pre Test

To know the prior knowledge of the participants.

- Ask participants if there are any clarifications of inquiries about the discussed topics
- Comments and suggestions
- Review objectives
- Ask participants to fill up Lesson Evaluation Form
- Thank the participants and introduce the next instructor for Lesson 2

- ***PPT 2-17 to 2-18***
- *Review Lesson Objectives*
- *Closing*
- *Lesson Evaluation*

PARTICIPANT COURSE EVALUATION

Location: _____ **Dates:** _____

Participant course evaluations are a vital part of monitoring the training program. Without feedback from you the participant, it is impossible to refine and improve the course. Please answer this questionnaire anonymously, and as carefully as possible.

Information about you:

1. Age _____ 2. Gender _____

3. Education:

☐ Primary ☐ Secondary ☐ University ☐ Vocational

4. Professional disaster response experience:

☐ Operations ☐ Coordination ☐ Management

5. Previous disaster management related courses attended

_____

_____

_____

_____

SPECIFIC COURSE UNITS

In this section, we request you to evaluate the ten (10) sections of this training.

The focus here is on the content and the instructor.
Use a scale of 1 to 5 to evaluate each of the lessons.
A rating of **1 indicates poor, 3 is average** and **5 is excellent.**

1 VERY POOR	2 POOR	3 AVERAGE	4 GOOD	5 EXCELLENT

Sections/Modules		Rating		
		Content	Instructors	Comments
1.	Course Introduction			
2.	Common Hazards and the Community Response Group			
3.	Securing Family and Preparing for Response and Incident Command System (ICS)			
4.	Basic Life Support			
4-II	Basic First Aid and Triage			
5.	Dead Body Management			
6.	Fire Emergencies			
7.	Basic Search Techniques			
8.	Basic Rescue Techniques			
9.	Water Emergencies			
10.	Other Emergencies			
11.	Dos & Don'ts of various natural & manmade disasters			
12.	Final Practical Exercise			

Suggestions and additional comments on strong and weak points in one or more of the modules: (back portion may be used if this space is not enough)

Course component in this section please evaluate the various components of the CADRE Course.

Use a scale of 1 to 5. A rating of 1 indicates poor, 3 is average and 5 is excellent.

1 VERY POOR	2 POOR	3 AVERAGE	4 GOOD	5 EXCELLENT

OVERALL COURSE EVALUATION

Course Component	Rating	Comments	
		Positive	Needs Improvement
Pre-Work			
Participant□s Workbook			
Lesson Sequence			
Group activities			
Course method			
Visual aids			
Reaching lesson objectives			
Instructors as a team			
Applicability of Final Presentation			
Relevance of Course to your work			
Quality of classroom facilities			

OVERALL COURSE EVALUATION
GENERAL QUESTIONS

1. What is your opinion of the level of the course?

☐ Too advanced ☐ Appropriate ☐ Too basic

Why? _____

_____

2. What is your opinion of the duration of the course?

☐ Too short ☐ Appropriate ☐ Too long

Why? _____

_____

3. Did this course meet your personal expectations?

☐ Yes ☐ No

If not, why? _____

_____

4. **TAKING EVERYTHING INTO ACCOUNT, overall, how do you rate this course?**
Use a scale of 1 to 5. A rating of 1 indicates poor, 3 is average and 5 is excellent (Circle one, please.)

1 VERY POOR	2 POOR	3 AVERAGE	4 GOOD	5 EXCELLENT

Suggestions and additional comments on the strong and weak points of the CADRE Training.

_____

_____

_____

_____

_____

CADRE LESSON 1 EVALUATION

Course Location: _____ **Dates:** _____

Do not write your name on this form. Please complete a copy of this form at the end of every lesson. Your evaluations are very valuable towards improving the course. Please use the ratings below.

1 VERY POOR	2 POOR	3 AVERAGE	4 GOOD	5 EXCELLENT

Please fill in the required information.	**Lesson Number :** 1	**Lesson Name :** Course Introduction	
	Instructors Name		
Use a scale from 1 to 5 as described above to rate the various lesson components.	**Lesson Rating (rate 1 to 5)**		
	Content	Instructor	Method
	Workbook	Interaction	
Mark your selection with an "X"	**Instruction Level** ☐ Too basic	☐ Appropriate	☐ Too advanced
	Duration ☐ Too short	☐ Appropriate	☐ Too long
	Usefulness Was this lesson useful to you?	☐ Yes	☐ No
Rate from 1 to 5	**Overall Lesson Rating** Taking all the above into consideration, I rate this lesson: _____		
If you need additional space, please use the back of the sheet.	**Comments and Observations**		

Thank you for your help. Your input is valuable. Please turn in this completed form to the instructor.

LESSON

02

COMMON HAZARDS AND COMMUNITY RESPONSE GROUP

Time - 02 Periods

LESSON OBJECTIVES

Upon completion of this lesson, you will be able to:

1. Define Hazard and Disaster.
2. Identify the different classification of hazards and its possible consequences.
3. Define Early Warning System (EWS).
4. Define what a Community Responder is.
5. Identify the roles, responsibilities, scope and limitations of a community responder.
6. Identify components of a CADRE squad.
7. List the items in a Personal Protective Equipment.

► *PPT 2-1 to 2-3*

Suggested Duration:
45 minutes

Methods:
Interactive lecture method
Demonstration

Materials:
- PWB
- IG
- Flip Chart
- Visual Aids
- Multimedia Projector
- Projection Screen

1 Introduction

1.1 Hazard

A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

Suggested Instructors Activity

► *PPT 2-4*

1.2 Disaster

A disaster is not a single event; it may have various causes and consequences, and so each disaster is unique.

A disaster is a sudden, calamitous event that seriously disrupts the functioning of a community or society and causes human, material, and economic or environmental losses that exceed the community's or society's ability to cope using its own resources.

► *PPT 2-5*

Origin of word disaster- The "disaster" originatesfrom Greek term "disaster," forme combining "dus-" (bad) and " (star). So, the word "disa literally means "bad star" or ill starred".

- **Disaster =** interaction between a hazard and a community **and the situation is beyond the coping capacity of the community.**
- **Potential for disaster based on:**
  - Hazards present in community
  - Vulnerabilities of the community
  - Disaster preparedness of the community
  - Disaster preparedness can affect the hazard or the community at risk
- **The most important aspects to remember about a disaster are:**
  - Disasters interrupt the normal functioning of a community
  - Disasters exceed the coping mechanisms (capacity) of the community
  - External assistance is needed to return to normal functioning of a community

► *PPT 2-6*

Ask participants about the common hazards in their respective areas.

2 Common Hazards

► *PPT 2-7*

2.1 Natural

Natural process or phenomenon that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

> **Comment:**
> Natural hazards are a sub-set of all hazards. The term is used to describe actual hazard events as well as the latent hazard conditions that may give rise to future events. Natural hazard events can be characterized by their magnitude or intensity, speed of onset, duration, and area of extent. For example, Earthquakes have short durations and usually affect a relatively small region, whereas droughts are slow to develop and fade away and often affect large regions. In some cases hazards may be coupled, as in the flood caused by a hurricane or the tsunami that is created by an earthquake.

Examples:
Flood, Drought, Earthquake, Tsunami, Landslides, Cyclones/Typhoons/ Tornado, Thunderstorms/Lightening, GLOF (Glacial Lake Outburst Flood), etc.

2.2 Biological

Process or phenomenon of organic origin or conveyed by biological vectors, including exposure to pathogenic micro-organisms, toxins and bioactive substances that may cause loss of life, injury, illness or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

> **Comment:**
> Examples of biological hazards include outbreaks of epidemic diseases, plant or animal contagion, insect or other animal plagues and infestations.

Examples:
COVID-19, Anthrax, Outbreaks, H1N1, H5N1, Dengue, Plague, etc.

► ***H5N1- Avian Flu***

► ***H1N1- Swine Flu***

► ***COVID-19***

► ***Bhopal Gas tragedy*** - *On December 3, 1984, the world□s worst industrial catastrophe Occurred due to the leak of Methyl iso-cyanate gas from the Union Carbide India Limited Company (UCIL) in Bhopal.*

2 Common Hazards (Cont.)

2.3 Technological

A hazard originating from technological or industrial conditions, including accidents, dangerous procedures, infrastructure failures or specific human activities, that may cause loss of life, injury, illness or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

> **Comment:**
> Examples of technological hazards include industrial pollution, nuclear radiation, toxic wastes, dam failures, transport accidents, factory explosions, fires, and chemical spills. Technological hazards also may arise directly as a result of the impacts of a natural hazard event.

Examples:

Fire, Chemical spills, Lab or Storage explosion, Transport accidents

Chemical Disaster

A chemical disaster is a major accident, usually industrial, involving the unintentional release of one or more hazardous chemicals. This release can harm human health, cause environmental damage, and potentially lead to serious consequences like illness, injury, or even death. Examples of chemical disasters include fires, explosions, leaks, and toxic releases.

There are four types of chemical hazards are

1. Flammability 2. Corrosively, 3. Toxicity, and
4. Reactivity

Reservation movements in Rajasthan, Haryana and Maharashtra

2

Common Hazards (Cont.)

2.5 Types of Hazards & Its Consequences

2.5.1 Flood

► *PPT 2-8*

Water contamination, disease e.g leptospirosis, diarrhea, dysentery, death due to drowning

2.5.2 Earthquake

► *PPT 2-9*

Infrastructure breakdown, death, great magnitudes can disrupt the whole area e.g Bhuj earthquake (2001), dead bodies, livelihoods, other secondary hazards (fire, landslide, dam burst, liquefaction)

2. Glacial Lake Out Flood (GLOF)

Consequences

Riverbank erosion | Habitat destruction | Sediment deposition | Destruction of infrastr (roads, bridges, hydro p plants) | Displacement of communities | Loss of livelihoods (agri tourism) | Fatalities | Injuries | Water contamination

3. Flash Flood

Consequences

Soil erosion | Water pollution | Damage to ecosystems | Damage to homes and proper | Transport disruption | Business losses | Emergency evacuations | Homelessness | Disruption of daily life | Drowning | Injuries | Outbreak of waterborne dise

2 Common Hazards (Cont.)

2.5.3 Tsunami

► *PPT 2-10*

Dead bodies, water and food, livelihoods, infrastructures, disruption of lifelines (e.g. Indian Ocean Tsunami of 2004)

2.5.4 Landslides

► *PPT 2-11*

Infrastructure breakdown, death and livelihoods, population displacement. (e.g. Malegaon landslide in 2014)

2.5.5 Epidemic

► *PPT 2-12*

Health, death, isolation of individual/families affected, livelihoods, disruption of education (e.g. Gujarat Plague)

2.5.7. Volcanic Eruption

► *PPT 2-14*

Population displacement, disruption of education, livelihood, disruption of lifelines and death (e.g. Barren island 2014)

3

Early Warning System (EWS)

The set of capacities needed to generate and disseminate timely and meaningful warning information to enable individuals, communities and organizations threatened by a hazard to prepare and to act appropriately and in sufficient time to reduce the possibility of harm or loss.

Early Warning System (EWS) encompasses the range of factors necessary to achieve effective responses to warnings. A people-centered Early Warning System (EWS) necessarily comprises four key elements: knowledge of the risks; monitoring, analysis and forecasting of the hazards; communication or dissemination of alerts and warnings; and local capabilities to respond to the warnings received. The expression "end-to-end warning system" is also used to emphasize that warning systems need to span all steps from hazard detection through to community response.

Note: Basic information and limitation will be provided during the session as per country context.

- *Indian Meteorological Department (IMD)'s Early Warning System (EWS) for heavy rainfall, cyclones, floods, etc.*

Familiarization and use of the application like Sachet, Meghdoot, Damini & Mousam etc. as most of public of these applications

4

Community Response Organization

- ***PPT 2-15***

4.1 Definition of Community Responder

- *Give emphasis on this topic.*

Definition of Community Responder-a first responder, usually (but not exclusively) a lay person who have been trained to act in this capacity **(Basic First Aid, most elementary Search & Rescue Techniques, Basic Firefighting Skills & Basic Dead Body Management Skills)** who can safely respond after a disaster or emergency.e.g Civil Defence volunteers **Nehru Yuva Kendra Sangathan (NYKS) volunteers, Aapda Mitras, Civil Volunteer. etc**

4.2 Roles, Responsibilities & Limitation

- ***Explain Span of Control***

When a disaster or emergency occurs in a certain community and **professionally trained responders** are not immediately available, Community Responders can assist by:

- Conducting an initial size-up in their homes or workplaces.
- Reducing imminent dangers by turning off utilities, suppressing small fires, evacuating the area, and helping others.
- Extricating surface injured persons.
- Providing basic treatment to injured persons.
- Working with other community members and volunteers to establish a command post, staging area, and medical triage and treatment areas.
- Collecting damage information and developing a plan of operation based on life-saving priorities and available resources.
- Establishing and maintaining communication with responders.
- Interfacing with professional responders and assisting them as the need arises.

Span of Control: A manageable span of control is defined as the number of individuals one supervisor can manage effectively.

Managing 3-7 resources, with 5 being the optimum.

4

Community Response Organization (Cont.)

Other Roles

- Community involvement
- Civic actions
- Auxiliary roles to public safety agencies

Limitations

Since Community responders are trained on limited specific basic skills e.g CD volunteers **Nehru Yuva Kendra Sangathan (NYKS) volunteers, Aapda Mitras, Civil Volunteer**, they are bound to adhere to specific limitations:

Scope of Care

Actions that are limited to his training and are legally allowed when providing care to an injured person.

4.3 Identify Components of a CADRE Squad

4.3.1 Team Leader

- Safety officer of the squad (Does not perform hands on rescue activities)
- Record all events and actions taken by the team
- Assign tasks to the members
- Communicate and Coordinate with Professional responders

4.3.2 5 Members

- Carry out work instructions from the team leader
- Use available tools correctly and safely
- Update the team leader on task progress
- Request resources from the team leader

4.4 Disaster Management Cycle:

Disaster Management Cycle is a framework that defines the stages of a disaster, encompassing prevention, preparedness, response, and recovery. It's a continuous, integrated process focused on minimizing the impact of disasters by proactively managing risks, responding effectively during incidents, and supporting recovery afterward.

STAGES of DM Cycle:

I. Preparedness
II. Response
III. Recovery
IV. Mitigation

Community Response Organization (Cont.)

4.4 Personal Protective Equipment (PPE)

► *PPT 2-16*

Minimum Equipment:

(1) Helmet or hard hat

> To protect the head from falling debris and contact with sharp objects

(2) Goggles or other form of eye protection

> To protect the eyes from dust, debris, and sharp objects

(3) Working gloves

> To protect the hands from cuts and abrasions

(4) Dust mask

> To protect the nose and respiratory tract against dirt and dust

(5) Safety identification vest (bright orange with reflective tape)

> To identify those members who are trained and assigned specific responsibilities.

(6) Flashlight

> To illuminate confined spaces and night time operations

(7) Extra clothing and a hat

> To protect the body from cuts, abrasion, sunburn and evening cold

(8) Sturdy and comfortable shoes or boots

> To protect the feet against cuts, abrasions, and sprained ankles - High heels and sandals are unsafe

HAVE A DISASTER EMERGENCY KIT READY

- Ask participants if there are any clarifications of inquiries about the discussed topics
- Comments and suggestions
- Review objectives
- Ask participants to fill up Lesson Evaluation Form
- Thank the participants and introduce the next instructor for Lesson 3

- ***PPT 2-17 to 2-18***
- *Review Lesson Objectives*
- *Closing*
- *Lesson Evaluation*

CADRE LESSON 2 EVALUATION

Course Location: _____ **Dates:** _____

Do not write your name on this form. Please complete a copy of this form at the end of every lesson. Your evaluations are very valuable towards improving the course. Please use the ratings below.

1 VERY POOR	2 POOR	3 AVERAGE	4 GOOD	5 EXCELLENT

Please fill in the required information.	**Lesson Number :**	**Lesson Name :**	
	Instructor s Name		
Use a scale from 1 to 5 as described above to rate the various lesson components.	**Lesson Rating (rate 1 to 5)**		
	Content	Instructor	Method
	Workbook	Interaction	
Mark your selection with an "X"	**Instruction Level** ☐ Too basic	☐ Appropriate	☐ Too advanced
	Duration ☐ Too short	☐ Appropriate	☐ Too long
	Usefulness Was this lesson useful to you?	☐ Yes	☐ No
Rate from 1 to 5	**Overall Lesson Rating** Taking all the above into consideration, I rate this lesson: _____		
If you need additional space, please use the back of the sheet.	**Comments and Observations**		

Thank you for your help. Your input is valuable.
Please turn in this completed form to the instructor.

LESSON

03

SECURING FAMILY AND PREPARING FOR RESPONSE AND INCIDENT COMMAND SYSTEM/INCIDENT RESPONSE SYSTEM (IRS)

Time - 02 Periods

LESSON OBJECTIVES

Upon completion of this lesson, you will be able to:

1. Describe the importance of Family Preparedness.
2. List the steps in Creating a Family Disaster Plan.
3. List the important items in assembling and storing a disaster kit (Demonstrate the Emergency/go bag).
4. Describe Operational Safety and Preparing for Response.
5. Identify the 5 Phases of Operation.
6. List the steps to follow in Operation Phase.
7. Define Incident.
8. Define Incident Command System (ICS).
9. Define Incident Response System (IRS).

► *PPT 3-1 to 3-2*

Suggested Duration:
Lecture: 45 minutes

Activities:
Static Display of Kit boxes (Go Bag)
Group Table Top Exercise (optional)

Materials:
- PWB
- IG
- Visual Aids
- Multimedia Projector
- Projection Screen

Methods:
Interactive lecture method
Demonstration
Group exercise

1 Family Preparedness

Suggested Instructors Activity

Why do we need family preparedness? The answers to these questions may be different depending on the hazard posing as threat to your family, community or workplace and often you probably will not be able to plan for every event that could happen. By simply asking the question "What if?" with high-risk hazards, you will be better prepared for any hazard that might strike.

2 Important Steps in Creating a Family Disaster Plan

► *PPT 3-3*

2.1 First Things First!

Contact your local emergency or disaster management office like **District Disaster Management Offices, local Civil defence offices**, Fire Departments and Local Red Cross Society Offices.

Find out the following:

2.1.1 Disaster or emergency that usually happens in your community

2.1.2 How would you be warned

2.1.3 How to prepare for each disaster

Note*

Hazard Vulnerability Risk and Capacity (HVRC) analysis of entire Nation is already is done except a few exceptions. Multi disaster maps of most of the districts are already prepared and are available in official websites of National Disaster Management Authority (NDMA) & Respective State Disaster Management Authority (SDMA).
*NDMA, SDMA, DDMA & various disaster stakeholders are regularly conducting region specific community capacity building training for free of cost. For ex. – NYKS volunteers, AAPDA MITRA volunteers etc.

2

Important Steps in Creating a Family Disaster Plan (Cont.)

2.2 Talk and Discuss Strategies to Your Family

2.2.1 Discuss the types of disasters that could occur.
- Explain how to prepare and respond.
- Discuss what to do if advised to evacuate.

2.2.2 Practice what you have discussed.
- Show responsible family members how and when to shut off water, gas, and electricity at main switches.
- Install a smoke alarm on each level of your home, especially near bedrooms; test them monthly and change the batteries two times each year.

2.3 Plan How Your Family Will Stay in Contact If Separated by Disaster.

► *PPT 3-4*

2.3.1 Pick two meeting places:
- A location a safe distance from your home in case of fire.
- A place outside your neighborhood in case you can□t re turn home.

2.3.2 Choose an out-of-state friend as a "check-in contact" for everyone to call.

- **Post emergency telephone numbers by every phone.** Maintain the emergency contact numbers.

3

Basic Survival Kit

► *PPT 3-5*

You and your family can cope best by simply preparing basic needs before disaster strikes. One way to prepare is by assembling a Family Basic Survival Kit. After disaster strikes, you won't have time to shop or search for supplies. But if you□ve gathered supplies in advance, you and your family can endure and last a home confinement or worst case an evacuation.

► *Show disaster preparedness kit or Instructor can do a tale top exercise by letting the participants write in FC what they they need to put in their kit*

3.1 To Prepare Your Kit

3.1.1 Review your Family Disaster Supplies Kit

3.1.2 Gather the supplies from the list.

3.1.3 Place the supplies you're apt to need for an evacuation in an easy-to-carry container.

3

Basic Survival Kit (Cont.)

3.2 Water

A normally active person needs to drink at least two quarts of water each day. Store water in plastic containers such as soft drink bottles or mineral water containers. Avoid using containers that will decompose or break, such as milk cartons or glass bottles. Hot environments and intense physical activity can double that requirement. Children, nursing mothers, and ill people will need more.

- Store 1 gallon of water per person per day (2 quarts for drinking, 2 quarts for food preparation/sanitation.)*
- Keep at least a 3-day supply of water for each person in your household.

► *1 gal = 3.78 liters*

► *2 quarts = 1.9 liters*

Note:
2 quarts will be roughly equal to 8 normal size glasses

► *Emphasize that Boiling is the most safest and practical way to disinfect water.*

If you have questions about the quality of the water, purify it before drinking. You can heat water to a rolling boil for 1 minute or use commercial purification tablets to purify the water.

You can also use household liquid chlorine bleach if it is pure, unscented, 5.25% sodium hypochlorite. To purify water using chlorine, use the table below as a guide.

Ratios for Purifying Water with Bleach

Ratios for purifying water with bleach : Water quantity and bleach added.

Water Quantity	Bleach Added
x1 1 Liter (1000ml)	x4 4 Drops

Note:
After adding bleach, shake or stir the water container and let it stand 30 minutes before drinking

3

Basic Survival Kit (Cont.)

3.3 Food

Store at least a 3-day supply of nonperishable food. Select foods that require no refrigeration, preparation, or cooking and little or no water. Select food items that are compact and lightweight. Include a selection of the following foods in your disaster supply kit:

- Ready-to-eat canned meats, fruits, and vegetables
- Canned juices, milk, soup (if powdered, store extra water)
- Staples-sugar, salt, pepper, sattu (flour of chana, makka, barley)
- High-energy foods-peanut butter, jelly, crackers, granola bars, trail mix
- Foods for infants, elderly persons, or persons on special diets
- Comfort/stress foods-cookies, hard candy, sweetened cereals, lollipops, instant coffee, tea bags

3.4 Kitchen Items

- Manual can opener
- Mess kits or paper cups, plates, and plastic utensils
- Multi-purpose knife
- Household liquid bleach to treat drinking water
- Sugar, salt, pepper
- Aluminum foil and plastic wrap
- Re-sealing plastic bags
- If food must be cooked, small cooking stove and a can of cooking fuel

3.5 Clothing and Bedding

Include at least one complete change of clothing and footwear per person.

- Sturdy shoes or work boots
- Rain gear
- Blankets or sleeping bags
- Hat and gloves
- Thermal underwear
- Sunglasses

3.6 Household Documents and Contact Numbers

- Personal identification, cash (including change) or traveler's checks, and a credit card.
- Copies of important documents: birth certificates, marriage certificate, driving license, social security cards, Aadhar card, passport, wills, deeds, inventory of household goods, insurance papers, immunizations records, bank and credit card account numbers, stocks and bonds. Be sure to store these in a watertight container.
- Emergency contact list and phone numbers
- Map of the area and phone numbers of places you could go
- An extra set of car keys and house keys

3

Basic Survival Kit (Cont.)

3.7 Special Items

Remember family members with special needs, such as infants and elderly or disabled persons.

3.8 For Baby

- Formula/Powdered milk (prevention of diarrheal disease)
- Diapers
- Feeding Bottles
- Medications

3.9 For Adults with special needs (As applicable)

- Heart and high blood pressure medication
- Insulin
- Prescription drugs
- Denture needs
- Contact lenses and supplies
- Extra eye glasses
- Entertainment-games and books
- Important Family Documents-keep these records in a waterproof, portable container
- Will, insurance policies, contracts, deeds, stocks and bonds
- Passports, social security cards, immunization records
- Bank account numbers
- Credit card account numbers and companies
- Inventory of valuable household goods
- Important telephone numbers

NOTE

Fluid-resistant face masks and hand gloves should also be stored due to prevailing COVID scenario.

As per the WHO guidelines Special care is required on the following;

1) Hand hygiene and respiratory etiquette;
2) Physical distancing;
3) Use of masks in public gatherings ;
4) Environmental cleaning and ventilation; and
5) Respecting procedures for isolation of all people with symptoms.

4

Operational Safety and Preparing for Response

4.1 Personal Safety

- Personal Hygiene
- PPE
- Fitness

4.2 Operational Safety

Whistle Signals

The Safety Officer will use the whistle to give alarm signals and alerts in the work area using the following signal system:

- **One long signal:** stop all work and listen for instructions.

- **One long, one short:** continue working.

- **Three short signals:** alarm signal, evacuate the area immediately to a previously designated safety zone.

4

Operational Safety and Preparing for Response (Cont.)

4.3 5 Phases of Operation:

4.3.1 Preparation Phase ▸ *PPT 3-6*

(1) Training
(2) Selection of team members and potential squad leaders
(3) PPE
(4) Knowledge of Community disaster plan
(5) Transportation arrangements

4.3.2 Activation and Mobilization phase ▸ *PPT 3-7 to 3-9*

(1) Request for transportation if necessary
(2) Notify team members
(3) Load team jump kits (Response kit, First Aid kit)
(4) Obtain information of disaster or emergency
   - Type, location, topography, magnitude/ area affected, no. of persons and infrastructures affected, weather condition and access routes

(5) Brief team members

4.3.3 Operation Phase ▸ *PPT 3-10*

(1) Secure the scene (hazard mitigation)
(2) Initial assessment (Scene size-up)
(3) Conduct search (decision for conducting TRIAGE in case of Multi-casualty)
(4) Gain access to victims (surface victims for severe collapse pattern) if in doubt of the integrity of the structure consider it "UNSAFE"
(5) Stabilize the victim as much as possible
(6) Extricate, transfer to treatment area and provide care and comfort

4.3.4 Deactivation and Demobilization phase ▸ *PPT 3-11*

- Confirm no operation is further needed
- Account for personnel and basic tools
- Arrange transportation if necessary

4.3.5 Post Operation Phase ▸ *PPT 3-12*

- Keep all logs and records
- Team de-briefing (community discussion, lessons learned process)

5 Definition of Incident

Definition | An event caused by a natural phenomenon or human activity that requires the intervention of emergency service personnel to prevent or mitigate loss of life and damage to property and the environment.

► *PPT 3-15 to PPT 3-16*

► *Span of Control: A manageable span of control is defined as the number of individuals one supervisor can manage effectively.*

In ICS, The span of control for any supervisor falls within a range of 3-7 resources, with 5 being the optimum. If those numbers increase or decrease, the Incident Commander should re-examine the organizational structure.

When responding to an incident, you should consider, among others the following factors:

- **Day of the week** (traffic, special holiday, religious gatherings, market day)
- **Time of the day** (home, office hours, school hours, rush hours)
- **Weather** (Rain, wind, storms, dry etc.)
- **Topography** (mountainous, forest, winding roads)
- **Access routes** (highways, crossings, bridges height & width, landmines)
- **Others** (Hazmat, power lines, social disturbance, political riots)

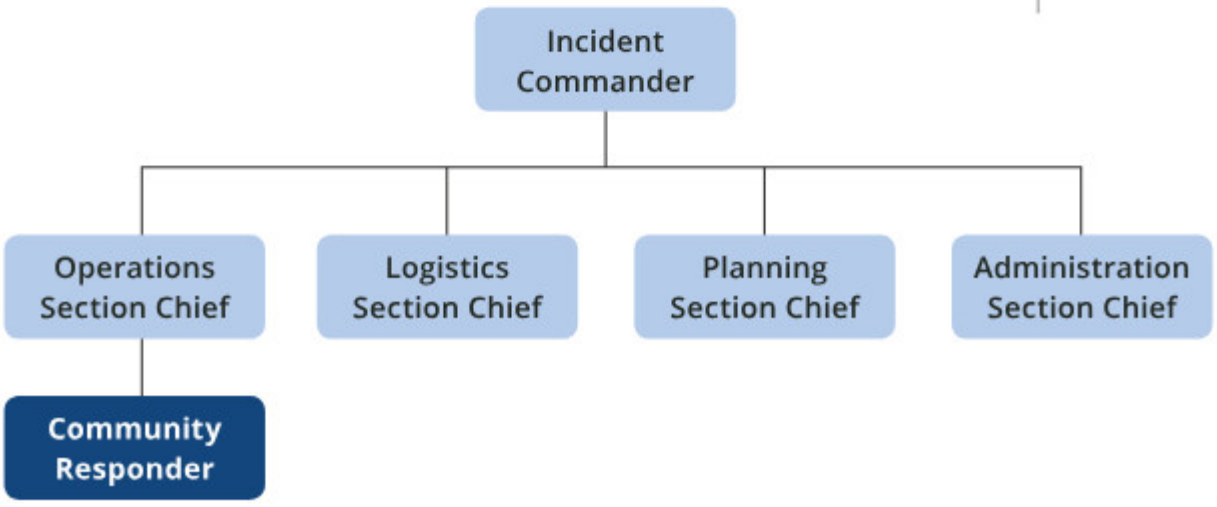
6 Incident Command System

One of the most challenging situations for a community responder is a multiple-casualty incident (MCI). An MCI is any event where three or more patients are involved or when the number of injured exceeds the capabilities of the community resources. One way to minimize operating difficulties is to be familiar with the local disaster plan or the Incident Command System. The local disaster plan is a pre-defined set of instructions that tells a community's various agencies what to do in a specific emergency.

Definition | A flexible system for managing people and resources.

BASIC ICS STRUCTURE

► *PPT 3-17*



7 Incident Response System (IRS) in India

7.1 India has been successfully managing disasters in the past, there are still a number of shortcomings which need to be addressed.

► *Discuss Safety. Give emphasis*

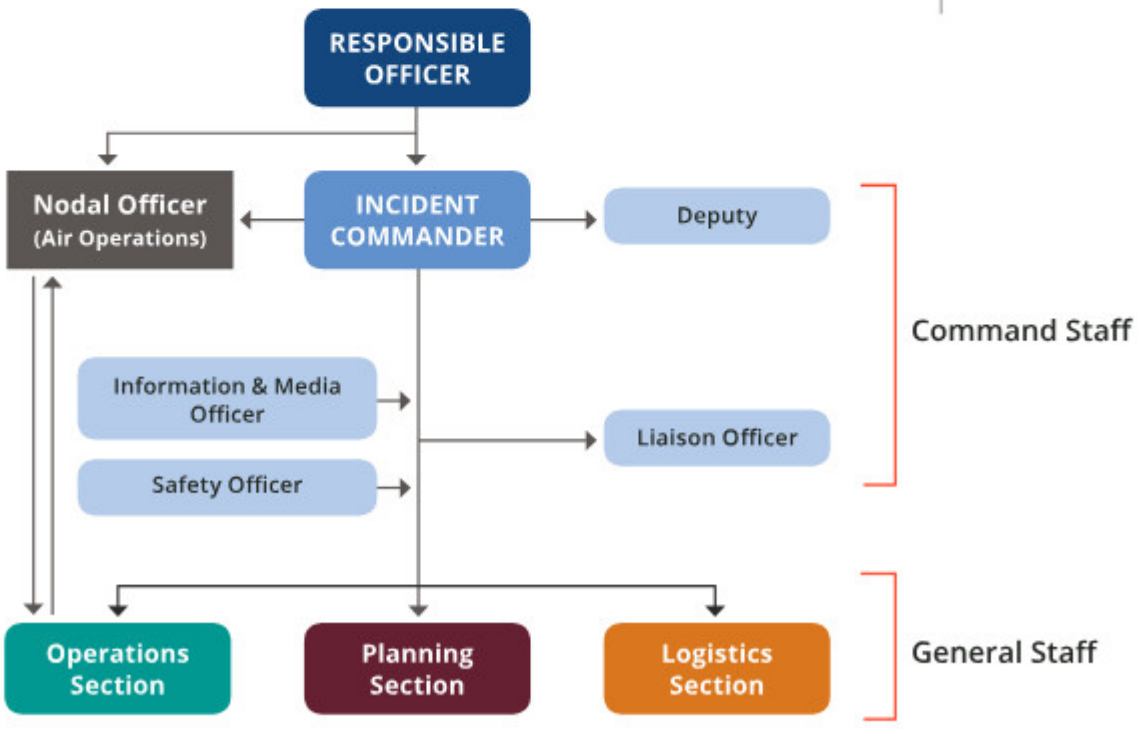
Realization of certain shortcomings in Indian response system and a desire to address the critical gaps led the Government of India (GoI) to look at the world's best practices. The GoI found that the system evolved for firefighting in California is very comprehensive and thus decided to adopt Incident Command System (ICS).

In 2003 Government of India had collaborated with the **United States Agency for International Development (USAID)** for institutionalizing Incident Command System (ICS) of USA in India. The experience over the past years in implementing this system in Indian scenario established the need of indigenizing the system, that is, to align it to Indian administrative set up and the provisions of the DM Act. Keeping in view of Indian scenario ICS was adopted in India in the form of Incident Response System (IRS) in 2010.

The organisation of the IRS is built around five major management activities: Responsible officer, command, operations, planning and logistics.

► *Figure 1*
Organizational Chart of IRS

► *PPT 3-18*



Source: https://ndma.gov.in/en/irs-training/introduction.html (Accessed on November 21, 2019)

7

Incident Response System (IRS) in India – Cont.

7.2 Principles & features of Incident Response System (IRS):

The Incident Response System is a management tool which constitutes an important part of the Disaster Response at State and District Level. The Incident Response System (IRS) is an effective mechanism for reducing the scope for ad-hoc measures in response. It incorporates all the tasks that may be performed during Disaster Management irrespective of their level of complexity. It envisages a composite team with various Sections to attend to all the possible response requirements.

The IRS identifies and designates officers to perform various duties and get them trained in their respective roles. If IRS is put in place and stakeholders trained and made aware of their roles, it will greatly help in reducing chaos and confusion during the response phase. Everyone will know what needs to be done, who will do it and who is in command, etc.

IRS is a flexible system and all the Sections, Branches and Units need not be activated at the same time. Various Sections, Branches and Units need to be activated only as and when they are required.

The IRS organization functions through Incident Response Teams (IRTs) in the field. Responsible Officers (ROs) have been designated at the State and District level as overall in charge of the incident response management. The RO may however delegate responsibilities to the Incident Commander (IC), who in turn manages the incident through IRTs.

This course will not discuss in depth on the IRS however the focus is to channel your teams where they fit in case disasters happen.

So, where does the community responder fits in the IRS?

Source:
https://ndma.gov.in/en/irs-training/introduction.html
(Accessed on November 21, 2019)

► *Your Instructor will provide you a framework of IRS and pinpoint where the team belongs.*

- Ask participants if there are any clarifications of inquiries about the discussed topics
- Comments and suggestions
- Review objectives

- Ask participants to fill up Lesson Evaluation Form
- Thank the participants and introduce the next instructor for Lesson 4

- ***PPT 3-19 to 3-20***
- *Review Lesson Objectives*
- *Closing*
- *Lesson Evaluation*

CADRE LESSON 3 EVALUATION

Course Location: _____ **Dates:** _____

Do not write your name on this form. Please complete a copy of this form at the end of every lesson. Your evaluations are very valuable towards improving the course. Please use the ratings below.

1 VERY POOR	2 POOR	3 AVERAGE	4 GOOD	5 EXCELLENT

Please fill in the required information.	**Lesson Number :**	**Lesson Name :**	
	Instructor□s Name		
Use a scale from 1 to 5 as described above to rate the various lesson components.	**Lesson Rating (rate 1 to 5)**		
	Content	Instructor	Method
	Workbook	Interaction	
Mark your selection with an "X"	**Instruction Level**		
	☐ Too basic	☐ Appropriate	☐ Too advanced
	Duration		
	☐ Too short	☐ Appropriate	☐ Too long
	Usefulness Was this lesson useful to you?		
		☐ Yes	☐ No
Rate from 1 to 5	**Overall Lesson Rating** Taking all the above into consideration, I rate this lesson: _____		
If you need additional space, please use the back of the sheet.	**Comments and Observations**		

Thank you for your help. Your input is valuable. Please turn in this completed form to the instructor.

LESSON

04

COMMUNITY BASED FIRST AID

Time-Lecture 02 Periods, Practical-04 Pds. Total-6 Pds.

LESSON OBJECTIVES

Upon completion of this lesson, you will be able to:

1. Define BLS & CPR.
2. Demonstrate CPR in Adults.
3. Definition of FBAO/choking and Demonstrate Heimlich maneuver in choking victims.

► *PPT 4-1 to 4-2*

Suggested Duration:
Theoretical: 45 minutes
Practical: 30 minutes

Methods:
Interactive lecture method
Demonstration and practical

Materials:
- PWB
- IG
- Reference Materials
- Visual Aids
- Multimedia Projector
- Projection Screen

Activities:
Demonstration
Practical Exercise (Stations)

1

Basic Life Support (BLS)

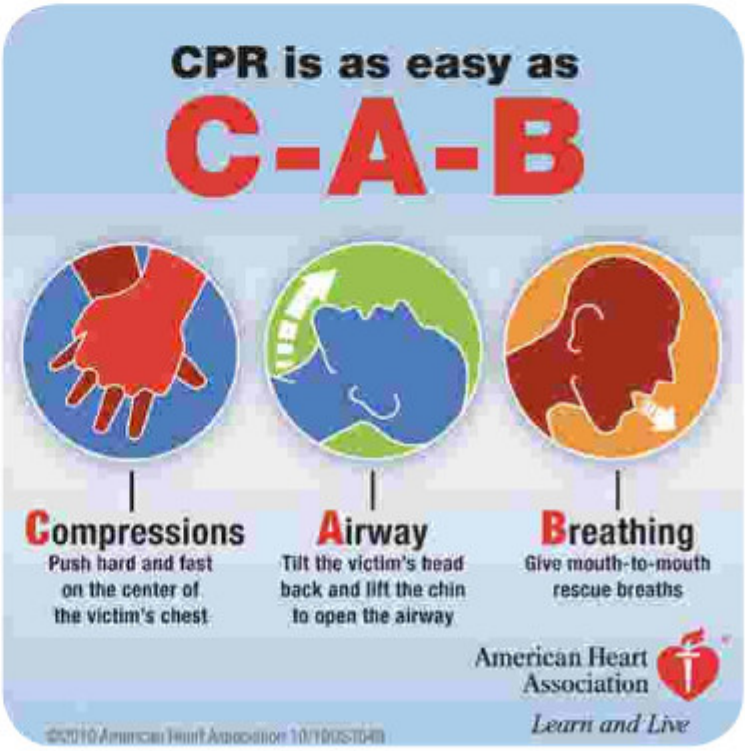
Basic life support (BLS) is an important part of cardiopulmonary resuscitation (CPR) and improves outcome after out-of-hospital cardiac arrest. However, the general population has poor BLS skills. Several training initiatives could be used to improve this situation and the challenge is to find the most efficient one. This module will teach you the basic approach to Basic Life Support designed for Certified Lay responders and Community Lay Responder and the provision of basic first aid that you will likely encounter in an emergency or disaster.

The new step is doing chest compressions instead of first establishing the airway and then doing mouth to mouth. The new guidelines apply to adults, children, and infants ***but exclude newborns.***

Suggested Instructors Activity

- ***PPT 4-3 to 4-4***
- *Relate to lesson 2 *definition of community lay responder*

The new way is C-A-B for Compressions, Airway, and Breathing.



Note: *Certified Lay Responders and Lay Community Responders do not check the pulse of an adult victim. The assumption is that the cause of the adult victim's life-threatening condition is cardiac in nature. The scientific evidence suggests that accurate pulse checks are difficult to achieve. (Reference: ARC 2005 guidelines for emergency care and education page 8).*

2

How to Perform CPR?

1. Try to get the person to respond; if he doesn't, roll the person on his/her back.
2. Call emergency number or ask someone else to do so.
3. Start **chest compressions**. Place the heel of your hand on the center of victim's chest. Put your other hand on top of the first with your fingers interlaced.
4. Press down so you compress the chest at least 2 inches in adults and children and 1.5 inches in infants. "One hundred times a minute or even a little faster is optimal"
5. If you are trained in CPR, you can now open the **airway** with a head tilt and chin lift. **In case of trauma victims prefer jaw-thrust maneuver method.**

Head tilt–chin lift maneuver

Jaw-thrust maneuver

6. Pinch closed the nose of the victim. Take a normal **breath**, cover victim's mouth with yours to create an airtight seal, and then give two, one-second breaths as you watch for the chest to rise.
7. Continue compressions and breaths - 30 compressions, two breaths until help arrives.

► *PPT 4-5 to 4-6*

(FYI) FOR YOUR INFORMATION

Give 30 compressions and 2 breaths for 5 cycles
Compression depth 1.5 - 2 inches
100 compressions per minute
Give 1 breath every 5 seconds.
24 cycles is equivalent to 2 minutes of Rescue Breathing.
Re-assess after 24th cycle.

2

How to Perform CPR? (Cont.)

The new guidelines also recommend more strongly that dispatchers instruct ***untrained lay rescuers*** *to provide* ***Hands-Only CPR (chest compression only)*** *for adults who are unresponsive, with no breathing or no normal breathing.*

The importance of high quality CPR (sufficient rate and depth without excessively ventilating) was emphasized. The order of interventions was changed for all age groups except newborns from airway, breathing, chest compressions (ABC) to chest compressions, airway, breathing (CAB).

► *Close WB*

An exception to this recommendation is for those who are believed to be in a respiratory arrest (drowning, etc.).

► *PPT 4-7*

2.1 Here is a Comparative Table for Infant, Child and Adult

	Compression Ventilation Ratio	Hand Position	Artificial Respiration	Compression Rate	Depth of Compression
Infant	30 : 2	Two or three fingers in center of chest (just below nipple line)	1 breath every 3 sec. (40 breaths for 2 minutes)	100 compression per minute	1.5 inches or one third to half of chest depth
Child	30 : 2	Two hands in center of chest	1 breath every 3 sec. (40 breaths for 2 minutes)	100 compression per minute	About 2 inches or one third to half of chest depth
Adult	30 : 2	Two hands in center of chest	1 breathe every 5 sec. (12 breaths for 2 minutes)	100-120 compression per minute	At least 2 inches one third to half of chest depth

3

Foreign Body Airway Obstruction (FBAO)/Choking

It is partial or complete blockage of the breathing tubes to the lungs due to a foreign body (for example, food, a bead, toy, etc.). Loss of consciousness may occurs if the obstruction is not relieved.

3.1 Steps from Conscious to Unconscious (Adult)

- *Demonstrate Heimlich maneuver and 1 rescuer CPR*

1) Confirm airway obstruction by asking "are you choking"
2) Encourage to cough
3) Observe for signs of complete obstruction:
   - 3.1) Pale to Bluish discoloration of the face
   - 3.2) Unusual sounds; shrill
   - 3.3) Unable to cough
   - 3.4) May clutch neck with thumb and finger known as the universal sign of choking.

- ***PPT 4-8 to 4-9***

4) Perform Heimlich maneuver until patient becomes unconscious
5) Once unconscious call for help (if alone) and proceed to CPR.

- *Instructor will explain about FBAO*

3.2 If FBAO Occurred in INFANT Then Follow the Following Steps.

1) Firstly take consent from bystander or relative.
2) Check the level of consciousness (AVPU method – Alert, Verbal, Painful & Unresponsive)
3) Give 5 back blows between both scapula and 5 chest thrusts. Continuously till the exit of foreign body.
4) If foreign body do not exit or patient becomes unconscious then apply CPR.
5) After recovery send the victim to hospital as soon as possible

3 Foreign Body Airway Obstruction (FBAO)/Choking (Cont.)

3.3 Treating Life-Threatening Conditions

During emergencies and disasters, professional responders are subdivided on their tasks. Fire departments will combat large area fires, Paramedics and Emergency personnel will take care of the severely injured people thus leaving the community to act on its own for the first 24 to 72 hours. Being a member of your community response part of your mission is to do the greatest good for the greatest number of people. For that reason, if breathing is not restored on the first try using the Head-Tilt/Chin-Lift method, Community Responders should try again using the same method. If breathing cannot be restored on the second try, you must move on to the next victim.

If breathing has been restored, the airway still must be maintained. One option is to use a volunteer or walking wounded to hold the head in place. The airway also can be maintained by placing soft objects under the victim's shoulders to elevate the shoulders slightly and keeping the airway open.

- *Brief participants about the practical station location and group assignments and send them off*

- Ask participants if there are any clarifications of inquiries about the discussed topics
- Give participants the necessary instruction for their practical exercise
- Back to the main classroom and give the critiques to the class as a whole
- Comments and suggestions
- Review objectives
- Ask participants to fill up Lesson Evaluation Form
- Thank the participants and introduce the next instructor for Lesson 5

- ***PPT 4-10***
- *Closing*
- *Review of Objectives*

CPR and FBAO/Choking
Stations 1 2 3 and 4

Participant s Name: _____ **Dates:** _____

Instructions: Scene Safety waved. Check the box showing on which attempt the participant was able to perform the step successfully.

Performance Objectives	Attempts				P/F
	1	2	3	4	
1. Ensure personal safety and proper use of PPE.					
2. Attempt to wake victim by tapping the shoulders. If victim does not wake, call local EMS, and proceed to step 3. If victim wakes, moans or moves, then CPR is not necessary at this time.					
3. Begin **chest compressions.** Place the heel of your hand in the middle of the victim's chest. Put your other hand on top of the first with your fingers interlaced. Compress the chest at least 2 inches (5 cm). Allow the chest to completely recoil before the next compression. Compress the chest at a rate equal to 100/ minute. Perform 30 compressions at this rate.					
4. Complete first cycle of chest compression and if you're been trained in CPR, you can now open the **airway** with a head tilt and chin lift.					
5. Pinch closed the nose of the victim. Take a normal **breath**, cover the victim□s mouth with yours to create an airtight seal, and then give two, one-second breaths as you watch for the chest to rise. . Remember, if the chest doesn't rise on the first breath; reposition the head before you give the second breath.					
6. Continue compressions and breaths -- 30 compressions, 2 breaths -- until help arrives.					

Comments: _____

_____

Overall Performance: ☐ Outstanding ☐ Successful ☐ Needs Improvement

Instructor: _____

Note: *Certified Lay Responders and Lay Community Responders do not check the pulse of an adult victim. The assumption is that the cause of the adult victim's life-threatening condition is cardiac in nature. The scientific evidence suggests that accurate pulse checks are difficult to achieve. (Reference: ARC 2005 guidelines for emergency care and education page 8).*

CADRE LESSON 4 EVALUATION

Course Location: _____ **Dates:** _____

Do not write your name on this form. Please complete a copy of this form at the end of every lesson. Your evaluations are very valuable towards improving the course. Please use the ratings below.

1 VERY POOR	2 POOR	3 AVERAGE	4 GOOD	5 EXCELLENT

Please fill in the required information.	**Lesson Number :**	**Lesson Name :**	
	Instructor□s Name		
Use a scale from 1 to 5 as described above to rate the various lesson components.	**Lesson Rating (rate 1 to 5)**		
	Content	Instructor	Method
	Workbook	Interaction	
Mark your selection with an □X"	**Instruction Level** ☐ Too basic	☐ Appropriate	☐ Too advanced
	Duration ☐ Too short	☐ Appropriate	☐ Too long
	Usefulness Was this lesson useful to you?	☐ Yes	☐ No
Rate from 1 to 5	**Overall Lesson Rating** Taking all the above into consideration, I rate this lesson: _____		
If you need additional space, please use the back of the sheet.	**Comments and Observations**		

Thank you for your help. Your input is valuable.
Please turn in this completed form to the instructor.

LESSON

04 - Part 2

COMMUNITY BASED FIRST AID

LESSON OBJECTIVES

Upon completion of this lesson, you will be able to:

1. Define first aid.
2. List the steps in Initial Assessment.
3. Demonstrate a complete Physical Exam as defined in this lesson.
4. List and demonstrate steps in controlling bleeding and shock.
5. Demonstrate the application of splints in treating fractures, dislocation, sprains and strains.
6. Demonstrate emergencies and non-emergencies moves and use of backboard for spinal injuries.
7. Define and demonstrate Triage.

► PPT 5-1 to 5-3

Note:
Chapter sequence should be followed by above mention objectives.

Suggested Duration:
1 hour (with Demonstration)

Practical time:
2 hours 45 minutes

Materials:
- PWB
- IG
- Reference Materials
- Visual Aids
- Multimedia Projector
- Projection Screen

Activities:
Demonstration,
Practical exercise (Stations)

1 Introduction to First Aid

1.1 First Aid

First Aid is the provision of initial care for an ill or injured person and usually performed by a lay person (not limited to) until professional care arrives or definitive medical treatment can be accessed. It is generally consists of a series of simple and in some cases, potentially life-saving techniques that an individual can be trained to perform with minimal equipment.

Before you access an ill or injured person
here are the steps you should follow:

Secure the Scene
- do not attempt to mitigate things beyond your control

Suggested Instructors Activity

- ***PPT 5-4***
- *Relate to lesson 2*

**Definition of community lay responder*

Definition of First Aid from Red Cross

1.2 Initial Assessment

- ***PPT 5-5***

Steps of the Initial Assessment

1.2.1 Form a General Impression

- ***PPT 5-6***

as you approach the patient. If possible, obtain a chief complaint and a brief assessment of the immediate environment. (The general impression is not designed to be the final word on patient's condition, but gets you started on the right track). Determine if the situation is trauma or medical.

Introduction to First Aid (Cont.)

1.2.2 Check for Responsiveness

- Gently shake the patient's shoulders and shout, "Are you okay?" This is important for many reasons (for example, a patient with altered mental status may need airway care or other life-saving aid).
- There are four levels of responsiveness commonly used to classify patients. They are: **Alert, Verbal, Painful, and Unresponsive (A.V.P.U.):**

While shaking the patient□s shoulder consider local culture or protocol and risk of spinal injury.

A = Alert

A patient who is alert responsive and oriented (e.g. Aware of surroundings, approximate time and date, and his/her name. Commonly referred to as being responsive to person, place and date-oriented

V = Verbal

A patient who responds only when spoken to. We say he/she responsive to verbal stimulus.

P = Painful

The patient responds only to painful stimulus ex: pinching fingers toes

U = Unresponsive

The patient does not respond to any stimulus. Does not open eyes, respond verbally or even flinch when pain is applied on the sternum (breastbone) or above the eyes (supraorbital region). A deeply unconscious person is in need of airway and other supportive care.

< Determining level of consciousness in infants or the elderly is difficult. Use their immediate environment and/or family to know the level of consciousness. >

1.2.3 Assess Circulation

Take no more than 10 seconds to determine if the patient has an adequate pulse.

- **Responsive patient:** In verbally responsive adults, check radial pulse.Check brachial pulse for an infant. Check rate and rhythm.
- **Unresponsive patient:** Check pulse of an unresponsive adult at the carotid artery. In children, check carotid/femoral pulse, and in infants the brachial artery.
- **Control serious external bleeding:** Identify and treat life-threatening conditions. Do not let minor wounds sidetrack you.
- **If pulse is absent, begin CPR immediately.**

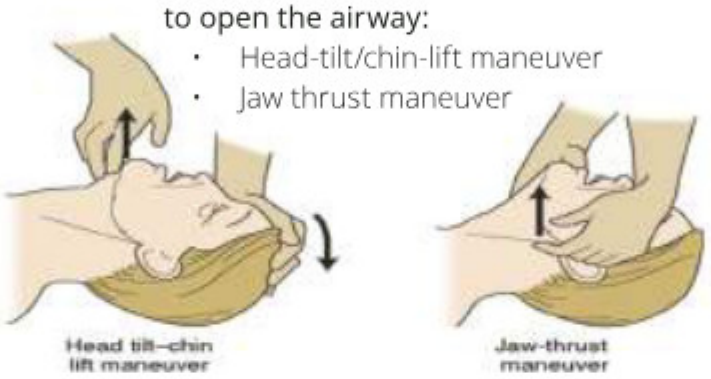
1.2.4 Ensure Adequate Airway

– how you do this depends on Patient responsiveness.

- **Responsive Patient:** Determine if the patient can speak clearly. Gurgling or similar sounds may indicate airway obstruction.
- **Unresponsive Patient:** Needs aggressive airway maintenance immediately – make sure airway is open and patient is breathing adequately.

There are two methods commonly used to open the airway:

- Head-tilt/chin-lift maneuver
- Jaw thrust maneuver



Both methods remove the tongue (most common obstruction from the back of the throat, allowing air into lungs.

NOTE: Jaw thrust maneuver is the preferred method, for a patient who have a cervical spine injury.

1.2.5 Verify Breathing

– look, listen and feel for air exchange (not more than 10 seconds). Respirations must be adequate.

Adequate breathing is characterized by three factors:

- Full rise and fall of chest
- Easy breathing
- Normal respiratory rate (12-20 rpm)

Inadequate breathing is characterized by:

- Insufficient rise and fall of chest
- Increased respiratory effort
- Cyanosis (bluish/gray discoloration of skin, lips or nailbeds)
- Changes in mental status
- Inadequate respiratory rate:

<8 in adults | <10 in children | <20 in infants

If airway obstruction is present, or if respirations are inadequate or absent, you must take immediate action.

1 Introduction to First Aid (Cont.)

1.2.6 Patient Status Update

- Inform responding EMS units of your findings.
  - If more resources will be needed, request them.
  - If patient has life threating injuries or illness, let responding units know.
  - If patient is stable with minor injuries, advise responding units.

The initial assessment should be completed and all life threating condition treated before you can proceed to the physical exam.

2 Physical Exam

► *PPT 5-7*

After all victims in an area have been triaged and transferred to a designated treatment area; Community Responders will begin a thorough head-to-toe assessment of the victim's condition. During a Head to toe assessment look for the following.

2.1 You can use the mnemonic "BPDOC" to remember them:

B – Bleeding

P – Pain

D – Deformity / Rigidity

O – Open Wounds

C – Crepitus

► *Also check rigidity for abdomen*

2.2 The objectives of a head-to-toe assessment are to:

- Determine the extent of injuries.
- Determine what type of treatment is needed.
- Document injuries.

Note: *Wear safety equipment when conducting head-to-toe assessments.*

2.3 Head-to-toe assessments should be:

► *PPT 5-8*

- Conducted on all victims, even those who seem alright. Everyone gets a tag.
- Verbal (if the patient is able to speak).
- Hands-on.

Whenever possible, you should ask the person about any injuries, pain, bleeding, or other symptoms. If the victim is conscious, CADRE members should always ask permission to conduct the assessment. The victim has the right to refuse treatment.

2

Physical Exam (Cont.)

2.4 Conduct head-to-toe assessments systematically, checking body parts from the top to the bottom for continuity of bones and soft tissue injuries in the following order:

► *PPT 5-9*

1. Head _____
2. Neck _____
3. Shoulders _____
4. Chest _____
5. Arms _____
6. Abdomen _____
7. Pelvis _____
8. Legs _____
9. Back _____

► *PPT 5-10*

Completing the assessment in the same way every time will make the procedure **quicker and more accurate**. Check your own hands for patient bleeding as you complete the head-to-toe assessment. Perform an entire assessment before beginning any treatment. Also, treat all unconscious victims as if they have a **spinal injury**.

When conducting head-to-toe assessments, rescuers may come across victims who have or may have suffered closed-head, neck, or spinal injuries. The main objective when Community Responders encounter suspected injuries to the head or spine is to do no harm. You should minimize movement of the head and spine, while treating any other life-threatening conditions.

2

Physical Exam (Cont.)

2.5 The signs of a spinal injury most often include:

► *PPT 5-11*

- Sudden change in consciousness.
- Inability to move one or more body parts.
- Severe pain or pressure in the head, neck, or back.
- Tingling or numbness in extremities.
- Difficulty breathing or seeing.
- Severe bleeding, bruising, or deformity of the head or spine.
- Blood or Cerebrospinal fluid in the nose or ears.
- Bruising behind the ear (battle s sign)
- Bruising around eyes (Raccoon eyes).
- Uneven pupils.
- Seizures.
- Nausea or vomiting.

► *Battle s sign - Evidence of fracture in middle cranial fossa, may suggest brain trauma*

► *Raccoon eyes - Evidence of fracture in base of the skull*

3

Treating Life-threatening Conditions

During emergencies and disasters, professional responders are subdivided on their tasks. **NDRF, SDRF, Fire & other trained responders will combat most affected areas as per priority decided by competent authorities (NDMA, SDMA, DDMA, etc)**, Paramedics and Emergency personnel will take care of the severely injured people thus leaving the community to act on its own for the first 24 to 72 hours. Being a member of your community response part of your mission is to do the greatest good for the greatest number of people. For that reason, if breathing is not restored on the first try using the Head-Tilt/Chin-Lift method, Community Responders should try again using the same method. If breathing cannot be restored on the second try, you must move on to the next victim.

If breathing has been restored, the airway still must be maintained. One option is to use a volunteer or walking wounded to hold the head in place. The airway also can be maintained by placing soft objects under the victims shoulders to elevate the shoulders slightly and keeping the airway open.

3 Treating Life-threatening Conditions (Cont.)

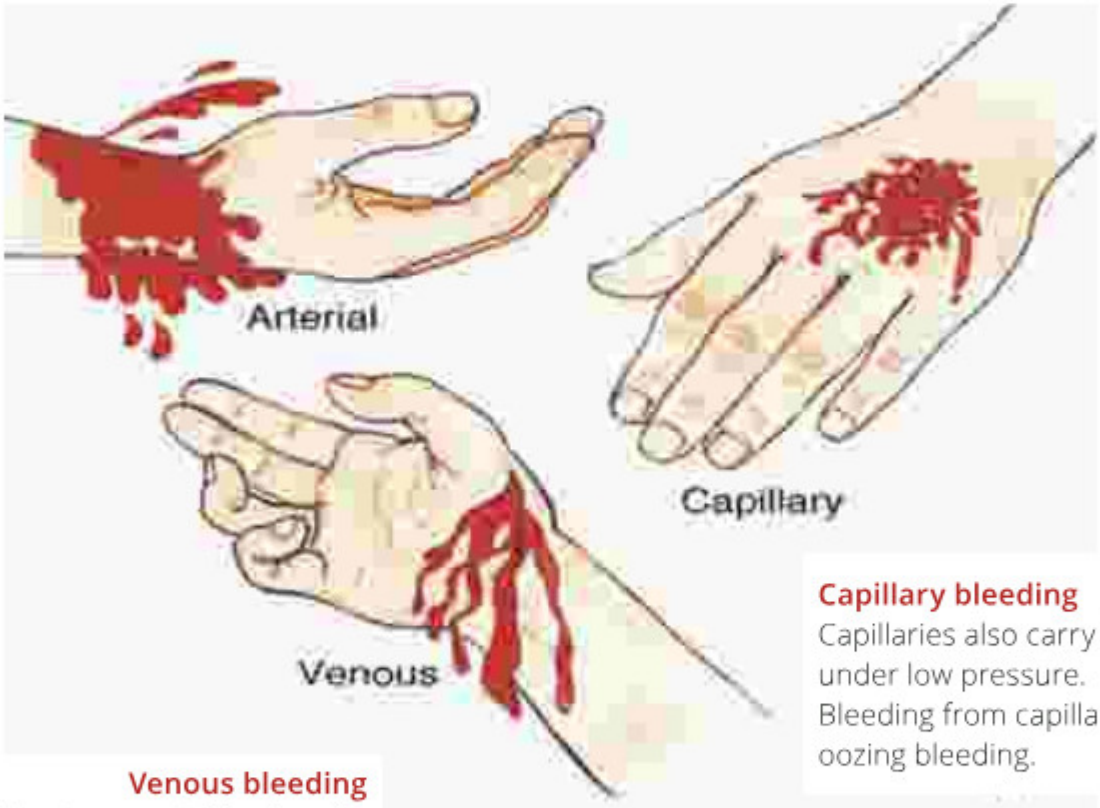
3.1 Controlling Bleeding

► *PPT 5-12*

Uncontrolled bleeding initially causes weakness. If bleeding is not controlled, the victim will go into shock within a short period of time, and finally will die. An adult has about five liters of blood. Losing one liter can result in death.

There are three types of bleeding and the type can usually be identified by how fast the blood flows:

Arterial bleeding
Arteries transport blood under high pressure. Bleeding from an artery is spurting bleeding.



Capillary bleeding
Capillaries also carry blood under low pressure. Bleeding from capillaries is oozing bleeding.

Venous bleeding
Veins transport blood under low pressure. Bleeding from a vein is flowing bleeding.

3

Treating Life-threatening Conditions (Cont.)

3.2 There are three main methods for controlling bleeding:

► *PPT 5-13*

3.2.1 Direct Pressure

3.2.2 Elevation

3.2.3 Pressure Point

3.2.1 Direct Pressure

► *PPT 5-14*

- Place direct pressure over the wound by putting a clean dressing over the wound and pressing firmly. Add dressing above the first one if it is completely wet.
- Maintain pressure on the dressing over the wound by wrapping the wound firmly with a pressure bandage.

3.2.2 Elevation

- Elevate the wound above the level of the heart.

► *PPT 5-15 to 5-16*

3.2.3 Pressure Points

- Put pressure on the nearest pressure point to slow the flow of blood to the wound. Use the:
  - Brachial point for bleeding in the arm.
  - Femoral point for bleeding in the leg.

► *Explain that pressure points may be too difficult for lay responders to locate so only direct pressure and elevation can be done.*

3

Treating Life-threatening Conditions (Cont.)

Direct pressure combined with elevation will address most bleeding. Demonstrate the procedure for controlling bleeding through direct pressure:

▶ *There are other pressure points that the Instructor may demonstrate.*

Step 1:
Place direct pressure over the wound by putting a clean dressing over the wound and pressing firmly.

Step 2:
Maintain pressure on the dressing over the wound by wrapping firmly with a Pressure bandage.

- Direct pressure and elevation can take 5 to 7 minutes to stop the bleeding completely. The use of a dressing and pressure bandage allows the rescuer to move on to the next victim
- A pressure bandage should be tied with a bow, so that it can be loosened—rather than cut—to examine the wound, and then retied. This procedure helps to conserve supplies and saves time.
- Bleeding can also be controlled through elevation: Elevating the wound above the level of the heart. Elevation is used in combination with direct pressure.
- There are also pressure points that can be used to stem the flow of bleeding.

The pressure points most often used are the:

- **Brachial point** in the arm.
- **Femoral point** in the leg.
- Get victims to help themselves, whenever possible.

4

Recognizing and Treating Shock

Shock is a disorder resulting from ineffective circulation of blood. Remaining in shock will lead to the death of:

- Cells
- Tissues
- Entire organs
- The body will initially compensate for blood loss and mask the symptoms of shock. Therefore, it is important to continually evaluate patients for shock and monitor their condition.

4.1 The main signs of shock that community responders should look for are:

► *PPT 5-17*

- **Rapid and shallow breathing.**
- **Capillary refill of greater than 2 seconds.**
- **Failure to follow simple commands, such as, Squeeze my hand.**
- **Changes in skin color.**
- Capillary refill is how long it takes for the color to return. This is called the "blanch test."

4.2 Procedures for Treating Shock

(1) Lay the victim on his or her back. Elevate the feet 6-10 inches above the level of the heart.

► *PPT 5-18*

► *Figure 2-45*
Body temperature maintained

(2) Maintain an open airway.

(3) Control obvious bleeding.

(4) Maintain body temperature (e.g., cover the ground and the victim with a blanket if necessary).

(5) Avoid rough or excessive handling unless the rescuer and victim are in immediate danger.

5 Wound Care

This section will focus on cleaning and bandaging to control infection:

The objectives of treatment for wounds are to: ► *PPT 5-19*

1. Control bleeding
2. Prevent secondary infection

The focus of this section is on cleaning and bandaging, which will help to control infection.

- Wounds should be cleaned by irrigating with water, flushing with a mild concentration of soap and water, then irrigating with wateragain.
- You should not scrub the wound. A bulb syringe is useful for irrigating wounds. In a disaster.
- When the wound is thoroughly cleaned, you will need to apply a dressing and bandage to help keep it clean and control bleeding.

The difference between a dressing and a bandage is that:

- A dressing is applied directly to the wound. ► *PPT 5-20*
- A bandage holds the dressing in place.

6 Amputations

The main treatments for an amputation (the traumatic severing of a limb or other body part) are to:

- Control bleeding ► *PPT 5-21*
- Treat shock

When the severed body part can be located, Community Responders should:

- Save tissue parts, wrapped in clean material and placed in a plastic bag, if available.
- Keep the tissue parts cool.
- Keep the severed part with the victim.

7

Impaled Objects

You may also encounter some victims who have foreign objects lodged in their bodies—usually as the result of flying debris during the disaster.

When a foreign object is impaled in a patient s body, you should:

- Immobilize the impaled object.
- Do not attempt to move or remove the object unless it is obstructing the airway.

8

Fracture Immobilization

TREATING FRACTURES, DISLOCATIONS, SPRAINS, AND STRAINS

The objective when treating a suspected fracture, sprain, or strain is to immobilize the injury and the joints immediately above and below the injury site.

Because it is difficult to distinguish among fractures, sprains, or strains, if uncertain of the type of injury, first responders should treat the injury as a fracture.

8.1 Fractures

A fracture is a complete break, a chip, or a crack in a bone.
There are several types of fractures:

1) A **closed fracture** is a broken bone with no disruption in the continuity of the skin. First aid treatment for closed fractures may require only splinting.

► *PPT 5-22*

2) An **open fracture** is an injury where a broken bone is open through the skin. This requires careful attention prior to splinting. **DO NOT** re align bones and splint as found as possible.

Open fractures are more dangerous because of the risk of severe bleeding and infection. Therefore, they are a higher priority and need to be checked more frequently.

► *PPT 5-23*

8

Fracture Immobilization (Cont.)

When treating an open fracture:

- Do not draw the exposed bone ends back into the tissue.
- Do not irrigate the wound.

You should:

- Cover the wound with a sterile dressing and reinforce dressing if needed.
- Splint the fracture snugly. Never too tight and not too loose.
- Place a moist 4" x 4" dressing over the bone end to keep it from drying out.

Displaced fractures may be described by the degree of displacement of the bone fragments. If the limb is angled, then there is a displaced fracture.

- Non-displaced fractures are difficult to identify, with the main signs being pain and swelling.
- Treat a suspected fracture as a fracture until professional treatment is available.

► *Discuss with the participants, the local/ traditional practices.*

9

Dislocations

Dislocations are another common injury in emergencies. A dislocation is an injury to the ligaments around a joint that is so severe that it permits a separation of the bone from its normal position in a joint. The signs of a dislocation are similar to those of a fracture, and a suspected dislocation should be treated like a fracture.

- Do not try to re-align or relocate a suspected dislocation.
- Immobilize the joint until professional help arrives.
- Treat a dislocation as you would normally do in a fracture.

10
Sprains and Strains

A sprain involves a stretching or tearing of ligaments at a joint and is usually caused by stretching or extending the joint beyond its normal limits.

A sprain is considered a partial dislocation, although the bone either remains in place or is able to fall back into place after the injury.

The most common signs of a sprain are:

► *PPT 5-24*

- Tenderness at the site of the injury.
- Swelling and/or bruising.
- Restricted use, or loss of use.

► *Discuss with the participants about the local resources for splinting.*

The signs of a sprain are similar to those of a non-displaced fracture. Therefore, do not try to treat the injury other than by immobilization and elevation.

A strain involves a stretching and/or tearing of muscles or tendons. Strains most often involve the muscles in the neck, back, thigh, or calf. In some cases, strains may be difficult to distinguish from sprains or fractures. When uncertain whether an injury is a strain, sprain, or fracture, treat the injury as if it is a fracture.

11
Splinting

Splinting is the most common procedure for immobilizing an injury. Cardboard is the material typically used for "makeshift" splints but a variety of materials can be used, including:

► *PPT 5-25*

- **Soft materials:** Towels, blankets, or pillows, tied with bandaging materials or soft cloths.
- **Rigid materials:** A board, metal strip, folded magazine or newspaper, or other rigid item.
- Anatomical splints may also be created by securing a fractured bone to an adjacent bone that is not fractured. Anatomical splints are usually reserved for fingers and toes but, in an emergency, legs may also be splinted together (buddy splint).
- Splinting using a blanket in which the victim's legs are immobilized by tying blankets at intervals from mid-thigh to feet.

11 Splinting (Cont.)

11.1 Principles of splinting include:

1) Support/immobilize the injured area above and below the site of the injury, including the joints.
2) If possible, splint the injury in the position that you find it.
3) Don't try to realign bones or joints.
4) After splinting, check for proper circulation (warmth, feeling, and color).

Note: *With this type of injury, there will be swelling. You should remove restrictive clothing, shoes, and jewelry when necessary to prevent these items from acting as tourniquets.*

If the Victim is found to have endured trauma. (eg. under collapsed building material or heavy debris, motor vehicle accident, etc)

If the victim is exhibiting any of these signs, he or she should be treated as having a closed head, neck, or spinal injury. Keep the spine in a straight line when doing the head-to-toe assessment. In an extreme emergency, ideal equipment is rarely available, so the community responders may need to be creative by:

- Looking for materials that can be used as a backboard - a door, iron board, building materials – anything that might be available.

► *PPT 5-26*

- Looking for items that can be used to stabilize the head on the board – towels, draperies, or sandbags-by tucking them snugly on either side of the head to immobilize it.

12 Lifting and Moving

► *Instructors will demonstrate in class all lifting and moving techniques*

Emergency move

when there is an immediate threat to the ill or injured person. E.g. explosion, fire, unstable area, rolled-over car, hazmat, hostile crowd and spilled gasoline.

- Shirt drag
- Blanket drag
- Piggy back carry
- One rescuer crutch
- Cradle carry
- Firefighters carry

Non-emergency

when there is no immediate threat but the ill or injured person is required to be evacuate to safe place.

- Extremity lift
- Direct ground lift
- Improvised Stretchers
- Poles with blanket/shirts

► *Demonstrate how to pick up victim from supine position*

► *Improvised stretchers-Chair, and poles with Blanket/shirts, others..*

13
TRIAGE

The process of sorting people based on their need for immediate medical treatment. If professional responders uses TRIAGE; community responders has its own unique way of sorting injured or ill people known as C-QRST.

14
C-QRST

14.1 Community-Quick Response Sorting Technique

A community approach of sorting injured or ill person during an emergency or disaster. It is a preliminary Triage done at the impact site to help professional responders resort accordingly once they arrive.

► *PPT 5-27 to 5-37*

14.2 Steps for Community Quick Response Sorting Technique

1) Secure the scene.
2) Ensure personal safety and proper use of PPE.
3) Make introductions, call out for all walking wounded.
4) Guide them to the safe designated area and tag them as GREEN as soon as possible.
5) Assign tasks to team and perform systematic tagging for the rest of the victims.
6) Gather and record number of tags
7) Team leader collates all information

Strengths:

1. No special benchmarks used
2. Designed for lay community response
3. Quick and easy to do
4. No special tags needed

Weaknesses:

1. Re- sorting needed
2. No identification for dead

- Ask participants if there are any clarifications of inquiries about the discussed topics
- Proceed to the designated area for instructors demonstration
- Give participants the necessary instruction for their practical exercise
- Each group will be given 10 minutes to perform the exercise
- Back to the main classroom and give the critiques to the class as a whole
- Comments and suggestions
- Review objectives
- Ask participants to fill up Lesson Evaluation Form
- Thank the participants and introduce the next instructor for Lesson 5

- ***PPT 5-38 to 5-39***
- *Brief participants about the practical station location and group assignments and send them off*
- *Closing*
- *Review of Objectives*

Patient Assessment
Stations 1

Participant s Name: _____ **Dates:** _____

Instructions: In this station, the participant will say out loud what he or she is doing, stating possible findings, while demonstrating each of the following procedures. Check the box showing on which attempt the participant was able to perform the step successfully.

Performance Objectives	Attempts				P/F
	1	2	3	4	
1. Scene size-up (secure or not secure).					
2. Ensure personal safety and proper use of PPE.					
3. Identify yourself (to the victim, the family or bystanders)					
4. Perform all steps for the initial assessment. • State of consciousness • Maintain open airway • Evaluate Respiration • Check carotid pulse and critical bleeding					
5. Perform all steps for physical exam. • Interview • Inspect and palpate the head, eyes, mouth, nose • Inspect and palpate neck • Inspect and palpate the thorax • Inspect and palpate the abdomen • Inspect and palpate the pelvis • Inspect and palpate lower extremities • Inspect and palpate the upper extremities • Rotate the body and inspect the back					
6. Obtain patient history if necessary					

Comments: _____

_____

Overall Performance: ☐ Outstanding ☐ Successful ☐ Needs Improvement

Instructor: _____

Bleeding Control
Stations 1

Participant s Name: _____ **Dates:** _____

Instructions: Check the box showing on which attempt the participant was able to perform the steps successfully.

Performance Objectives	Attempts				P/F
	1	2	3	4	
1. Scene size-up (secure or not secure).					
2. Ensure personal safety and proper use of PPE.					
3. Identify yourself (to the victim, the family or bystanders)					
4. Control Bleeding and bandage wound • Cover injured site with a gloved hand • Apply pressure and compressive dressing • Elevate • Apply pressure point if necessary					
5. Obtain patient history if necessary					

Comments: _____

_____

Overall Performance: ☐ Outstanding ☐ Successful ☐ Needs Improvement

Instructor: _____

Immobilizing Fracture (Upper Extremity)
Stations 2

Participant s Name: _____ **Dates:** _____

Instructions: In this station, the participant will say out loud what he or she is doing, stating possible findings, while demonstrating each of the following procedures. Check the box showing on which attempt the participant was able to perform the step successfully.

Performance Objectives	Attempts				P/F
	1	2	3	4	
1. Scene size-up (secure or not secure).					
2. Ensure personal safety and proper use of PPE.					
3. Identify yourself (to the victim, the family or bystanders)					
4. Splint a fracture or dislocation (upper extremity) • Stabilize using pads or makeshift splits • Apply sling and swathe if deemed necessary • Evaluate tightness of splints, check for warmth or cap refill					
5. Obtain patient history if necessary					

Comments: _____

_____

Overall Performance: ☐ Outstanding ☐ Successful ☐ Needs Improvement

Instructor: _____

Immobilizing Fracture (Lower Extremity)
Stations 3

Participant s Name: _____ **Dates:** _____

Instructions: In this station, the participant will say out loud what he or she is doing, stating possible findings, while demonstrating each of the following procedures. Check the box showing on which attempt the participant was able to perform the step successfully.

Performance Objectives	Attempts				P/F
	1	2	3	4	
1. Scene size-up (secure or not secure).					
2. Ensure personal safety and proper use of PPE.					
3. Identify yourself (to the victim, the family or bystanders)					
4. Splint a fracture or dislocation (lower extremity) • Stabilize using pads or makeshift splints • Place blankets between leg • Support with pillow (if deemed necessary) • Place rigid splints inside and outside arms • Secure splints • Evaluate tightness of splints, check for warmth or cap refill					
5. Obtain patient history if necessary					

Comments: _____

_____

Overall Performance: ☐ Outstanding ☐ Successful ☐ Needs Improvement

Instructor: _____

Lifting and Moving Patients
Station 4

Participant s Name: _____ **Dates:** _____

Instructions: Check the box showing on which attempt the participant was able to perform the steps successfully.

Performance Objectives	Attempts				P/F
	1	2	3	4	
1. Scene size-up (secure or not secure).					
2. Ensure personal safety and proper use of PPE.					
3. Identify yourself (to the victim, the family or bystanders)					
4. Perform emergency moves • Shirt Drag • Blanket Drag • Piggy back Carry • One rescuer Crutch • Cradle carry • Firefighters carry					
5. Perform non-emergency moves • Extremity lift • Direct ground lift					

Comments: _____

_____

Overall Performance: ☐ Outstanding ☐ Successful ☐ Needs Improvement

Instructor: _____

Community-Quick Response Sorting Technique (C-QRST)

Stations 1,2,3 and 4

Participant s Name: _____ **Dates:** _____

Instructions: In this station, the participant will be grouped (6 member) as a team. All initial steps should be taken prior to actual tagging. Check the box showing on which attempt the participant was able to perform the step successfully.

Performance Objectives	Attempts				P/F
	1	2	3	4	
1. Scene size-up (secure or not secure).					
2. Ensure personal safety and proper use of PPE. (team check)					
3. Identify your team is there to help and call out for walking wounded.					
4. Guide walking wounded to designated green area and tag them as soon as possible					
5. Assign task to the team and perform systematic tagging for the rest • Gather and record number of tags					
6. Team leader collates all information					

Comments: _____

_____

Overall Performance: ☐ Outstanding ☐ Successful ☐ Needs Improvement

Instructor: _____

CADRE LESSON 4 EVALUATION

Course Location: _____ **Dates:** _____

Do not write your name on this form. Please complete a copy of this form at the end of every lesson. Your evaluations are very valuable towards improving the course. Please use the ratings below.

1 VERY POOR	2 POOR	3 AVERAGE	4 GOOD	5 EXCELLENT

Please fill in the required information.	**Lesson Number :**	**Lesson Name :**	
	Instructor's Name		
Use a scale from 1 to 5 as described above to rate the various lesson components.	**Lesson Rating (rate 1 to 5)**		
	Content	Instructor	Method
	Workbook	Interaction	
Mark your selection with an "X"	**Instruction Level** ☐ Too basic	☐ Appropriate	☐ Too advanced
	Duration ☐ Too short	☐ Appropriate	☐ Too long
	Usefulness Was this lesson useful to you?	☐ Yes	☐ No
Rate from 1 to 5	**Overall Lesson Rating** Taking all the above into consideration, I rate this lesson: _____		
If you need additional space, please use the back of the sheet.	**Comments and Observations**		

Thank you for your help. Your input is valuable. Please turn in this completed form to the instructor.

LESSON

05

DEAD BODY MANAGEMENT

Time-Lecture 02 Periods, Practical-03 Pds. Total-5 Pds.

LESSON OBJECTIVES

Upon completion of this lesson, you will be able to:

1. List the common consequences of handling dead bodies.
2. List and describe the methods of handling dead bodies.
3. Describe the roles and responsibilities of Community Responders in handling dead bodies.
4. List the factors to consider in handling dead bodies.
5. Demonstrate the proper identification of dead bodies using photography.
6. Describe how to store dead bodies.
7. Demonstrate identification, tagging and record keeping.

▸ *PPT 6-1 to 6-3*

Suggested Duration:
Theoretical: 45 minutes
Practical time: 30 minutes

Methods:
Interactive lecture method
Practical

Materials:
- PWB
- IG
- Reference Materials
- Visual Aids
- Multimedia Projector
- Projection Screen
- Reference Book-PAHO DBM guidelines
- Forms related to dead body management

1
Introduction to the Management of Dead Bodies

Management of the dead is one of the most challenging aspects of disaster response, either man-made or natural disasters, can cause a large number of deaths. Frequently local systems are overwhelmed that care for the deceased. Consequently, the responsibility for the immediate response falls on local organizations and communities. The absence of specialist advice or mass fatality planning increases the root of the problem often resulting in the mismanagement of the human remains. The way dead bodies are mishandled has a significant and long lasting psychological effect on survivors. In addition, some important issues rose that need special attention are considerations on legal significance like insurance claims, inheritance from family and legal evidence that the person is really dead after a disaster.

This lesson will introduce you to basic identification of dead bodies during emergencies and disasters and recognizing the role of local organizations and communities in the exceptionally difficult task of managing human remains following disasters.

Suggested Instructors Activity

2
Identification of Dead Bodies

Identification is done by matching information from the deceased (physical features, clothes, etc.) with information from individuals who are missing or presumed dead. Mobilizing forensic resources may take several days. This means that early opportunities to help identify bodies may be lost as the bodies decompose. Visual recognition of cadavers or photographs by acquaintances of the deceased is the simplest form of identification, but this is prone to errors. Therefore, whenever possible, it should be complemented with other means of forensic identification, albeit at a later stage. The early work of community responders in managing the dead will determine much of the success of future identifications by forensic specialists.

3

Processes

- Assign a sequential, unique reference **number** to each body or body part
- Write the unique reference number on a **waterproof label** then securely attach it to the body or body part.
- Attached the same to the container for the body or body part.
- Photographs (mandatory)

PPT 6-4 to 6-6

PLACE + RECOVERY TEAM/PERSON + BODY COUNT

Cuttack 03 NDRF Bn - A TEAM - 001

- Unique reference number must be visible in all photographs
- If available, digital cameras should be used for easier storage
- Clean the body sufficiently to allow facial features and clothing to be properly represented in the photos.
- Should include full length of the body, front view
- Whole face
- Any obvious distinguishing features
- If circumstances permits, upper and lower part of the body
- All clothing, personal effects, and distinguishing features

Instructor can take pictures of dead body demonstration during instructor practice and replace the picture in the presentation

MINIMUM PHOTOGRAPH SET REQUIRED FOR VISUAL IDENTIFICATION

(1) Whole Face (2) Whole Body (3) Upper Body (4) Lower Body

- Record the following:
  - gender
  - approximate age range
  - personal belongings
  - obvious specific marks
  - race
  - height
  - color and length of hair
  - color of eyes

- Secure belongings and label with same unique reference number and stored with the body or body part.

4

Consequences to the Community Responders in Handling of Dead Bodies

Infections and Dead Bodies

- Normally killed by injury, drowning, or fire – not by disease
- At the time of death, they are not likely to be sick with epidemic- causing infections (i.e. plague, cholera, typhoid, H1N1 and its generics, and Anthrax)
- A few victims will have chronic blood infections (hepatitis or HIV), TB or diarrheal disease.
- Most infectious organisms do not survive beyond **48** hours in a dead body. An exception is HIV, which has been found 6 days postmortem.

5

Methods and Procedures

► *PPT 6-7 to 6-8*

- Bodies should be placed in body bags. Plastic sheets, shrouds, bed sheets, or other local available fluid proof material.
- Body parts should be treated as individual bodies. Do not attempt to **match** body parts at the disaster scene.
- Identify date and place where body was found.
- Do not remove jewelry, personal belongings, and documents from the remains. Only done during identification phase.
- Never use **ambulances** for dead body transport.
- Instead coordinate with local authority for safe transfer.

6

Safety Measures in Handling Risk of Communicable Disease (COVID-19 Specific)

- Confirm national and local guidelines that may dictate the handling of dead body and disposition of the remains.

Transfer:

- Wrap body in cloth or plastic bags and transfer it as soon as possible to the mortuary area.
- Keep both the movement and handling of the body to a minimum.
- Ensure that any body fluids leaking from orifices are contained.

Avoid Hasty Disposal

- The dignity of the dead, their cultural and religious traditions, and their families should be respected and protected throughout.

Physical Distancing Measures

- This should be strictly applied (at least 1 m between people) and if possible wear a medical mask. If the family wishes only to view the body and not touch it, they may do so, using standard precautions at all times.

> ***NOTE:***
> Body recovery teams should wear protective equipment (heavy-duty gloves and boots) and wash their hands with soap and water after handling dead bodies.

► *PPT 6-9*

COVID-19, Tetanus may be a particular problem in unvaccinated workers.

- For storage do not use ice (frozen water) **Cross contamination due to large quantity of dirty waste may cause diarrheal disease.**
- Temporary underground burial is advisable. Temperature is lower than the surface, thereby providing natural refrigeration.

PPE

7

Roles and Responsibilities of Community Responders in Handling of Dead Bodies

Effective Local Coordination

- Identify agency and **local coordinator** with full authority for managing the dead bodies (e.g., Police Chief, Military commander or local Mayor). This should be part of the prep-disaster plan.
- The selection of Medical and Hospital Directors as coordinators should be **discouraged**.

8

Special Consideration in Handling of Dead Bodies

Religion and Culture

> The overwhelming desire of relatives from all religions and cultures is to identify their love ones. Advice and assistance from religious and community leaders should be sought to improve understanding and acceptance of the recovery, management, and identification of the dead bodies.
>
> Undignified handling and disposal of the dead bodies may further traumatize relatives and should be avoided at all times. Careful and ethical management of dead bodies, including disposal, should be ensured, including respect for religious and cultural sensitivities.

Psychosocial

> This aspect should be adapted to needs, culture, and context and should consider local coping mechanisms. Local organizations such Red Cross and National Red Crescent Societies, NGO□s, and faith groups can often provide emergency Psycho-social care for those affected. Priority should be given to unaccompanied minors and other vulnerable groups. Where Possible they should be re-united and cared for by the members of their extended family or community. As much as possible provision of special legal services like rapid processing of death certificates should be considered and publicized within the affected community.

► Discuss about the local practices and the national guidelines (e.g. NDMA guidelines for dead body management)

National/Local Laws

> National and local laws on proper disposal of dead bodies should always be followed.

9 Basic Guidelines

1. Use individual burials for a small number of bodies.
2. Use trench burial for large numbers.
3. Burial should be **1.5 m** deep and at least 200m from drinking water sources.
4. Leave **0.4 m** between bodies.
5. Lay bodies in **one layer** only (not on top of each other).
6. Clearly mark each body and mark their positions at ground level.

10 Recommended Distance of Graves from Drinking Water Wells

Number of Bodies	Distance from Drinking Water Well
4 or less	200 m
5 to 60	250 m
60 or more	350 m
120 bodies or more per 100 m^2	350 m

11 Media Handling and Communications

Good public communication contributes to a successful victim recovery and identification process.

- A **Media-Liaison Officer** should be assigned both locally and nationally.
- Establish a Media-Liaison office.
- Cooperate proactively.

Information Management

- Care is needed to respect the privacy of victims and relatives.
- Journalist should not be allowed direct access to photographs, individual records, or names of victims.
- Soon after the disaster, a decision must be taken whether or not to provide information about the number of victims.

- Ask participants if there are any clarifications of inquiries about the discussed topics
- Give participants the necessary instruction for their practical exercise
- Each group will be given 10 minutes to perform the exercise
- Back to the main classroom and give the critiques to the class as a whole
- Comments and suggestions
- Review objectives
- Ask participants to fill up Lesson Evaluation Form
- Thank the participants and introduce the next instructor for Lesson 6

- *Brief participants about the practical station location and group assignments and send them off*
- *Closing*
- *Review of Objectives*

Dead Body Management

Station 1, 2, 3 and 4

Participant s Name: _____ **Dates:** _____

Instructions: In this station, the participant will say out loud what he or she is doing, stating possible findings, while demonstrating each of the following procedures. Check the box showing on which attempt the participant was able to perform the step successfully.

Performance Objectives	Attempts				P/F
	1	2	3	4	
1. Scene size-up (secure or not secure).					
2. Ensure personal safety and proper use of PPE.					
3. Identify yourself (to the victim, the family or bystanders)					
4. Dead Body management • Place Flags close to body part • Direction and measuring • Tagging the body part • Taking the picture(Full body, from chest to face, from chest to pelvic, from pelvic to lower extremities and all belongings found within body as well as all visible identification marks) • Keeping record • Same procedure for separated parts. • Wrapping and packing • Handover					

Comments: _____

_____

Overall Performance: ☐ Outstanding ☐ Successful ☐ Needs Improvement

Instructor: _____

CADRE LESSON 5 EVALUATION

Course Location: _____ **Dates:** _____

Do not write your name on this form. Please complete a copy of this form at the end of every lesson. Your evaluations are very valuable towards improving the course. Please use the ratings below.

1 VERY POOR	2 POOR	3 AVERAGE	4 GOOD	5 EXCELLENT

Please fill in the required information.	**Lesson Number :**	**Lesson Name :**	
	Instructor□s Name		
Use a scale from 1 to 5 as described above to rate the various lesson components.	**Lesson Rating (rate 1 to 5)**		
	Content	Instructor	Method
	Workbook	Interaction	
Mark your selection with an "X"	**Instruction Level** ☐ Too basic	☐ Appropriate	☐ Too advanced
	Duration ☐ Too short	☐ Appropriate	☐ Too long
	Usefulness Was this lesson useful to you?	☐ Yes	☐ No
Rate from 1 to 5	**Overall Lesson Rating** Taking all the above into consideration, I rate this lesson: _____		
If you need additional space, please use the back of the sheet.	**Comments and Observations**		

Thank you for your help. Your input is valuable. Please turn in this completed form to the instructor.

LESSON

06

FIRE EMERGENCIES

Time-Lecture 02 Periods, Practical-03 Pds. Total-5 Pds.

LESSON OBJECTIVES

Upon completion of this lesson, you will be able to:

1. Define what is fire.
2. List the elements of fire.
3. Identify the classes of fire.
4. Identify the methods of extinguishing a fire.
5. Name the parts of a portable fire extinguisher.
6. Demonstrate the use of a fire extinguisher.
7. Demonstrate the use of bucket brigade.
8. Demonstrate some fire safety measures.

► *PPT 7-1 to 7-3*

Suggested Duration:
Lecture: 45 minutes
Practical time: 1 hour

Materials:
- PWB
- FC
- IG
- Reference Materials (Fire Safety Techniques & Procedures, Fire Preventive Measures)
- Visual Aids
- Multimedia Projector
- Projection Screen

Activities:
Practical exercise (Bucket Brigade & Fire Extinguisher Operation to Extinguish Fire)

Methods:
Interactive lecture method
Demonstration and practical

Suggested Instructors Activity

1 Introduction to Fire Safety

1.1 Definition of Fire

► *PPT 7-4*

- It is the burning or combustion giving bright light, heat and smoke. Heat, Oxygen and Fuel are the 3 essential components of a fire; these elements make a Fire Triangle.
- The active principle of burning characterized by the heat and light of combustion.
- Is a rapid, self-sustaining oxidation process accompanied by the evolution of heat and light of varying intensity.

The **flame** is the visible portion of the fire and consists of glowing hot gases.

1.2 Elements of Fire (Triangle of Fire)

1.2.1 Triangle of Fire

► *PPT 7-5*

For many years, the fire triangle (oxygen, fuel and heat) was used to teach the components of fire.

Fuel _____

Heat _____

Air (oxygen) _____

1

Introduction to Fire Safety (Cont.)

1.2.1 Fire Tetrahedral

► *PPT 7-6*

A **tetrahedron** can be described as a pyramid which is a solid having four plane faces. All four elements must be present for **fire** to occur, fuel, heat, oxygen, and a chemical chain reaction.

Removal of any one of these essential elements will result in the **fire** being extinguished.

Source – www.firesafe.org.uk

2

Classes of Fire

► *PPT 7-7*

COMPARISON OF FIRE CLASSES

American	European / Australian / Asian	Fuel / Heat source	Samples
Class A	Class A	Ordinary combustibles	solid, organic material such as wood, cloth, rubber, or some plastics
Class B	Class B	Flammable liquids	gasoline, or gas
	Class C	Flammable gases	natural gas
Class C	Class E	Electrical equipment	short-circuiting machinery or overloaded electrical cables
Class D	Class D	Combustible metals	sodium, titanium, magnesium, potassium, steel, uranium, lithium, plutonium, and calcium. Magnesium
Class K	Class F	Cooking oil or fat	cooking oil in large fryers used in commercial kitchens

3
Products of Combustion

3.1 Heat
3.2 Light
3.3 Smoke
3.4 Carbon / Ash
3.5 Toxic gases

4
Fire Extinguishment Theory

Fire is extinguished by limiting or interrupting one or more of the essential elements in the combustion process **(fire tetrahedron)**.

A fire may be extinguished by:

5.1 ***Temperature*** reduction (Cooling)
ex. using water

5.2 ***Fuel*** removal (Starving)
ex. Shutting off valve of source (LPG)

5.3 ***Oxygen*** exclusion (Smothering)
ex. covering the flames with wet blanket

5.4 Inhibition of ***Self-Sustained Chemical Chain Reaction.***
ex. Using fire extinguisher

Give more examples. Demonstration in class would be useful

5
Extinguishing Agents

- Water _____
- Sand _____
- Wet Rags _____
- CO_2 _____
- Dry Chemical _____
- Others _____

Foam AFFF (Aqueous Film Forming Foam

Halon - create a barrier of inert gas in a direct attack on the chemical reaction responsible for the fire.

6

The Portable Fire Extinguisher

6.1 Fire Extinguisher

A **fire extinguisher** is an active fire protection device used to extinguish or control small fires, often in emergency situations. It is not intended for use on an out-of-control fire, such as one which has reached the ceiling, endangers the user (i.e. no escape route, smoke, explosion hazard, etc.), or otherwise requires the expertise of a fire department. Typically, a fire extinguisher consists of a hand-held cylindrical pressure vessel containing an agent which can be discharged to extinguish a fire.

▶ *Discuss with the participants regarding the other extinguishing agents such as green leaves.*

6.2 Parts of the Fire Extinguisher

▶ *PPT 7-8*

- Handle and Operation Lever
- Safety Pin
- Hose
- Nozzle
- Hose Clip
- Pressure Gauge
- Cylinder
- Inspection Tag
- Label

6 The Portable Fire Extinguisher (Cont.)

6.3 Types of Fire Extinguisher

- **Stored Pressure** - the expellant is stored in the same chamber as the firefighting agent itself.
- **Cartridge** - Cartridge-operated extinguishers contain the expellant gas in a separate cartridge that is punctured prior to discharge, exposing the propellant to the extinguishing agent.

6.4 How to Use a Fire Extinguisher

▶ *PPT 7-9 to 7-10*

P Pull the pin › **A** Aim the nozzle › **S** Squeeze the lever › **S** Sweep

7

The Bucket Brigade

It refers to a method of firefighting, whereby people would form a line from the water source to the fire scene and would pass buckets to each other to extinguish a blaze.

► *PPT 7-11*

8

Firefighting Safety Techniques and Procedures

When there's a fire inside your building, you need to get out immediately! Since smoke from a fire can make it difficult to see, it's important to know the best way to exit the building. How do you know this? You should have a plan before a fire even happens. Here's how to be prepared before a fire:

- **Have a plan and practice it.** This plan should include fire drills. A fire drill can help you practice leaving your building quickly and safely. Don't forget to talk about different ways you can get out.

8.1 During a fire, you should do the following:

- **Use a fire extinguisher to put out small fires.** You can also use water if the fire is not electrical or chemical. Do **NOT** try to put out a fire that you can't control.
- **If there's a fire that is too big to put out, leave the building immediately.** You might not have much time before the fire spreads, so don't even stop to call "Emergency number". Once you're outside and safe, you can use a cell phone or a neighbor's phone to call.
- **If your clothes catch fire, do NOT run.** This could make the fire spread more quickly. Instead, **Stop, Drop, and Roll!** In other words, stop, drop to the ground, cover your face with your hands, and roll back and forth until the fire is put out.

► *PPT 7-12*
► *Demo of stop, drop and roll (Dry)*

- **If there is smoke in your house, cover your nose and mouth with a small cloth and stay low to the ground as you're leaving.** Smoke is very dangerous to breathe and difficult to see through. Since smoke naturally rises, you should crawl on your hands and knees to exit the building.

8

Firefighting Safety Techniques and Procedures (Cont.)

If you're in a room with the door closed when a fire breaks out, here are more tips:

- **Do NOT open the door if the door is hot, there is smoke coming through the cracks around or under the door, or the doorknob is hot.** This means that the fire is close.
- **If you are trapped in the room, use duct tape, wet towels, or clothing to seal off any cracks or vents around the door.** Call Emergency number and let them know where you are. You could even put a light-colored cloth (like a white t-shirt) outside the window to let firefighters know where you are.
- **If the doorknob feels cool and smoke is not coming in the room, open the door slowly and carefully.** Then quickly exit the building.
- **If a fire starts in your kitchen because of oil or grease, try tossing baking soda or salt on it.** Or put a lid over the flame if the fire is in a pot or pan. Do not use water to extinguish a burning pan. **DO NOT USE WATER!**

▶ *Discuss toxic gases produced during burning of common house materials*

Keyword for Fire Safety

▶ *PPT 7-13*

C Conscious Prevention

A Awareness

D Detection of Fire

R Response or Reaction

E Evacuation

▶ *Proceed to Practical Exercise*

- Ask participants if there are any clarifications of inquiries about the discussed topics
- Give participants the necessary instruction for their practical exercise
- Back to the main classroom and give the critiques to the class as a whole
- Comments and suggestions
- Review objectives
- Ask participants to fill up Lesson Evaluation Form
- Thank the participants and introduce the next instructor for Lesson 7

- ***PPT 7-14 to 7-15***
- *Closing*
- *Review of Objectives*
- *Lesson Evaluation*

Fire Emergencies
Station 1 and 2

Participant s Name: _____ **Dates:** _____

Instructions: Participants will be divided into teams of six (6). There will be 4 stations, utilizing only one skills check list. Check the box showing on which attempt the participant was able to perform the step successfully.

Performance Objectives	Attempts				P/F
	1	2	3	4	
1. Scene size-up (secure or not secure).					
2. Ensure personal safety and proper use of PPE.					
3. Use of fire extinguisher • P - pull the pin • A - aim at the base of fire • S - squeeze the trigger • S - sweeping motion					
4. Bucket Brigade • Distribute members/buckets properly to extinguish a fire • Minimizes spillage to effectively put out the fire					

Comments: _____

_____

Overall Performance: ☐ Outstanding ☐ Successful ☐ Needs Improvement

Instructor: _____

CADRE LESSON 6 EVALUATION

Course Location: _____ **Dates:** _____

Do not write your name on this form. Please complete a copy of this form at the end of every lesson. Your evaluations are very valuable towards improving the course. Please use the ratings below.

1 VERY POOR	2 POOR	3 AVERAGE	4 GOOD	5 EXCELLENT

Please fill in the required information.	**Lesson Number :**	**Lesson Name :**	
	Instructors Name		
Use a scale from 1 to 5 as described above to rate the various lesson components.	**Lesson Rating (rate 1 to 5)**		
	Content	Instructor	Method
	Workbook	Interaction	
Mark your selection with an "X"	**Instruction Level** ☐ Too basic	☐ Appropriate	☐ Too advanced
	Duration ☐ Too short	☐ Appropriate	☐ Too long
	Usefulness Was this lesson useful to you?	☐ Yes	☐ No
Rate from 1 to 5	**Overall Lesson Rating** Taking all the above into consideration, I rate this lesson: _____		
If you need additional space, please use the back of the sheet.	**Comments and Observations**		

Thank you for your help. Your input is valuable. Please turn in this completed form to the instructor.

LESSON

07

BASIC SEARCH TECHNIQUES

Time-Lecture 01 Periods, Practical-03 Pds. Total-4 Pds.

LESSON OBJECTIVES

Upon completion of this lesson, you will be able to:

1. Define basic search.
2. Describe the most common techniques in searching a structure.
3. Demonstrate in practical exercise.

► *PPT 8-1 to 8-2*

Suggested Duration:
Lecture: 45 minutes
Practical: 45 minutes

Materials:
- PWB
- FC
- IG
- Reference Materials
- Visual Aids
- Multimedia Projector
- Projection Screen
- Spray paint

Activities:
Practical exercise (Search Method)

Methods:
Interactive lecture method
Demonstration and practical

Suggested Instructors Activity

1 Community Search and Rescue (CSAR)

An operation designed to provide an initial search of a building or to locate victims with minor or no injuries and help them exit from lightly damaged buildings.

1.1 Community Search and Rescue (CSAR) Consists of Three Separate Operations:

- **Size-up** - involves assessing the situation and determining a safe action plan.
- **Search** - involves locating victims and documenting their location.
- **Rescue** - involves the procedures and methods required to extricate surface victims.

1.2 The Goals of a Community Search and Rescue (CSAR) Operations are to:

- Rescue the greatest number of people in the shortest amount of time.
- Rescue lightly trapped victims first.

This will focus on the components of an effective Community search and rescue (CSAR) operation size-up, search, and rescue and the safe methods and techniques that rescuers can use to locate and safely remove victims.

2

Scene Size up (Using the 9 Point Model)

Step 1: Gather Facts

Time

- Does the time of day or week affect search and rescue efforts? How?

Type of Construction

- What type(s) of structure(s) is (are) involved?
- What type(s) of construction is (are) involved?

Framed or unframed?

Light materials, concrete, heavy masonry, pre-fabricated

Occupancy

- Are the structures occupied?
  If yes, how many people are likely to be affected?
- Are there special considerations (e.g. children, elderly)?
  If yes, what are the special considerations?

Residential, Commercial, Industrial, learning Institution

Weather

- Will weather conditions affect your safety?
  If yes, how will your safety be affected?
- Will weather conditions affect the search and rescue situation?
  If yes, how will the search and rescue situation be affected?

Hazards

- Are hazardous materials involved?
  If yes, what hazardous materials?
- Are any other types of hazards likely to be involved?
  If yes, what other hazards?

Step 2: Assess and Communicate the Damage

- Check integrity of the building. Is the damage beyond the team's capability?
  If yes, what special requirements or qualifications are required?
- Are normal communication channels functioning?

Step 3: Consider Probabilities

Life Hazards

- Are there potentially life-threatening hazards?
  If yes, what are the hazards?

Additional Damage

- Is there great risk or potential for more disaster activity that will impact personal safety? If yes, what are the known risks?

Scene Size up (Using the 9 Point Model) – Cont.

Step 4: Assess Your Own Situation

- What resources are available with which you can attempt the search and rescue?
- What equipment is available?

Remember that each step is a building block to another step.

Step 5: Establish Priorities

- Can a search and rescue be ***safely*** attempted by the Community responders?
  If no, do not attempt a search and rescue.
- Are there other, more pressing needs at the moment?
  If yes, list.

Factors in Structural Triage

► *Explain Structural Triage*

When performing structural triage, it is necessary to gather as much information as possible. The following factors must be considered:

- Occupancy type
- Type of structure
- Condition of the structure
- Mechanism of collapse
- Day, date and time of collapse
- Prior intelligence
- Availability of resources
- Location of utility shut-offs
- Possible presence of hazardous materials

Step 6: Make Decisions

- Where will deployment of available resources do the most good while maintaining an adequate margin of safety?

Step 7: Develop Plan of Action

- Determine how personnel and other resources should be deployed.

Step 8: Take Action

- Put the plans into effect.

Step 9: Evaluate Progress

Continually size up the situation to identify changes in the:

- Scope of the problem.
- Safety risks.
- Availability of resources

Adjust strategies as required.

3

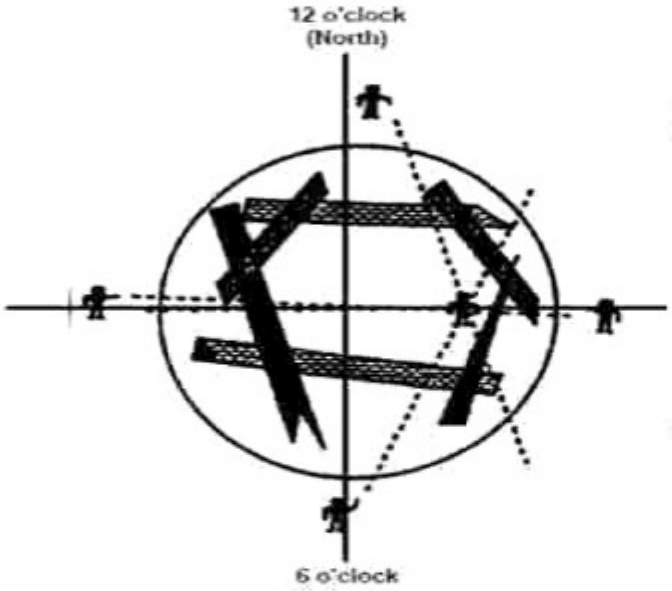
Search and Locate

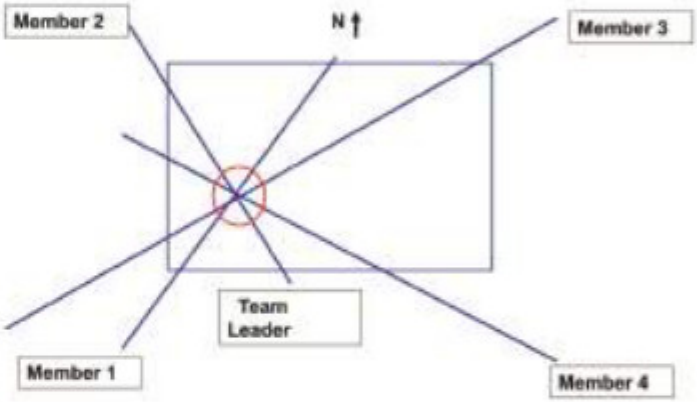
After conducting scene size-up, the next step is to locate missing and trapped injured persons. Now that your team has initial data from your size-up your team leader will designate and prioritize area for search.

Experienced search and rescue personnel have found these search methods to be effective:

3.1 Hailing Search Method

The search team leader signals for silence and all work to stop around the area. Four to five team members form a **cross pattern**, spaced at intervals of approximately **8-16 meters**, in safe locations as close as possible around the search area.





3.1.1 Team leader gathers each team member to draw a rough sketch of the area to be search. Using North as 12 o'clock for reference of searchers position.

3.1.2 Team leader assigns one member to check structure integrity and reports back for any findings.

3.1.3 4 to 5 members surround the structure to be search in a safe location as close as possible around the search area.

3.1.4 In a clock wise manner, begin the search by calling out to possible trapped persons inside the building. **Shout something like, If anyone can hear my voice, knock 3 times on something solid.**

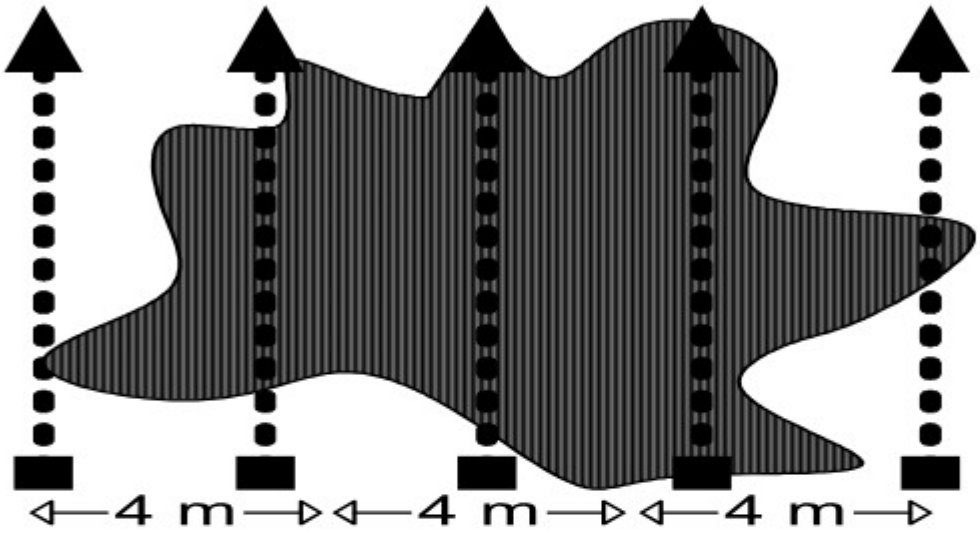
3.1.5 All searchers then listen and point in the direction of any potential response and immediately noted to the site sketch forms. Repeat steps if necessary.

3.1.6 If any victims respond, give them further directions such as **we hear you and please calm down we are trying our best to help you .** Ask victims who respond for any information that they may have about the building or others who may be trapped.

Search and Locate (Cont.)

3.2 Line Search

A variation of Hailing is done in a **Line Search** pattern. In this scenario, rescuers are also aligned next to, but off, the rubble pile to detect sound the others on the pile may not hear. The rescuers will hail in the order given, listen and then advance as safety permits. This ensures the entire structure is covered in an extensive grid-pattern search. Only the team leader has the site sketch form in this variation.



▶ *Briefly discuss the procedure for Line Search Method*

Physical Search Patterns for Interior Spaces.

1. **Multiple rooms**

   1.1 Enter: Go right and stay right - Stay in contact with the wall

   1.2 Exit: Go left and stay left - Stay in contact with the wall

   1.3 Bottom / up: Top / down

4

International Search and Rescue Advisory Group (INSARAG) Marking and Signaling Process

4.1 Definition of INSARAG

INSARAG is a global network of more than 90 countries and organisations under the United Nations umbrella. INSARAG deals with urban search and rescue (USAR) related issues, aiming to establish minimum international standards for USAR teams and methodology for international coordination in earthquake response based on the INSARAG Guidelines.

The International Search and Rescue Advisory Group (INSARAG) was established in 1991. This establishment followed the initiatives of the specialized international Urban Search and Rescue (USAR) teams who operated together in the Mexican earthquake of 1985 and the Armenian earthquake of 1988. The INSARAG Secretariat is located in the United Nations Office for the Coordination of Humanitarian Affairs (OCHA).

4.2 INSARAG Marking Process

INSARAG marking process is a really important tool that can be easily understood by a professional rescuer and as well as a field worker who has been working in a USAR operation. Whenever we use signals while working at a rescue work during a disaster it is always better to use signals that can be easily understood by rescue workers. This process will always create an understanding between the rescuers as well as it will also help in not repeating the search in the same area where it had already worked on before by other rescuers.

In order to achieve the goals INSARAG marking will always follow these three hypotheses:

4.2.1 Worksite Marking
4.2.2 Victim Marking
4.2.3 Rapid Clearance Marking

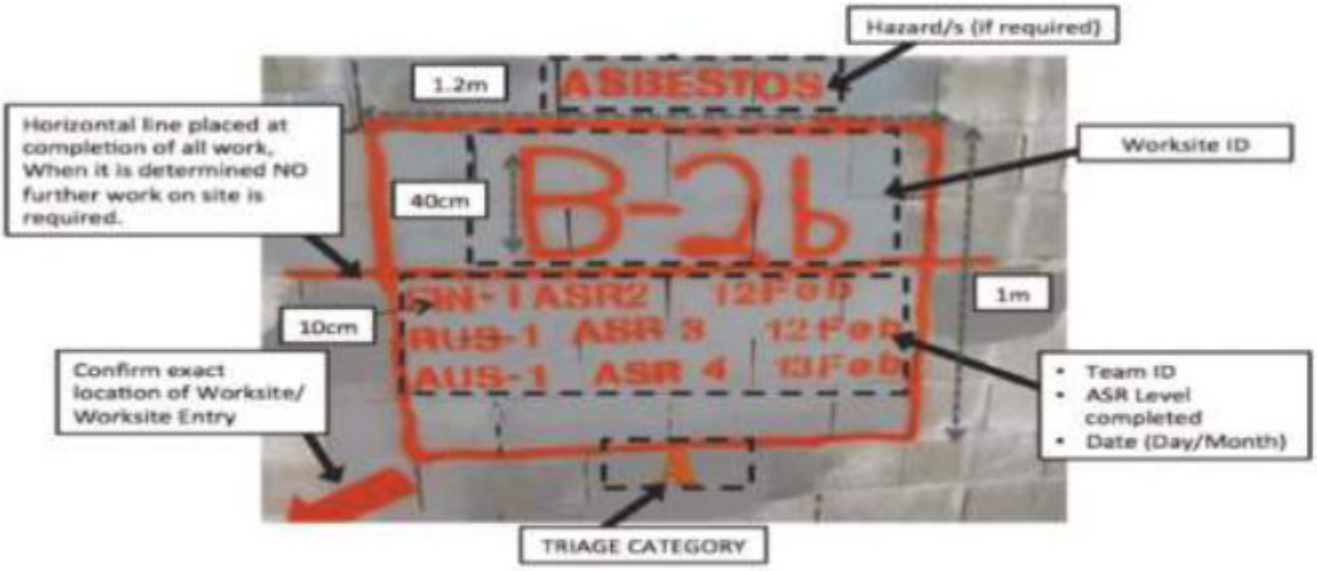
These hypotheses from INSARAG marking will help in marking the proper procedure and connection in victim searching.

4.2 INSARAG Marking Process (Cont.)

4.2.1 Worksite Marking:

Worksite marking is intended to uniquely identify specific and potential live rescue sites and is therefore an essential part of the coordination system. It displays critical information and is simple to understand and apply. It allows Worksites to be easily recognized and should be applied on collapsed structures assessed by USAR teams.

Community members may or may not use them as per the local protocol.



4.2 INSARAG Marking Process (Cont.)

4.2.2 Victim Marking:

Victim marking is used to identify potential or known casualty (Live or Dead) locations that are not obvious to rescuers reach e.g. below debris/entombed.

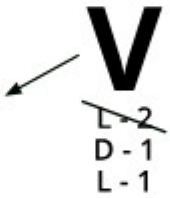
All markings must be conspicuous, using a high-contrast, durable, fluorescent colour.

Methods:

The following method should be used when applying victim marking:

- When teams (e.g. Search teams) are not remaining on site to immediately commence operations.
- At incidents involving multiple casualties or where any confusion on exact location from search operations is possible.
- Markings are done as close as physically possible to the actual surface point identified as the location of the casualty.
- Material used can be spray paint, builders crayon, stickers, waterproof card etc. as determined by the team.
- The size should approximately 50cm.
- The color should be highly visible and contrasting to the background.
- Not intended for use when rescue operations are completed.
- Not to be applied to the front of a structure with the Worksite ID unless it is found that is where the casualties are located.

There are 6 major methods which we understand with Progressive Examples

Description	Example
Large **"V"** applied to location of all potential victims – live or deceased.	
Optional arrow from **'V'** to clarify location if required.	
Under the **"V"** either: • An **"L"** indicating confirmed live victim, followed by a number (e.g. **"2"**) indicating the number of live victims at that location – **"L-2"**, **"L-3"** etc. and/or • A **"D"** indicating confirmed deceased victim, followed by a number (e.g. **"3"**) indicating the number of deceased victims at that location – **"D-3"**, **"D-4"** etc.	 
On removal of any casualty the relevant marking is crossed out and updated (if required) below; e.g. **"L-2"** may be crossed out and an **"L-1"** applied indicating only one Live victim remaining.	
When all **"L"** and/or **"D"** markings are crossed out, all **known** victims have been removed.	

► *CADRE Responders have limited scope regarding the INSARAG Marking, however if they want to know more the reference materials has been provided.*

4.2 INSARAG Marking Process (Cont.)

4.2.3 Rapid Clearance Marking:

The Worksite ID system is only used at potential live rescue sites with other sites, where no rescues are possible, or required, not normally being marked. This allows teams to move faster, maximize life-saving opportunities and simplifies coordination. However, there are situations where it is beneficial to have a marking that can be left at sites where teams have established there are no live victims or deceased only. Leaving a recognized 'clear' marking will prevent duplication and have other advantages

CLEAR	DECEASE ONLY
	
Equivalent to ASR Level 5 search completion indicating that the area/structure is **CLEAR** of all Live and Deceased casualties.	Indicates same level of comprehensive search has been completed but **ONLY Deceased Casualties** remain in-situ. **Note:** When deceased are removed, apply "clear" RCM adjacent to original mark.

4.3

ASAR Level- Assessment, Search And Rescue Levels:

- The five operational levels can define the phases of potential USAR related work. It should be remembered that not all these levels will always be carried out by international USAR teams; often the LEMA resources will do certain aspects.
- Levels can also be combined when appropriate and it is also possible that different levels of work are being carried out in different areas of the incident at the same time.
- It is not necessary that a single team will always carry out all levels.

LEVEL-1: Wide Area Assessment

LEVEL-2: Sector Assessment/ Worksite Triage Assessment

LEVEL - 3: Rapid Search and Rescue

LEVEL -4: Full Search and Rescue

LEVEL -5: Total Coverage Search and Recovery

TEAM IDENTIFICATION

USAR team ID system

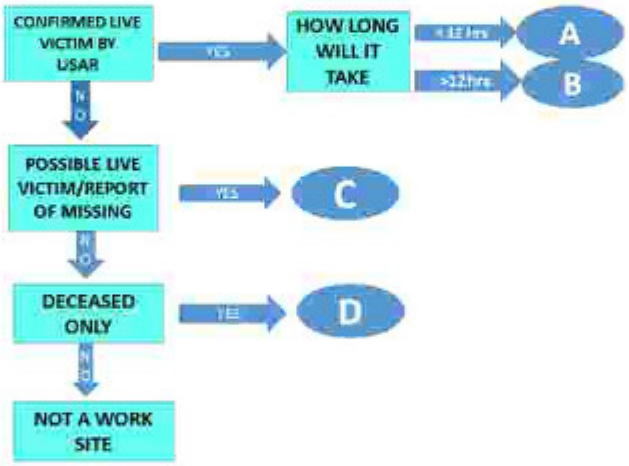
Country	Team name	Team ID.
Australia	Queensland USAR	AUS-1
Germany	THW SEEBA Team	GER-1
USA	Los Angeles County USAR Team	USA-2
Germany	Ulf's USAR Stars	GER-10

- 3-letter code reflecting home country (IOC)
- Followed by number to differentiate teams from same country
- Classified teams 01-09.
- None classified teams given a number 10-99.

TRIAGE CATEGORIES:

CONSIDERATIONS FOR PRIORITY OF TRIAGE

- **Confirmed live victims:** Means that the assessment team knows that there are people alive in the collapsed structure.
- **Time Factor:** Expected time to be taken in evacuation
- **Possible live victims:** Means that people are missing, but the assessment team does not know whether these people are alive or even in the structure.
- **Deceased only:** There are not live victims, but the LEMA may want to send teams to recover the bodies.



TRIAGE CATEGORIES A-D

TRIAGE CATEGORIES	VICTIM STATUS	EXP DURATION OF OPS
A	CONFIRMED LIVE VICTIMS	LESS THAN 12 HRS
B	CONFIRMED LIVE VICTIMS	MORE THAN 12 HRS
C	POSSIBLE LIVE VICTIMS	NOT ASSESSED
D	DECEASED ONLY	NOT ASSESSED

5
Signalling

Effective emergency signalling is essential for safe operation at a disaster site. Having a universally understood emergency signalling system ensures that all personnel operating on a worksite know how and when to react to signals on the site to ensure safe and effective operations for rescuers and victims alike.

Air horns or other appropriate hailing devices should be used to sound the appropriate signals as follows and located to allow immediate use:

1. Evacuate
(3 short signals, 1 second each repeatedly until site is cleared)

2. Cease Operations - Quiet
(1 long signal, 3 seconds long)

3. Resume Operations
(1 long signal + 1 short signal)

6
General Area Marking

At times some general marking will be required to be applied to assist in navigation and coordination. This should be limited to essential information only and be as concise as possible.

General area marking can be applied using spray paint, builders crayon, stickers, waterproof card etc. as determined by the team.

The color should be highly visible and contrasting to the background.
It may include:

- Address or physical location
- Landmark or code name (e.g. sugar factory building 1)
- Assigned area or worksites are to be identified individually (See Work site marking)

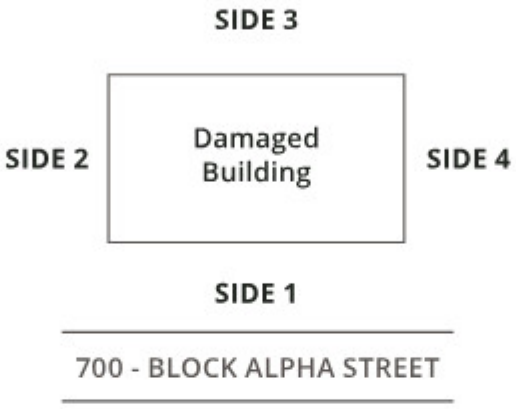
6 General Area Marking (Cont.)

6.1 Structural Orientation

includes both an exterior and interior identification:

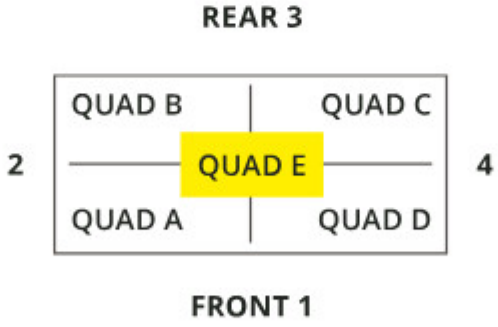
6.1.1 Exterior Identification:

The street address side (FRONT) of the structure shall be defined as "1". Other sides of the structure shall be assigned numerically in a clockwise manner from "1" (see graphic ▾).



6.1.2 Interior Identification:

The interior of the structure will be divided into QUADRANTS. The quadrants shall be identified ALPHABETICALLY in a clockwise manner starting at the corner where Side 1 (FRONT) and 2 meet. Quadrant E (central lobby, elevators, staircases, etc) applies to buildings with multiple storey. (See graphic ▾).



6.1.3 Identifying Floors

Third Floor
Second Floor
First Floor
Ground Floor
Basement 1
Basement 2

Multi-story structures must have each floor clearly identified. If not clearly identifiable, floors should be numbered in relation to ground level. The **grade-level** floor is designated as the **ground** floor. The floors above are numbered as **Floor 1, Floor 2**, etc. Conversely, the floors below the ground floor are **Basement 1, Basement 2**, etc. If possible, floors should be permanently marked at each landing of accessible stairways. If not obvious, floor should be numbered as viewed from the exterior. (Look at the picture for reference ◂)

7 Cordon Marking

Cordon markings are used to identify operational work zones as well as hazardous areas in order to restrict access and warn of dangers.

Operational Work Zone

Hazard Zone

Search Methods

Participant s Name: _____ **Dates:** _____

Instructions: Check the box showing on which attempt the participant was able to perform the step successfully.

Performance Objectives	Attempts				P/F
	1	2	3	4	
1. Scene size-up (secure or not secure).					
2. Ensure personal safety and proper use of PPE.					
3. Identify yourself (to the victim, the family or bystanders)					
4. Gather , compile and analyze available information • Building plans, etc.					
5. Draw a sketch of the structure on the site sketch form					
6. Select the best search method based on condition					
7. Conduct Physical search appropriately, observe for hazards					
8. Confirm victim location and adhere to safety measures					
9. Added victim markings to the appropriate place on the site sketch.					
10. Analyzed results and re-evaluated their plan.					
11. Initiated patient management.					
12. Confirmed victim location using available means.					
13. Work was carried out as a team using proper task distribution.					

Comments: _____

_____

Overall Performance: ☐ Outstanding ☐ Successful ☐ Needs Improvement

Instructor: _____

CADRE LESSON 7 EVALUATION

Course Location: _____ **Dates:** _____

Do not write your name on this form. Please complete a copy of this form at the end of every lesson. Your evaluations are very valuable towards improving the course. Please use the ratings below.

1 VERY POOR	2 POOR	3 AVERAGE	4 GOOD	5 EXCELLENT

Please fill in the required information.	**Lesson Number :**	**Lesson Name :**	
	Instructors Name		
Use a scale from 1 to 5 as described above to rate the various lesson components.	**Lesson Rating (rate 1 to 5)**		
	Content	Instructor	Method
	Workbook	Interaction	
Mark your selection with an "X"	**Instruction Level** ☐ Too basic	☐ Appropriate	☐ Too advanced
	Duration ☐ Too short	☐ Appropriate	☐ Too long
	Usefulness Was this lesson useful to you?	☐ Yes	☐ No
Rate from 1 to 5	**Overall Lesson Rating** Taking all the above into consideration, I rate this lesson: _____		
If you need additional space, please use the back of the sheet.	**Comments and Observations**		

Thank you for your help. Your input is valuable.
Please turn in this completed form to the instructor.

LESSON

08

BASIC RESCUE TECHNIQUES

Time-Lecture 01 Periods, Practical-03 Pds. Total-4 Pds.

LESSON OBJECTIVES

Upon completion of this lesson, you will be able to:

1. Define rescue techniques.
2. Describe the most common rescue techniques in a structure.
3. Demonstrate in practical **exercise lifting, stabilizing loads.**

► *PPT 9-1 to 9-2*

Suggested Duration:
Lecture: 30 minutes
Practical: 1 hour

Materials:
- PWB
- FC
- IG
- Reference Materials
- Visual Aids
- Multimedia Projector
- Projection Screen
- Cribs
- Levers
- Slab/heavier load

Activities:
Practical exercise (Lifting and Stabilizing Objects)

Suggested Instructors Activity

1 Conducting Rescue

1.1 Lifting Heavy Objects

You may encounter situations in which debris needs to be moved to free victims. In these situations, Community Rescuers should consider leveraging and cribbing to move and stabilize the debris until the rescue is complete.

Methods For Lifting Loads

(include in the discussion other methods which can be easily available in the community like hydraulic and screw jack (Bottle, alligator), come along)

1.2 The Lever

The lever is the simplest method for lifting a load. A lever is a rigid bar, either straight or bent, that is free to move on a fixed point called a fulcrum.

The fulcrum is the object or place that supports the load when a lever is used to move another object.

Applications of levers:

- To move a load that is too heavy to move by hand
- Pulling / hauling
- Raising

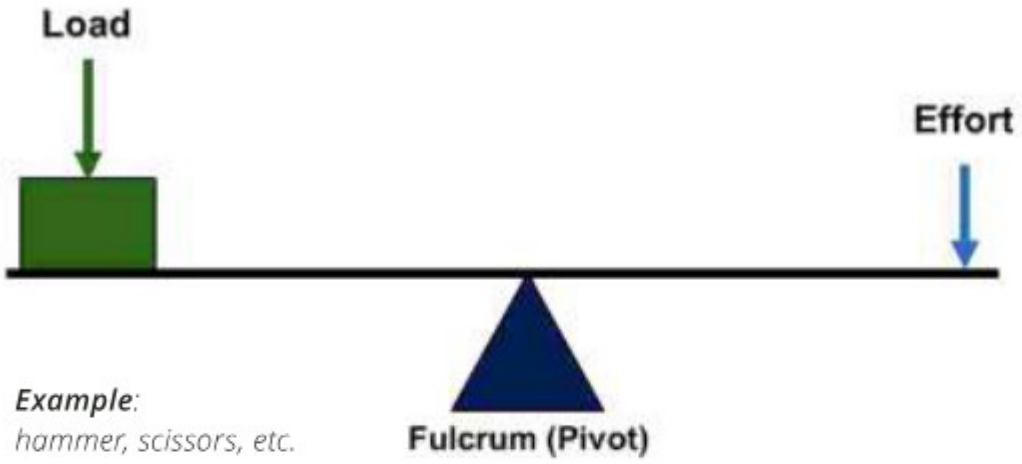
The three components that make-up a lever:

Fulcrum:	Load:	Force:

The Three Classes of Levers

► *PPT 9-3*

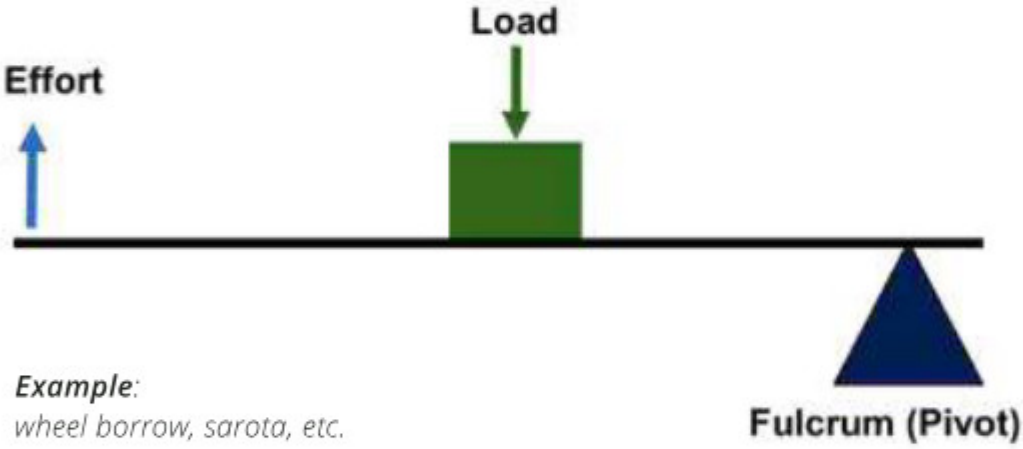
Class 1 Lever



Example:
hammer, scissors, etc.

Class 2 Lever

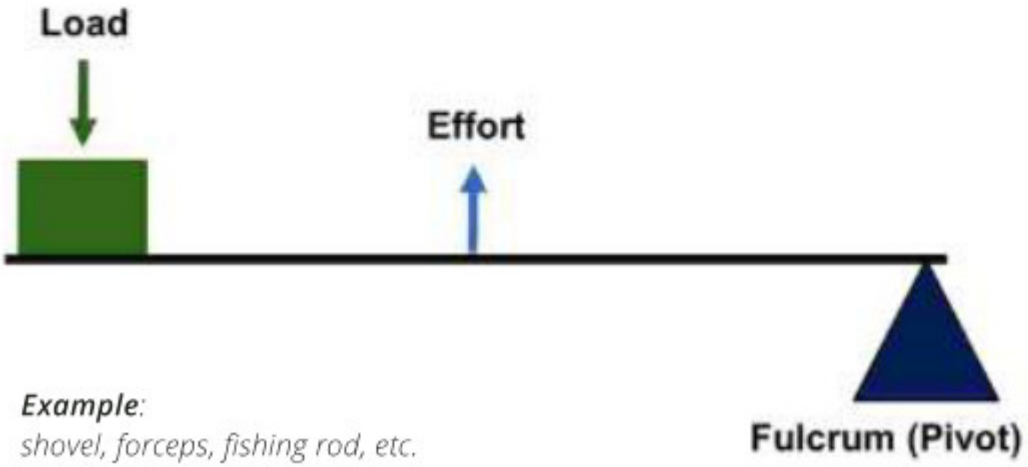
► *PPT 9-4*



Example:
wheel borrow, sarota, etc.

Class 3 Lever

► *PPT 9-5*



Example:
shovel, forceps, fishing rod, etc.

1 Conducting Rescue (Cont.)

1.3 Before Lifting or Moving a Load

The following factors must be examined before lifting or moving a load:

- Weight of the load
- Consequences when the load is moved (what will happen)
- Selection of the method for lifting or moving the load

1.4 Leveraging is accomplished by wedging a lever under the object that needs to be moved, with a stationary object underneath it to act as a fulcrum. When the lever is forced down over the fulcrum, the far end of the lever will lift the object.

2 Crib

CRIB : A wooden framework used for support or strengthening.

Types of Cribbing

- Box
- Platform (cross-tie)

2.1 Box Cribbing

Arranging pairs of wood pieces alternately to form a stable rectangle.

► *PPT 9-6*

2.2 Platform Cribbing

► *PPT 9-7*

Leveraging and cribbing are used together by alternately lifting the object and placing cribbing materials underneath the lifted edge to stabilize it. Safety is number one.

Leveraging and cribbing should be gradual both for stability and to make the job easier. It may also be necessary to use leveraging and cribbing at more than one location (e.g., front and back) to ensure stability.

2 Crib (Cont.)

2.3 Safety procedures:

- Always wear proper personal protection
- **Lift an inch, Crib an inch** principle
- Never build cribbing higher than 3 times the width of its base.

When you are able to achieve sufficient lift, remove the victim and reverse the leveraging and cribbing procedure to lower the object.

▶ *Explain and emphasize, "Lift an Inch, Crib and Inch"*

3 Operational Procedures

3.1 Buddy system

– Work in teams of at least two persons and stay together.

3.2 Safety officer

If possible, each rescue team should have its own assigned safety officer. With limited personnel this is often not possible. Two person teams are more likely, making it even more important for both members to maintain a constant awareness of their surroundings. The safety officer should not actively engage in the rescue operation but watch out for hazardous conditions, unsafe actions, and overall rescue team safety.

3.3 Communications

3.3.1 Radio or other forms of communications are vital to safely coordinate and control search and rescue operations.

3.3.2 Runners may be used where radios do not exist, or become inoperable.

3.3.3 When using a radio, if you haven't been answered, you haven't been heard.

3.4 Entrapped Signal

3.4.1 Pre-arrange a signal for rescuers to use if they become entrapped. Yelling and whistles work well in open areas but sound vibrations have to travel farther in confined spaces. Tapping with a hard object onto a solid part of the structure can be heard further away than verbal sounds.

3.4.2 Similar to the international SOS signal: a continuous three taps - pause - three taps - pause is a suggested signal for entrapped rescuers or patients.

3 Operational Procedures (Cont.)

3.5 Evacuation Signal

A loud identifiable and pre-arranged signal will be sounded when hazardous conditions require immediate evacuation of the structure.

(1) Whistle, megaphones, or bullhorns, etc.

(2) The following signals are internationally recognized by professional rescue teams:

- **Evacuate** 3 short blow
- **Stop work/maintain silence** 1 long blow
- **Resume Operations** 1 long - 1 short blow

► *Demonstrate*

Each team or structure should have its own distinct evacuation signal when multiple rescue operations are taking place in the same area.

3.6 Safety Hazards around Disaster Sites

3.6.1 Secondary Collapse of Unstable Structures

(1) Fractured or leaning buildings, walls, utility poles, freeway overpasses

(2) Shifting debris piles and building contents

3.6.2 Overhead Hazards

(1) Damaged attachment points not designed to hold this type of load can suspend large heavy pieces of the structure.

(2) Unsecured building contents such as file cabinets, bathtubs, refrigerators, etc.

(3) Low hanging wires i.e., electrical, phone, television cable,etc.
- Electrocution, tripping, and entanglement
- Might be found outside, under canopies, or inside rooms

(4) Heavy lifting construction equipment
› Cranes and backhoes lifting heavy objects over rescuers

(5) Unorganized rescue teams on floors and roofs above
Places unnecessary weight and movement above rescuers

Operational Procedures (Cont.)

3.6.3 Ground Level Hazards

(1) Sharp objects like glass, nails, re-bar, and broken concrete

(2) Slippery and uneven surfaces

(3) Surface water
- – Electrocution if contacting energized power lines
- – Drowning

(4) Contaminated atmospheres
- › Areas of chemical storage, i.e. garage, basement areas
- › Flammable, toxic, or oxygen deficient

3.6.4 Below-Grade Hazards

(1) Contaminated atmospheres
- – Basement or cellar storage areas
- › Flammable, toxic, or oxygen deficient

(2) Flooding
- › Eliminates view of floor or walking surface
- – Electrocution
- – Drowning

3.6.5 Basic Hazardous Materials Safety

(1) Household hazardous materials

Kitchen area
- – Ammonia, bleach, caustic oven and drain cleaners under sink

Laundry area
- – Ammonia, bleach, spot remover in cabinets and near washing machines

Garage area
- – Gasoline, paint thinners, pesticides, caustic paint removers, pressurized cans in cabinets, on shelves, and on floor

(2) Hospitals and laboratories
- › Flammable gases, flammable liquids, poisons, radioactive isotopes, and biological hazards

(3) Schools, local retail, business offices
- › Approved and unapproved items under sinks and in closets

3 Operational Procedures (Cont.)

3.6.6 Basic Infectious Disease Safety

(1) If patient does not have a disease prior to injury or death they will not be infectious because of the injury or death

(2) Use the same type personal protective equipment already discussed

- **Helmet** - To protect the head from cuts and abrasions
- **Goggles** - Will stop body fluids from coming in contact with the eyes
- **Dust masks** - Will stop body fluids from coming in contact with the face and respiratory tract
- **Latex gloves** - May have to put under leather work gloves to prevent body fluids coming in contact with the hands during work activities

(3) Wash with soap or disinfectant as soon as possible if contact with body fluids

(4) Remove or wash clothing with soap soon as possible if contact with body fluids

(5) Immunization against Hepatitis B and tetanus should be kept current

(6) Water contamination and broken sewage systems will cause most of illnesses following a structural collapse disaster unless proper purification and sanitation procedures are used.

- Schools will need to establish remote sanitation sites for human waste. The method and location for use and storage will need to be considered carefully

4 Four Types of Structural Collapse Disaster Rescue Situations

► *Discuss type of Collapse and Void Spaces. Brief Only*

4.1 Injured, Not Trapped

- Injury is usually caused by falling debris hitting the victim or the victim falling and hitting the ground. Also known as **surface victims**
- Removing the victim to a safe location and treatment of wounds is required for rescue.
- Usually accounts for 50% of victims.

4.2 Non-Structural Entrapment

- The building still looks like the original building. Also known as **light rescue.**
- Building contents like file cabinets, book shelves,refrigerator, and small pieces of debris will trap victims.
- Locating the victim and lifting the building contents or small pieces of debris off them is usually accomplished with common hand tools. Removing the victim to a safe location and treatment of wounds is required for rescue.
- Usually accounts for **30% of victims**.

4.3 Void Space Non-Structural Entrapment

- The building no longer looks like the original building. Partial or complete collapse has occurred. This is a hazardous and dangerous situation.
- Victims are still trapped by the building contents such as file cabinets, bookshelves, refrigerator, and small pieces of debris. But they are located inside void spaces created by the collapsed structure(s).
- Securing the structure, locating the victim, lifting the building contents or small pieces of debris off them, removing the victim to a safe location, and treatment of wounds is required for rescue.
- Rescuing a victim in this category usually takes about four (4) hours. Usually accounts for l5% of victims.

4.4 Entombed

- The building no longer looks like the original building. Partial or complete collapse has occurred. This is a very hazardous and dangerous situation.
- Victims are trapped by structural components like walls, floors, and roofs.
- Securing the structure, locating the victim, lifting, removing or breaching the structural components away from them, removing the victim to a safe location, and treatment of wounds is required for rescue.
- Rescuing entombed victims usually takes longer than four (4) hours. The average time is about eight (8) hours.
- Usually accounts for 5% of victims.

NOTE: *At least 80% of the injured and entrapped victims of past structural collapse disasters have been rescued within the first 24 hours following the incident.*

► ***Proceed to Practical Exercise***

- Ask participants if there are any clarifications of inquiries about the discussed topics
- Give participants the necessary instruction for their practical exercise
- Back to the main classroom and give the critiques to the class as a whole
- Comments and suggestions
- Review objectives
- Ask participants to fill up Lesson Evaluation Form
- Thank the participants and introduce the next instructor for Lesson 9

- ***PPT 9-8***
- *Review Lesson Objectives*
- *Closing*
- *Lesson Evaluation*

Lifting and Stabilizing loads
Station 1

Participants Name: _____ **Dates:** _____

Instructions: Check the box showing on which attempt the participant was able to perform the step successfully.

Performance Objectives	Attempts				P/F
	1	2	3	4	
1. Scene size-up (secure or not secure).					
2. Ensure personal safety and proper use of PPE.					
3. Assign task to the team					
4. Plan to lift the load and identify consequences					
5. Perform all steps for lifting • Make a purchase point if necessary • Position all cribs and follow rule: "lift and inch, crib an inch"					
6. Stabilize the load					
7. Lower the slabs following the same rules					

Comments: _____

_____

Overall Performance: ☐ Outstanding ☐ Successful ☐ Needs Improvement

Instructor: _____

Lifting Patient into Backboard
Station 2

Participant s Name: _____ **Dates:** _____

Instructions: Check the box showing on which attempt the participant was able to perform the step successfully.

Performance Objectives	Attempts				P/F
	1	2	3	4	
1. Scene size-up (secure or not secure).					
2. Ensure personal safety and proper use of PPE.					
3. Assign task to the team					
4. Place cervical collar on a sitting patient					
5. Place cervical collar on a supine patient					
6. Place patient on backboard from supine position					
7. Place patient on backboard from prone position					

Comments: _____

_____

Overall Performance: ☐ Outstanding ☐ Successful ☐ Needs Improvement

Instructor: _____

CADRE LESSON 8 EVALUATION

Course Location: _____ **Dates:** _____

Do not write your name on this form. Please complete a copy of this form at the end of every lesson. Your evaluations are very valuable towards improving the course. Please use the ratings below.

1 VERY POOR	2 POOR	3 AVERAGE	4 GOOD	5 EXCELLENT

Please fill in the required information.	**Lesson Number :**	**Lesson Name :**	
	Instructors Name		
Use a scale from 1 to 5 as described above to rate the various lesson components.	**Lesson Rating (rate 1 to 5)**		
	Content	Instructor	Method
	Workbook	Interaction	
Mark your selection with an "X"	**Instruction Level**		
	☐ Too basic	☐ Appropriate	☐ Too advanced
	Duration		
	☐ Too short	☐ Appropriate	☐ Too long
	Usefulness Was this lesson useful to you?		
		☐ Yes	☐ No
Rate from 1 to 5	**Overall Lesson Rating** Taking all the above into consideration, I rate this lesson: _____		
If you need additional space, please use the back of the sheet.	**Comments and Observations**		

Thank you for your help. Your input is valuable. Please turn in this completed form to the instructor.

LESSON

09

WATER EMERGENCIES

Time-Lecture 02 Periods, Practical-05 Pds. Total-7 Pds.

LESSON OBJECTIVES

Upon completion of this lesson, you will be able to:

1. List at least 5 common water emergencies and causes.
2. List and describe the types of water hazards.
3. Demonstrate 6 knots used for joining and securing.
4. Demonstrate the 2 types of extension assist.
5. Demonstrate how to wade through moving (shallow) water.

► *PPT 10-1 to 10-3*

Suggested Duration:
Lecture: 45 minutes
Practical: 2 hours

Activities:
Practical exercise (45 minutes) on Floatation Device, Throw and Tow, Knots and Wading in shallow water

Materials:
- PWB
- IG
- Visual Aids
- Multimedia Projector
- Projection Screen

Introduction

Drowning doesn't have to happen in a lake, river or swimming pool. Drowning occurs in all manner of water, from the biggest ocean to the smallest puddle.

Suggested Instructors Activity

► ***PPT 10-4***

1 Common Water Emergency

► ***PPT 10-5***

- Near Drowning _____
- Diving in shallow water _____
- Man overboard _____
- Hypothermia _____
- Soft tissue injury _____
- Electrocution _____
- Animal bites **snakes come out of their pits when it is flooded / inundated**

► *Give examples of emergencies that happen on and around bodies of water.*

There were a number of cases of electrocution and animal bites during the Thai flood.

2

Causes

► *PPT 10-6*

► *Explain the effects.*

- Heavy rains Floods, flash floods etc
- Dam Failure On 2 July 2019, the Tiware dam in Ratnagiri district of Maharastra state of India failed following heavy rains. The failure resulted in flooding of the villages situated downstream. At least 19 people died, and four went missing.
- Strong current Drowning accidents
- Accidents Swimming, river rafting, hiking near rivers or lakes.
- Boat accidents or Capsized boats As per National Crime Records Bureau (NCRB) thousands of lives have been lost in boat mishaps between 2001 and 2015.
- Live electric outlet in homes Inundated homes

3

Water Hazards

► *PPT 10-7*

- Low head dam/hydraulics Dam spillway causes swirling motion of water
- Strainers Fallen tree on river, shrubs on riverbank may cause blockage of debris and entrap victim underwater.
- Floating debris Tree branch, log, and garbage may hit or get victims pinned to stationary objects.
- Foot entrapment Between rocks or drains
- Stationary objects Boulders, tree, electric pole, Telephone access box
- Panicked swimmers Potential to drag the rescuer under water
- Contaminated water Spillway near factories/farms, flood waters (leptospirosis), amoebiasis
- Hypothermia Critical loss of body heat due to prolonged immersion
- Dehydration Especially if person is in ocean due to the salt content of sea water

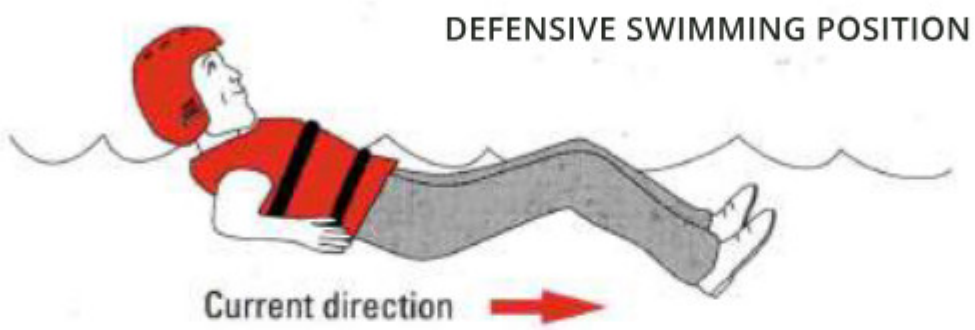
4 Survival

4.1 Floating

4.1.1 Open water – **back, jellyfish, Deadman's float**

4.1.2 Swift water – **sitting position with legs on front**

4.1.3 Flood water – **sitting position with legs on front**



► *PPT 10-8*

► *Discuss difference of open water against Swift/ Flood water.*

Discuss methods used for survival in prolonged immersion and being swept by moving water.

Explain why feet first in Defensive Swimming position

4.2 Personal Floatation Device & Improvised Floatation Device

4.2.1 Life vest
4.2.2 Life buoy
4.2.3 Water container
4.2.4 Tire interior tube
4.2.5 Styropore / Styrofoam box
4.2.6 Surfboard
4.2.7 Floating wood / lumber
4.2.8 Banana log
4.2.9 Bamboo Jar Raft
4.2.10 Empty Bottle Belt
4.2.11 Modified Bamboo Raft
4.2.12 Fixed Bamboo Raft
4.2.13 Bamboo Ladder
4.2.14 Barrel Raft
4.2.15 Bamboo Bundle
4.2.16 Coconut Raft etc.


Empty Bottle Belt


Bamboo Jar Raft


Coconut Raft

Barrel Raft


Bamboo Ladder


Life Jacket

► *PPT 10-9*

► ***Surfboard***
- though designed as a floating device for sport, it is not designed for rescue or survival.

Floating wood/ lumber
-could be a survival floating device but is dangerous if it is too big that it could crush or pin a person if it slams on something stationary.

Ask participants for other improvised floating device

4.3 Before Using the Impro Device

- Always test the float before relying on it.
- Tie items securely.
- Do not overload — buo depends on the volume trapped.
- Use ropes to secure the float to the person or structure.

▶ *Emphasize that the loop at the end of the rope should not be placed around the wrist. There is danger of being pulled into the water if the current is very strong*

5

PPE Personal Protective Equipment

6

Whistle Signal

One blast (-)	Two blasts (__ , -)	Three blasts (-, -, -)
=	=	=
stop, look at me, listen for instructions	**begin** action agreed upon or indicated by whistle blower	**distress**, need help repetitive

▶ *Relate with lesson 3*

6.1 Hand Signals

One arm in the air
=
(I need) **HELP**

One hand on top of head
=
(I am) **OK**

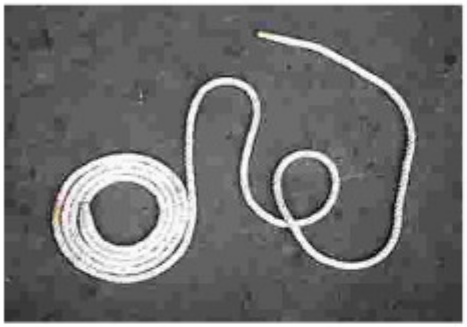
7

Life Saving on Water Emergencies

7.1 Basic Knowledge on Ropes and Knots

Rope is a common material found almost anywhere. It can be used to secure equipment and people for safety. Correct application of knots and its use is important.

7.1.1 Parts of a Rope



- Working end _____
- Loop _____
- Bight _____
- Coil _____

7.1.2 BASIC KNOTS used in:

- Joining (Connecting) ropes

- Square knot / Reef knot

_____

_____

- Figure of eight bend

_____

_____

- Sheet Bend

_____

_____

- *To make instructions easy these basic knots and its parts are discussed to get everyone on the same page*
- ***PPT 10-10***
- *With proper type of rope and application these can be used also for Lifting and lowering patients in height*
- ***PPT 10-11***
- ***Square knot/ reef knot:*** *Easy to tie, easy to untie. Needs a safety knot to be secured*
- ***Figure of eight bend:*** *more secure knot for joining ropes*
- ***Sheet bend:*** *used for joining ropes of different diameters.*

- Anchoring (Securing) ropes

- Clove hitch

- Bowline

- Body Bowline/Double Bowline

► ***Clove hitch:*** *tightens when load/force is applied*

► ***Bowline:*** *A popular knot among mountaineers to secure self on a safety or life supporting line.*

7.2 Steps of a Water-based Rescue

► *PPT 10-12*

Drowning victims are probably the most dangerous to try to rescue. In a panic, drowning victims are likely to claw at rescuers and climb to the surface at all costs. **NEVER** attempt a direct rescue of a conscious drowning victim without proper training.

- Use the fastest and most direct route to get to a distressed swimmer.
- Have and use floatation device.
- Have rescue equipment, keep it handy, and know how to use it.

> Reach to assist or throw a rope. Whatever you do, don't become the next victim when trying to help a drowning person.

7

Life Saving on Water Emergencies (Cont.)

7.3 How to Help a Drowning Person:

► *PPT 10-13*

1) **Stay Safe.** Wear a personal flotation device if available. The most important thing to remember is ***not to become a victim yourself.***
2) If more than one rescuer is available, have someone call for help immediately. Remember, be sure to say your location carefully and do not hang up until the emergency dispatcher tells you to do so.
3) **If the victim is conscious,** try to reach the victim with something rigid enough to pull him or her back. An oar, branch of tree or wooden handle of broom is a good option.
4) If nothing will reach, throw the victim a rope and encourage him or her to grab on. A life-preserver with a rope attached is a very good option.
5) If the victim is too far for a rope, then there are few additional options for untrained rescuers. Make sure help (emergency number) has been called. If enough people are available, try making a chain by holding hands out to the victim. *A rescuer may try swimming out to the victim, but follow these steps:*
    - Tie a rope around the rescuer□s waist before heading out to the victim and have someone on shore or on a nearby boat holding the rope.
    - Take a pole, oar, rope, or other object to reach the victim. **Rescuers should not attempt to directly touch a panicking drowning victim.**
6) **If the victim is unconscious**, take a boat to the victim or tie a rope around the rescuer s waist and let the rescuer pull the victim to shore.
7) Once a drowning victim is safely out of the water, **perform basic first aid.** In cold weather, remove the victim□s wet clothing - all the way. Cover the victim with a blanket and watch for symptoms of hypothermia. If the victim is not breathing, **begin CPR.**

Tips:

1) All victims of near drowning need medical attention. Water in the lungs, even small amounts, can lead to them filling with fluid later. Called "dry drowning," this condition can be fatal.
2) Closely watch anyone who chokes on water while swimming, especially if swimming in anything other than a pool.
3) If an unconscious victim is found in the water with no witnesses, always assume the victim has a neck injury.

► *A popular knot*

The importance of high quality CPR (sufficient rate and depth without excessively ventilating) was emphasized.

The order of interventions was changed for all age groups except newborns from airway, breathing, chest compressions (ABC) to chest compressions, airway, breathing (CAB).

An exception to this recommendation is for those who are believed to be in a respiratory arrest (drowning, etc.).

Life Saving on Water Emergencies (Cont.)

7.4 Extension Assist

1) **REACH** The easiest and most desirable form of rescue is to reach out or extend an object to the person in trouble.

► *PPT 10-14*

Reach subject with:

- Pike pole
- Paddle
- Tree branch

Procedure:

- Lay flat on the ground so as not to get pulled in.
- Reach as far out as possible.
- Yell to get the subject's attention.

Other rescue options:

- Flotation device tied to rope held by rescuers on both sides of the river shore or flooded street.

7

Life Saving on Water Emergencies (Cont.)

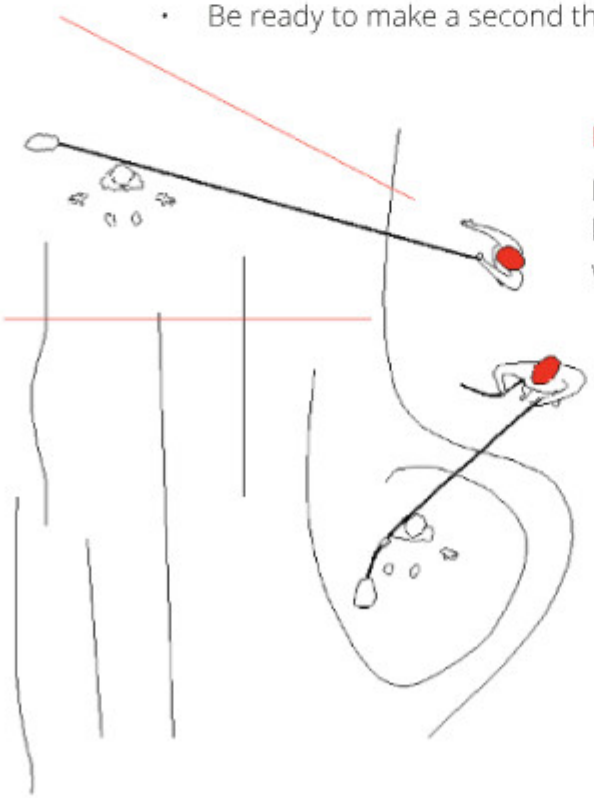
2) **THROW and TOW** if the victim is too far away to reach with anything, you may be able to use this rescue technique to provide assistance

▸ *PPT 10-15*
▸ *PPT 10-16*

Procedure:

- Chose a strategic spot to set up to throw bag.
- Get and keep eye contact with the subject.
- Aim for the subject's head or slightly up river.
- Make a strong underhand throw when the subject is in the target zone.
- Carefully bring the subject to an "eddy" or the best landing spot you can find.
- Be ready to make a second throw.

▸ ***An eddy:*** *is the swirling of a fluid and the reverse current created when the fluid flows past an obstacle.*



Remember always:

REACH, THROW,
but only **GO**
with *training and equipment.*

▸ *PPT 10-17*

7

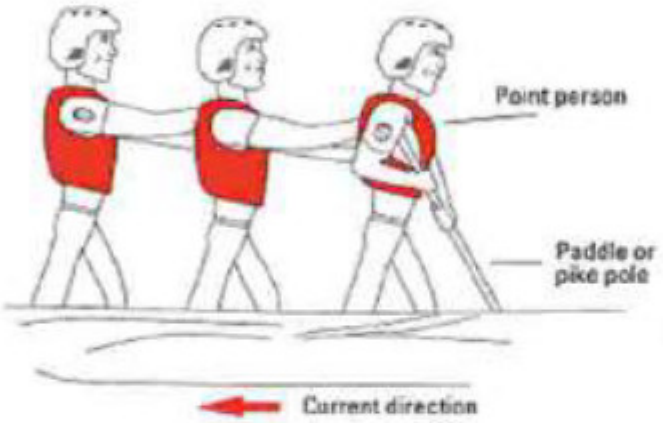
Life Saving on Water Emergencies (Cont.)

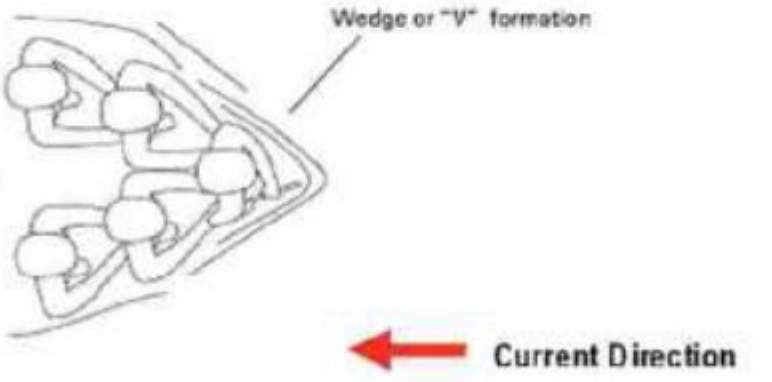
3) Shallow Water Crossing

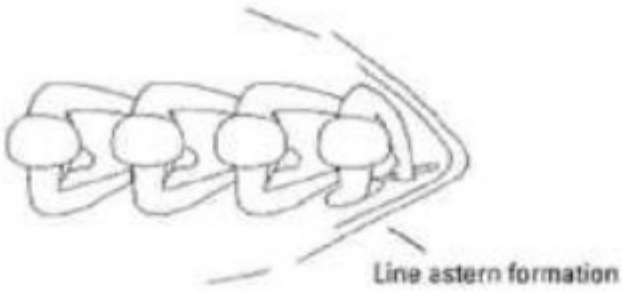
- **Do not enter current higher than knee deep.**
- Keep the formation headed straight into the current.
- Support the person in front of you.
- Get a solid foot placement each time you move your foot.
- Do not rush.
- Abort and return to shore before getting swept away.
- If swept by strong current immediately assume Defensive swimming position.

► *PPT 10-18*

► *If you need to cross a streaming water (river, Flooded Street, etc.) do the following procedures*







7

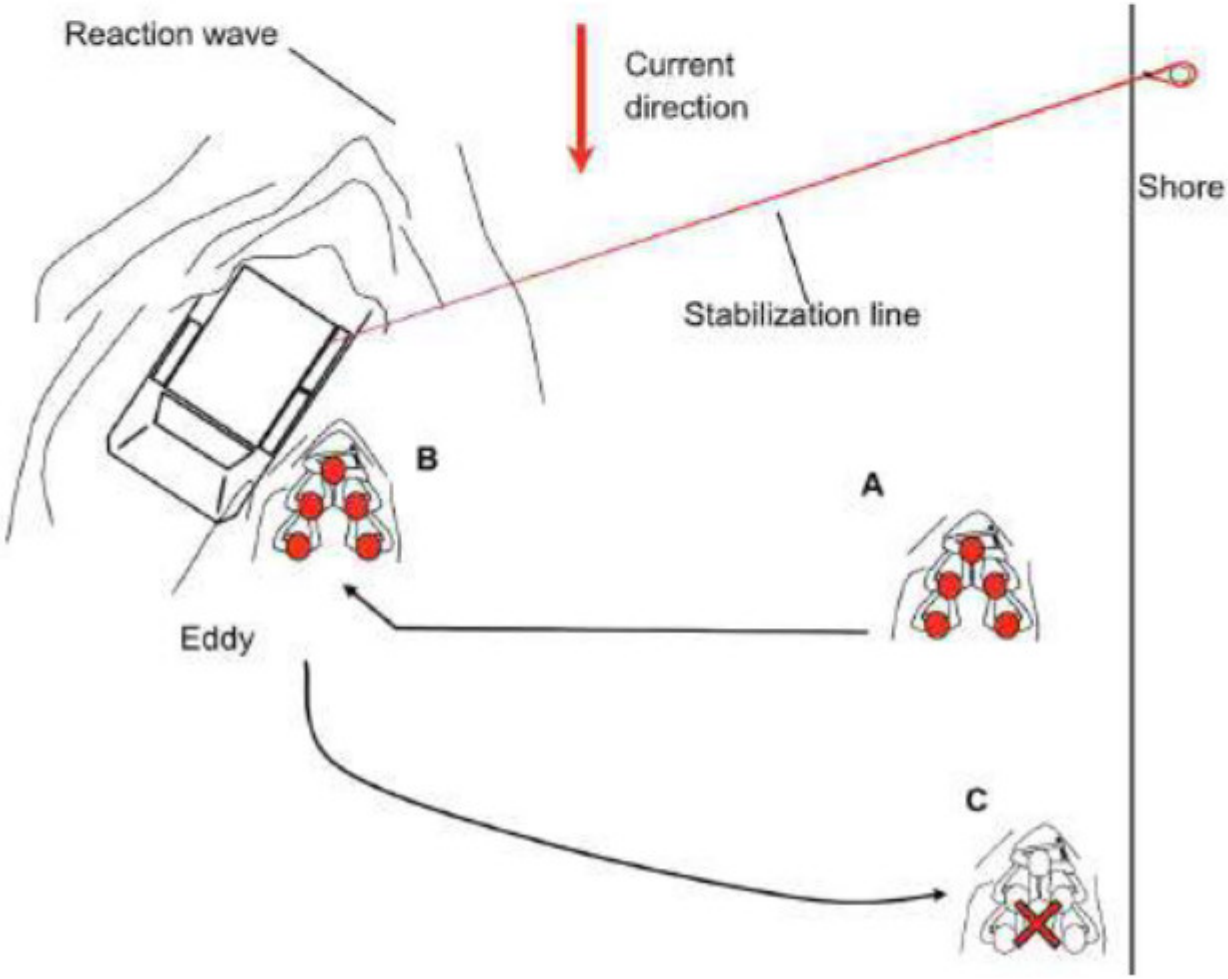
Life Saving on Water Emergencies (Cont.)

4) Shallow Flood Water Crossing

- **Do not enter deeper than your knees.**
- Have upstream spotters to watch for floating debris.
- Have downstream bag throwers as backup plan.
- Secure vehicle with stabilization line if possible.
- Do not follow the stabilization line, it leads to the reaction wave.
- Take PFD and helmet for each subject.
- Keep the formation headed straight into the current (illus. A)
- ***Abort the attempt if formation is not totally stable.***
- Move laterally to the rear of the vehicle, avoid the reaction wave.
- ***Watch for instability of the vehicle.***
- If the vehicle appears stable, move up into the eddy (B).
- Get the PFD and helmet correctly on each subject.
- Assist one subject into the pocket of the "V" formation.
- Move laterally to the safe bank (C).
- Repeat the process for additional subjects.

► *If there is a need to evacuate a person from the rapidly flowing water, and the professional rescuers shall not arrive immediately*

► *During rescue efforts. A combination of methods are to be employed to make sure there is a back-up plan in-case somebody is swept by the current.*



7

5) Water Entry Techniques:

Slide-in Entry:
Used for unknown or potentially dangerous waters.
StrideEntry:Used

Stride Entry : Used by lifeguards when the water is clear and deep.

Compact Jump: Performed from a height, with legs together.

Feet-first Entry: Used when entering safely from a boat or platform.

- Ask participants if there are any clarifications of inquiries about the discussed topics
- Give participants the necessary instruction for their practical exercise
- Back to the main classroom and give the critiques to the class as a whole
- Comments and suggestions
- Review objectives
- Ask participants to fill up Lesson Evaluation Form
- Thank the participants and introduce the next instructor for Lesson 10

- ***Proceed to Practical Exercise***
- ***PPT 10-19 to 10-20***
- *Review Lesson Objectives*
- *Closing*
- *Lesson Evaluation*

Water Emergencies

Station 1, 2, 3 and 4

Participant s Name: _____ **Dates:** _____

Instructions: Participants will be divided into teams of six (6). There will be 4 stations, utilizing only one skills check list. Check the box showing on which attempt the participant was able to perform the step successfully.

Performance Objectives	Attempts				P/F
	1	2	3	4	
1. Scene size-up (secure or not secure).					
2. Ensure personal safety and proper use of PPE.					
3. Floatation device • Donning a personal floatation device • Assemble an improvised floatation device and use it for rescuing a simulated drowning person.					
4. Knots - Assemble basic knots for water rescue • Square Knot • Fig. of 8 bend • Sheet bend • Clove hitch • Bowline • Body bowline/double bowline					
5. Shallow water crossing (optional) • Wedge • Line astern • Defensive swimming position					

Comments: _____

_____

Overall Performance: ☐ Outstanding ☐ Successful ☐ Needs Improvement

Instructor: _____

CADRE LESSON 9 EVALUATION

Course Location: _____ **Dates:** _____

Do not write your name on this form. Please complete a copy of this form at the end of every lesson. Your evaluations are very valuable towards improving the course. Please use the ratings below.

1 VERY POOR	2 POOR	3 AVERAGE	4 GOOD	5 EXCELLENT

Please fill in the required information.	**Lesson Number :**	**Lesson Name :**	
	Instructor s Name		
Use a scale from 1 to 5 as described above to rate the various lesson components.	**Lesson Rating (rate 1 to 5)**		
	Content	Instructor	Method
	Workbook	Interaction	
Mark your selection with an "X"	**Instruction Level**		
	☐ Too basic	☐ Appropriate	☐ Too advanced
	Duration		
	☐ Too short	☐ Appropriate	☐ Too long
	Usefulness Was this lesson useful to you?		
		☐ Yes	☐ No
Rate from 1 to 5	**Overall Lesson Rating** Taking all the above into consideration, I rate this lesson: _____		
If you need additional space, please use the back of the sheet.	**Comments and Observations**		

Thank you for your help. Your input is valuable. Please turn in this completed form to the instructor.

LESSON

10

OTHER EMERGENCIES

Time-Lecture 03 Periods, Total-3 Pds.

LESSON OBJECTIVES

Upon completion of this lesson, you will be able to:

1. List the signs and symptoms of Bites and Stings, and steps for pre-hospital treatment.
2. List the signs and symptoms of poisoning, and steps for pre-hospital treatment.
3. List three signs and symptoms of heat cramps, heat exhaustion and heat stroke and describe pre-hospital treatment steps for each.
4. List three signs and symptoms of Acute Mountain Sickness (AMS) and the methods of treatment of AMS.

▶ *PPT 11-1 to 11-3*

Suggested Duration:
Lecture: 2 hours

Methods:
Interactive lecture method

Materials:
- PWB
- IG
- Reference Materials
- Visual Aids
- Multimedia Projector
- Projection Screen

1

Introduction Snakebites:
India hosts over 300 snake species, with around 60 being venomous, including the cobra, krait, Russell viper, and saw-scaled wiper.

with signs of snake bites

Snakebite incidents during floods.
Prevention relies on awarenell protective gear, night caution, and prompt medical attention.

Bites and Stings

1.1 Snakes Bites

These are quite common in certain areas. Signs and symptoms may delay several hours before presenting. Death can occur quickly if the patient has an allergic reaction to the venom.

Treat all snakebites as poisonous.

1.1.1 Specific signs and symptoms of poisonous snake bites

- When venom has not been injected:
  - Anxious people may be over breathing
  - Develop pins and needles of the extremities
  - Stiffness or tetany of their hands and feet
  - Dizziness
  - Others may develop vasovagal shock after the bite or suspected bit faintness and collapse with profound slowing of the heart.
  - Others may become highly agitated and irrational and may develop a wide range of misleading symptoms.
  - Improper first aid: constricting band or tourniquets may cause pain, swelling and congestion, and even necrosis and loss of the limb.

- Traditional treatments:
  Ingested herbal remedies may cause vomiting, forcible in-sufflations of oils/liquids into the respiratory tract may lead to aspiration pneumonia, bronchospasm and instillation of irritant plant juices into the eyes may cause conjunctivitis.

Suggested Instructors Activity

- ***Ask participants to identify local poisonous snakes.***

- ***PPT 11-4 to 11-6***

1

Bites and Stings (Cont.)

1.1.2 Signs and symptoms of poisonous snake bites

► *PPT 11-7 to 11-8*

- When venom has been injected: Local signs are symptoms in the bitten part
  - Fang marks
  - Local pain in cobra and it is extensive in viper bites
  - Local bleeding
  - Bruising
  - Lymph node enlargement
  - Blistering
  - Local infection, abscess formation
  - Necrosis

- **Pre-hospital Treatment**

  First aid treatment is carried out immediately or very soon after the bite, before the patient reaches a dispensary or hospital. It can be performed by the snakebite victim himself/herself or by anyone else who is present.

  1) Take appropriate BSI precautions.
  2) Ensure scene is safe for you and patient.
  3) Perform a primary assessment and ensure that breathing is adequate.
  4) Locate the fang marks and clean site with soap and water.
  5) Remove from the bitten extremity any rings, bracelets, jewelry, tight fitting clothing and other constricting items.
  6) Keep the extremity immobilized. Try to keep bitten area at or below the level of the heart.
  7) As per local protocol, apply pressure bandage (constricting bandage) to slow the spread of the venom. (Emphasize on proper application)
  8) Provide supplemental oxygen per local protocol.
  9) Provide care for shock, and monitor vital signs.

► *Example: snake skin pattern take a picture if you can't easily identify what kind of snake*

► ***Demonstration of Pre-hospital Treatment***

- **What Not to Do?**
  - Do not try to kill the snake.
  - Do not handle the snake with bare hands if already killed.
  - Avoid interference with bite wounds.
  - Do not try to "suck" - extract out the venom with your mouth from the wound.

► *Snake bite kit especially improvised does not assure that you will extract all the venom.*

- **Do not attempt traditional popular and affordable first aid methods that include:**
  - Making local incisions or pricks
  - Tattooing at the site of the bite or the bitten limb
  - Attempts to suck the venom out of the wound
  - Use of black snake stones
  - Applying of herbs, chemicals or topical instillations
  - Tight arterial tourniquets (Do not apply arterial tourniquets)

► *Ask participant to share their experience regarding local treatment of snake bites.*

1

Bites and Stings (Cont.)

1.2 Animal and Insect Bites

Animal and insect bites are often categorized as "puncture wound". Though most are not life threatening it should be treated immediately.

Animal bites and stings are dangerous if the animal has Rabies or Venom. Also because it is a puncture wound it is prone to infection.

Examples are bites and sting from snake, dog, cat, spider, scorpion and bee.

As Community responders we don't need to identify if the bite or sting is lethal or not, what we need to do is do the proper wound care and immediately bring the patient to a hospital for care.

1.2.1 What to do (Animal bite)

Ant-rabies, anti-tetanus and treatment for infection

1) Do not try to catch the animal.
2) Do not try to "suck" the wound.
3) Follow the steps in cleaning and bandaging
4) Immediately bring to hospital for treatment.

What to do (Bee sting)

1) For bee sting, you should immediately remove the bee stinger to prevent more venom being injected into the skin.
2) Scrape away the stinger together with the poison sac. Use a plastic card and scrape the skin's surface to keep the sac from breaking inside the patient's skin. Do not pull out stingers. Place a bag of ice or cold pack on the sting/site.
3) Follow the steps in cleaning and bandaging and Apply cool compress/wet cloth to affected part.
4) If you observe trouble breathing, fainting, red rashes develop around the sting or in other areas of the body or any swelling about the lips, eyes, tongue.

Do not wait for anaphylaxis or difficulty of breathing. Bring the patient to the hospital

Immediately bring to hospital for treatment.

2 Poisons

Definition	Any substance that can impair or cause death of cell structure or function

► *PPT 11-9*

People are affected differently by the same dose of a poison. Some people may have developed a tolerance to a specific type of poison; however, even a small dose may be lethal to others.

A poison can enter the body in four ways: ► *PPT 11-10*

- Ingestion
- Absorption
- Inhalation
- Injection

2.1 Reasons for Poisoning

► Suicidal Attempt
- Intentionally consuming poison(s) in order to take one's own life.

► Accidental Poisoning
- Consuming food and water that is contaminated, i.e. poisons.
- Accidentally consuming poisonous materials is commonly in children and elderly.

2.2 Scene Assessment

Always perform a scene assessment – safety first. Protect yourself, your crew and others from the poison. Use universal precautions. Try to identify the source or substance involved. Get as much information as you can, as quickly as possible.

Perform the initial assessment and obtain the patient's history. Signs and symptoms of poisoning will vary depending on the type of poison.

2.2.1 General signs and symptoms of poisoning

► *PPT 11-11 to 11-12*

- Nausea and/or vomiting
- Headache
- Abdominal pain
- Altered mental status or coma
- Seizures
- Rapid or slow heart rate
- Possible changes in blood pressure
- Possible dilation or constriction of pupils
- Shortness of breath
- Injury to skin (discoloration, burns, injection marks, swelling)
- Diarrhea

2 Poisons (Cont.)

2.2.2 Pre-hospital treatment for poisoning

- In poisoning cases there are some questions that must be answered:
  1) What is the possible cause?
  2) How much poison has entered the body?
  3) When did it happen?
  4) What has already been done?

2.2.3 Use universal precautions and secure the scene. Use special protective equipment when necessary.

- *Administering oxygen and using BVM has not been taught in CADRE course however if the responder knows and resource is available better to be applied as per the need.*

1) Maintain **open airway**. Administer oxygen per local protocol.
2) Assess respiration and give rescue breathing, if necessary. Do not perform mouth to mouth ventilation in inhaled poisoning cases. Use BVM.
3) Assess circulation and give CPR, if needed.
4) Perform physical examination.
5) Call your local poison control center, if available.
6) Remove or inactivate the poison, if possible.
7) Move the patient away from the source of the poisoning, especially in inhalation and absorbed poisoning.

2.2.4 For absorbed poisons:

- *Discuss briefly about EMS*

1) Remove the patients **clothing**.
2) Blot the poison from the skin with a **dry cloth**. If the poison is a dry powder, brush it off.
3) Flood the affected area with copious amounts of **water** until Emergency Medical Service (EMS) arrives.
4) Identify and bring the suspected source, container, labels or other evidence of the poison to the hospital.
5) Treat for shock
6) Continually monitor the patient.
7) Transport the patient immediately.

3

Heat Exposure

The exposure to excessive heat can cause the body to generate too much heat, which can create an abnormally high body core temperature known as **hyperthermia**.

There are three common emergencies brought about by exposure to excessive heat:

- Heat cramps
- Heat exhaustion
- Heat stroke

3.1 Heat Cramps

Heat cramps consist of pains and muscle spasms that occur when the body loses a large quantity of **salt** through excessive sweating.

3.1.1 Signs and symptoms of heat cramps

- Severe muscle cramps, usually in the legs and abdomen.
- Exhaustion
- Nausea
- Periods of fainting

► *PPT 11-13*

3.1.2 Pre-hospital treatment for heat cramps

1) Move the patient to a cool area.
2) Give the patient water. The muscle cramp should be alleviated after drinking water.

> The patient needs the water more than the salt, do not delay giving water to look for salt. Commercial electrolytes or oral rehydration solution (ORS) can also be used.

3.2 Heat Exhaustion

Heat exhaustion can occur when a person in poor physical condition exerts himself or herself during physical activity in a very hot environment, causing blood flow to be affected.

3.2.1 Signs and symptoms of heat exhaustion

- Rapid, shallow breathing
- Weak pulse
- Cold, clammy, pale skin and mucous membranes, with a lot of sweating
- Weakness
- Dizziness, sometimes leading to fainting

3.2.2 Pre-hospital treatment for heat exhaustion

1) Move the patient to a cool place to rest.
2) Remove or loosen clothing as necessary to cool the patient without causing chills.
3) Place the patient in a supine position with legs elevated 20 to 30 cm.
4) Administer oxygen, if available.
5) Give water, if patient is conscious.

3 Heat Exposure (Cont.)

3.3 Heat Stroke

Heat stroke is a very serious life-threatening condition. The body becomes overheated and, in many cases, the patient stops sweating. If left untreated, brain cells will begin to die.

► *PPT 11-15*

3.3.1 Signs and symptoms

- Deep, rapid breathing
- Rapid, strong pulse followed by a rapid, weak pulse
- Dry, hot skin, sometimes red
- Dilated pupils
- Loss of consciousness
- Convulsions or muscular tremors

3.3.2 Pre-hospital treatment for heat stroke

Use universal precautions, secure the safety, and alert EMS, if available.

1) Cool the patient quickly in any way possible. Move the patient far from the source of heat. Remove his or her garments and wrap the patient with wet sheets. Pour cold water on the sheets. This should normalize the patient's core temperature and help prevent brain cells from dying.
2) Place cold bags or ice packs below each armpit, behind the knees and around the ankles, and one on each side of the neck.
3) Look for a large container or bathtub and submerge the patient in cold water up to the neck. Use ice to cool the water.

HEAT EMERGENCY COMPARISON CHART

	Heat Cramps	Heat Exhaustion	Heat Stroke
Temperature	Normal	Normal	Very High temperature
Muscle Cramps	Yes	No	No
Sickness	Yes	Yes	Yes
Breathing	Varies	Quick and Superficial	Deep initially, later superficial
Pulse	Varies	Weak	Rapid and Strong
Skin	No Change	Cool, clammy and pale	Dry, red and hot
Loss of Consciousness	Rarely	Sometimes	Frequently

4

Acute Mountain Sickness (AMS)

4.1 High Altitude Sickness: Acute Mountain Sickness

With increasing altitude, air pressure and oxygen availability fall. At altitudes above 2500 m, this begins to produce hypoxic effects upon human physiology. However, the body is capable of acclimatizing itself to the effects of high altitude. Failure to acclimatize is found in both humans and animals, in cattle it is known as Brisket disease. In humans it is known as High altitude sickness or acute sickness.

Mountains and high plateaus cover about a fifth of the earth's surface and are home to over 300 million people, of whom at least 50% live above 2400m. They are visited by trekkers, climbers, skiers, mountaineers, military personnel, mine and scientific workers.

4.2 Barometric Pressure and Altitude

The mean barometric pressure at sea level is 760mm Hg (1013 milibars) and falls as altitude increases. As the weight of upper atmospheric gases compress the lower gas, this fall is not linear, the rate of decline in pressure decreasing as the altitude increases. At the equator, the barometric pressure at high altitudes is higher than elsewhere on the globe.

If someone is becoming ill at altitude, take a history and examine him or her as described in chapter 4. Ask specifically about the symptoms and signs of AMS, their duration and severity, and if they have happened before. Ask if they are taking any medication. Do the 'heel-to-toe walking test'. If you are still not sure what is wrong, treat for AMS and GO DOWN.

4.3 Mild AMS

► *PPT 11-16*

▸ Signs and symptoms

Any or all of the following symptoms may occur:

- Headache, throbbing, often worse for bending over and lying down, and relieved by mild painkillers
- Dizziness, light headedness
- Nausea and/or vomiting
- Loss of appetite
- Tiredness, fatigue
- Irritability
- Disturbed sleep

Young children may not be able to tell you what is wrong with them. Increased crying, loss of interest and loss of appetite may be the only signs that they are developing a serious illness such as AMS.

4

Acute Mountain Sickness (AMS) – Cont.

- **Pre-hospital treatment of Mild AMS:**
  Keep an eye on the victim and check him / her regularly especially at night.
  1) Rest (avoid exertion) at the same (or lower) altitude until the symptoms clear (this usually takes one to three days)
  2) Ensure adequate liquid intake. Keep the urine pale and plentiful
  3) Give oxygen at 1 L/minute, especially at night
  4) Place the victim in a pressure bag (Gamow Bag), if available, for two to four hours, or until the symptoms clear
  5) Examine the victim for severe AMS (HAPE and HACE) regularly

  If symptoms worsen after resting at the same altitude, or do not improve, or signs of severe AMS appear, **descend immediately**.

▶ *Do not describe about HAPE and HACE*

5

Lightning

A bright flash of light that appears in the sky during a storm and is usually followed by thunder.

Lightning is defined as a flash of light that is caused by the discharge of electricity in the atmosphere. An example of lightning is the flash of light often seen before the thunder is heard.

5.1 Safety Precautions:

- When thunders roars go indoors.
- Make your body volume as small as you can and reduce the contact surface with the ground.
- Avoid the crowd.
- Stay away from concrete floors, walls, big trees and metal wires/poles/bars, doors and windows.
- Avoid use of electronics equipment of all types and water.
- Avoid using telephones.
- Don't stay/use open vehicles, tall structures and spaces.

5.2 Pre-hospital Treatment for Lightning Injury

- Activate EMS.
- If you are at the risk of ongoing lightning, wait until danger has passed.
- Start CPR if the victim is unconscious
- Treat for shock if necessary.

5.3 NDMA Guidelines for Protection Against Lightning

Lightning Shields

Installation of lightning arrestors and sound earthing for each building is essential. Lightning shields are the most commonly employed structural protection measure for buildings and other structures. A lightning shield consists of the installation of a lightning conductor at a suitably high location at the top of the structure. The conductor is grounded using a metal strip of suitable conductance. The grounding of the conductor is also specially designed to ensure rapid dissipation of the electrical charge of a lightning strike into the ground.

Lightning shields are not foolproof in their effectiveness.

However, they are found to be very effective for the protection of individual structures or groups of structures in an area.

5.4 Action Before, During and After

5.4.1 Before Thunderstorm and Lightning

To prepare for a thunderstorm, you should do the following:

1) Do remember that vivid and frequent lightning indicates the probability of a strong thunderstorm.
2) Build an emergency kit and make a family communication plan.
3) Remove dead or rotting trees and branches that could fall and cause injury or damage during a severe thunderstorm.
4) Postpone outdoor activities.
5) Remember the 30/30 Lightning Safety Rule: Go indoors if, after seeing lightning, you cannot count to 30 before hearing thunder. Stay indoors for 30 minutes after hearing the last clap of thunder.
6) Secure outdoor objects that could blow away or cause damage.
7) Get inside a home, building, or hard top automobile (not a convertible). Although you may be injured if lightning strikes your car, you are much safer inside a vehicle than outside.
8) Remember, rubber-soled shoes and rubber tyres provide NO protection from lightning. However, the steel frame of a hard-topped vehicle provides increased protection if you are not touching metal.
9) Unplug appliances and other electrical items such as computers and turn off air conditioners. Power surges from lightning can cause serious damage.
10) Shutter windows and secure outside doors. If shutters are not available, close window blinds, shades or curtains.
11) Unplug any electronic equipment well before the storm arrives.

5.4.2 Before/During a Hailstorm

1) Farmers are advised to use hail net for orchard crops to protect from mechanical damage.
2) Provide support to banana crops, young fruit plants and cropping up in sugarcane crop/staking of vegetables to prevent the crops from lodging.
3) Keep harvested produces at a safe place.
4) Keep cattle/goats indoor during a hailstorm.

5.4.3 During Thunderstorms and Lightning

If thunderstorm and lightning are occurring in your area, you should:

1) Use your battery-operated radio/TV for updates from local officials.
2) Avoid contact with corded phones and devices including those plugged for recharging. Cordless and wireless phones not connected to wall outlets are OK to use.
3) Avoid contact with electrical equipment or cords.
4) Avoid contact with plumbing or pipes. Do not wash your hands, do not take a shower, do not wash dishes, and do not do laundry. Plumbing and bathroom fixtures can conduct electricity.
5) Stay away from windows and doors, and stay off porches.
6) Do not lie on concrete floors and do not lean against concrete walls.
7) Avoid natural lightning rods such as a tall, isolated tree in an open area.
8) Avoid hilltops, open fields, the beach or a boat on the water.
9) Take shelter in a sturdy building. Avoid isolated sheds or other small structures in open areas.
10) Avoid contact with anything metal - tractors, farm equipment, motorcycles, golf carts, golf clubs, and bicycles.
11) If you are driving, try to safely exit the roadway and park. Stay in the vehicle and turn on the emergency flashers until the strong rain ends. Avoid touching metal or other surfaces that conduct electricity in and outside the vehicle.

5

Lightning – Cont.

5.4.4 After lightning strikes a human being

If lightning strikes you or someone you know, call for medical assistance as soon as possible. You should check the following when you attempt to give aid to a victim of lightning:

1) **Breathing** If breathing has stopped, begin mouth-to-mouth resuscitation.
2) **Heartbeat** If the heart has stopped, administer Cardiopulmonary Resuscitation (CPR).
3) **Pulse** – If the victim has a pulse and is breathing, look for other possible injuries. Check for burns where the lightning entered and left the body. Also be alert for nervous system damage, broken bones and loss of hearing and eyesight.
4) **Follow PHT steps**

► ***PPT 11-17 to 11-18***

- Ask participants if there are any clarifications of inquiries about the discussed topics
- Comments and suggestions
- Review objectives

► *Review Lesson Objectives*

- Ask participants to fill up Lesson Evaluation Form
- Thank the participants and introduce the next instructor for Lesson 11

► *Closing*

► *Lesson Evaluation*

CADRE LESSON 10 EVALUATION

Course Location: _____ **Dates:** _____

Do not write your name on this form. Please complete a copy of this form at the end of every lesson. Your evaluations are very valuable towards improving the course. Please use the ratings below.

1 VERY POOR	2 POOR	3 AVERAGE	4 GOOD	5 EXCELLENT

Please fill in the required information.	**Lesson Number :**	**Lesson Name :**	
	Instructors Name		
Use a scale from 1 to 5 as described above to rate the various lesson components.	**Lesson Rating (rate 1 to 5)**		
	Content	Instructor	Method
	Workbook	Interaction	
Mark your selection with an "X"	**Instruction Level** ☐ Too basic	☐ Appropriate	☐ Too advanced
	Duration ☐ Too short	☐ Appropriate	☐ Too long
	Usefulness Was this lesson useful to you?	☐ Yes	☐ No
Rate from 1 to 5	**Overall Lesson Rating** Taking all the above into consideration, I rate this lesson: _____		
If you need additional space, please use the back of the sheet.	**Comments and Observations**		

Thank you for your help. Your input is valuable.
Please turn in this completed form to the instructor.

LESSON

11

DOS & DON'TS OF VARIOUS NATURAL & MANMADE DISASTERS

Time-Lecture 03 Periods

LESSON OBJECTIVES

Upon completion of this lesson, you will be able to:

1. To understand the various precautionary measures of various disasters before coming of disaster.

2. To know the precautionary measures of various disasters during the disaster.

3. To know the precautionary measures of various disasters after the disaster.

Suggested Duration:
Time : 120 minutes

AVALANCHES

1. Before:

I. Keep track of weather before heading for snow-capped mountains.

2. During:

I. Switch off the snowmobile engine.
II. Try to stay on the surface. You will have three times more chance of survival.
III. Push machinery, equipment or heavy objects away from you to avoid injury.
IV. Seek shelter - protector-rocks or trees -and hold tight.
V. If you have found shelter, crouch facing away from the snow slide.
VI. Cover your nose and mouth using a cloth. This helps to avoid suffocation.
VII. Arch hands over face to create an air space.
VIII. Try getting away from the avalanche path by moving away to a side.
IX. Try jerking towards the surface. This can act as a marker for rescuers.
X. If you start moving downward with the avalanche, try staying on the surface using swimming motion.

3. After:

I. Once the avalanche stops, begin digging out as delay can allow the snow to settle.
II. Mark the location where other team members were last seen using a cloth, a pole, etc.
III. Do not smoke or use a lighter or matches as this consumes oxygen.
IV. If, available, leave two-way radio on.

4. Treating the affected:

I. Free the head of the affected person first.
II. Remove snow and water from the his /her mouth and nose.

III. Remove wet clothes and dry the affected person's body. Wrap him/her in dry clothes/ blankets, etc.
IV. Administer CPR (Cardio Pulmonary Resuscitation), if needed, and give cardiac massage.

5. Avalanche Signs:

I. Seek medical attention immediately.
II. Steep slopes - between 25 and 45 degrees.
III. Convex slopes (spoon-shaped) are the most dangerous, especially between late December and the end of January.
IV. North-Facing slopes are most likely to see avalanches in mid-winter. South-facing slopes are more susceptible in warmer temperatures on sunny, spring days.
V. Smooth, grassy slopes are more dangerous than areas bearing rocks, trees and heavy foliage, where snow has something to grip.
VI. New snow is particularly dangerous.
VII. Rapid snow settlement is a good sign. This is because loose, dry snow slides more easily.
VIII. Loose, underlying snow is more dangerous than when compact. Use a ski-stick to check.
IX. Low temperatures increase the duration of snow instability, while a sudden temperature increase can cause wet snow slides.

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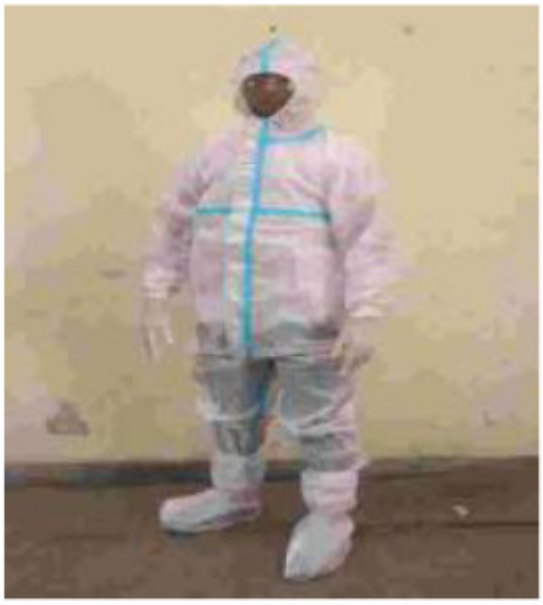
Dos & Don'ts
Biological Emergencies



1. Before:

I. Watch television, listen to radio, or surf the Internet for official news of any outbreak.
II. Practice good hygiene and keep your premises clean.
III. Use mosquito nets/repellents at night.
IV. Boil water before drinking. Chlorinate it, if possible.
V. Thoroughly wash all vegetables/fruits before cooking/eating.
VI. Use insecticides to contain the vectors.
VII. Don't consume stale or contaminated food products.
VIII. Immediately report any sickness with unusual and/or suspicious symptoms in the family / neighborhood to health authorities.
IX. Seek medical attention if you are sick; keep a stock of your regular prescribed medicines.

2. During:

I. Keep distance from and avoid direct contact with the affected person.
II. Avoid going to crowded areas.
III. Use a respiration mask for protection.

3. After:

I. Follow official instructions and help authorities' dispose of contaminated items such as food, poultry, crops, vectors and other materials, if advised.
II. Ensure that all the required immunizations are done and necessary precautions taken.

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Dos & Don'ts
Chemical Emergencies

FOR INDIVIDUALS:

1. Before: Don't mix chemicals, even common household products. Some combinations, such as ammonia and bleach, can create toxic gases.

I. Store chemical products properly.
II. Store non-food products tightly closed in their original containers for easy identification.
III. Dispose of unused chemicals properly. Improper disposal is harmful as it may contaminate the local water supply.
IV. Do not smoke or light fire in the identified hazardous areas.
V. Avoid staying near industries which process hazardous chemicals, if possible.
VI. Keep emergency contact numbers handy, including that of nearby hazardous industries.
VII. Participate in capacity building programmes organized by the government/ voluntary organizations / industrial units.
VIII. Identify safe shelters along with safe and easy access routes.
IX. Prepare a family disaster management plan.
X. Prepare an emergency kit with essential items for safety and survival.

2. During: Do not panic. Evacuate quickly through the designated escape route.

I. Keep a wet piece of cloth on your face while evacuating.
II. If you are unable to evacuate, close all the doors and windows tightly.
III. Once you are at a safe location, inform Emergency Services (Police, Hospital etc.).
IV. Do not spread and/ or believe in rumours.

3.After:

I. Do not consume uncovered food/ water etc.
II. Change into fresh clothes after reaching a safe place/ shelter, and wash hands properly.

4.Community:

I. Make the entire neighborhood aware of chemical hazards and the first aid required to treat them.
II. Listen to radio, watch TV and surf the Internet for official news and announcements.
III. Provide accurate information to government officials.
IV. Sensitize authorities about the exact requirement of protective equipment for dealing with the hazard present.

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Dos & Don'ts
Cold Wave

1.Before:

I. Have adequate winter clothing. Multiple layers of clothing is also useful.
II. Have emergency supplies ready.

2. During: Stay indoors as much as possible, minimize travel to prevent exposure to cold wind.

I. Keep dry. If wet, change clothes quickly to prevent loss of body heat.
II. Prefer mittens over gloves; mittens provide more warmth and insulation from cold.
III. Listen to radio, watch TV, read newspapers for weather updates.
IV. Drink hot drinks regularly.
V. Don't drink alcohol. It reduces your body temperature.
VI. Take care of elderly people and children.
VII. Store adequate water as pipes may freeze.
VIII. Watch out for symptoms of frostbite like numbness, white or pale appearance on fingers, toes, ear lobes and the tip of the nose.
IX. Do not massage the frostbitten area. This can cause more damage.
X. Put the areas affected by frostbite in warm— not hot — water (the temperature should be comfortable to touch for unaffected parts of the body).
XI. Do not ignore shivering. It is an important first sign that the body is losing heat and a signal to quickly return indoors.

2. In the case of hypothermia:

I. Get the person into a warm place and change his/her clothes.
II. Warm the person's body with skin-to-skin contact, dry layers of blankets, clothes, towels, or sheets. Give warm drinks to help increase body temperature. Do not give alcohol.
III. Seek medical attention if the condition worsens.

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Dos & Don'ts
Cyclone

FOR INDIVIDUALS

1. Before cyclone:

I. Ignore rumors, Stay calm, and don't panic.
II. Keep your mobile phones charged for emergency communication; use SMS.
III. Listen to radio, watch TV, read newspapers for weather updates.
IV. Keep your documents and valuables in water-proof containers.
V. Try staying in an empty room; keep movable items securely tied.
VI. Prepare an emergency kit with essential items for safety and survival.
VII. Secure your house, especially the roof; carry out repairs; don't leave sharp objects loose.
VIII. Keep cattle/animals untied to ensure their safety.
IX. In case of a storm surge/tide warning, or flooding, know your nearest safe high ground/ safe shelter and the safest access route to it.
X. Store adequate ready-to-eat food and water to last at least a week.
XI. Conduct mock drills for your family and community.
XII. Trim treetops and branches near your house with permission from the local authority.
XIII. Close doors and windows securely.
XIV. Evacuate immediately to safe places when directed by government officials.

2. During:

A) If Indoors

I. Switch off electrical mains, unplug all electrical appliances and gas connection.
II. Keep doors and windows shut.
III. If your house is unsafe, leave early before the onset of a cyclone. Reach a safe shelter.
IV. Listen to radio; rely only on official warnings.
V. Drink boiled/chlorinated water.
VI. If the building starts to crumble, protect yourself with mattresses, rugs or blankets, or by getting under a strong table or bench or by holding hold onto a solid fixture, such as a water pipe.

B) If Outdoors:

I. Do not enter damaged buildings.
II. Seek a safe shelter as soon as possible.
III. Never stand under a tree/ electric pole.
IV. Beware the calm 'eye'. If the wind drops, don't assume the cyclone is over; violent winds may soon resume from another direction. Wait for the official 'all clear'.

2. After:

I. Drink boiled/chlorinated water.
II. Do not go out until officially advised. If evacuated, wait until advised to go back.
III. Watch out for broken electric poles and loose wires, and other sharp objects.
IV. Do not enter damaged buildings.
V. Do not use damaged electrical equipment. Get them checked by an electrician first.

3. Fishermen should:

I. Ignore rumors, Stay calm, Don't panic.
II. Keep mobile phones charged for emergency communication; use SMS.
III. Write down important numbers on a paper and keep it safely.
IV. Keep a radio set with extra batteries handy.
V. Listen to radio, watch TV, read newspapers for weather updates.
VI. Keep boats/rafts tied up in a safe place.
VII. Don't venture out in the sea.

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Dos & Don'ts
Earthquake

FOR INDIVIDUALS:

1. Before: During:

I. Consult a structural engineer to make your house earthquake resilient.
II. Know your seismic zone and carry out necessary structural changes in your house.
III. Preserve the design and layout drawings of your house for future reference.
IV. Repair deep plaster cracks on walls and ceilings.
V. Fasten shelves securely to walls; place heavy / large objects on lower shelves. Provide strong support to power and gas appliances.
VI. Prepare an emergency kit with essential items for safety and survival.
VII. Develop an emergency communication and evacuation plan for your family.
VIII. Learn the technique of 'Drop-Cover-Hold'.
IX. Avoid flood plains and filled-up areas for construction as far as possible.
X. Educate yourself and family members about earthquake risk.

2.During:

I. Stay calm. Do Not Panic. If you're indoors, stay inside. If you're outside, stay outside.
II. Don't use matches, candles, or any flame. Broken gas lines and fire don't mix.
III. If you're in a car, stop the car and stay inside until the earthquake stops.
IV. Drop under a table; Cover your head with one hand and Hold the table till the tremors last.
V. Stay away from mirrors and windows. Do not exit the building while the earth is still shaking. Move outside as soon as the tremors stop. Do not use a lift.
VI. When outside, move away from buildings, trees, walls and poles/electric lines.
VII. When inside a vehicle, pull over in an open place and remain inside; avoid bridges.
VIII. When in a structurally safe building, stay inside until shaking stops.
IX. Protect yourself by staying in the corner/ under a strong table or bed/ an inside wall away from mirrors and windows.
X. If near an exit, leave the building as soon as possible.

XI. If inside an old and weak structure, take the fastest and safest way out.

3. After: Do not enter damaged buildings.

I. If trapped in rubble:
   a. Do not light a matchstick.
   b. Cover your mouth with a cloth.
   c. Tap on a pipe or a wall.
   d. Sound a whistle.
   e. Shout only as a last resort. This will help you conserve energy.

II. Use stairs and not lifts or elevators.

III. Move cautiously, and check for unstable objects and other hazards above and around you. Chec yourself for injuries.

IV. Anticipate aftershocks, especially after a major earthquake.

V. Stay away from beaches. Tsunamis and seiches sometimes hit after the ground has stopped shaking.

VI. Do not spread and/ or believe in rumours.

VII. Leave a message stating where you are going if you must evacuate your house.

VIII. Do not drive around the damaged areas as rescue and relief operations need roads for mobility.

IX. Do not attempt to cross bridges/flyovers, which may have been damaged.

4. COMMUNITY

I. Practice Drop, Cover, and Hold drills regularly.

II. Practice evacuation drills regularly.

III. Ensure that exit routes are marked and firefighting equipment is working properly, especially in high-rise buildings.

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Dos & Don'ts
Fire

1. Preparedness: In Case of a fire:

I. Prepare and practice a response plan for residential and office complexes.
II. Regularly carry out and practice fire rescue drills such as stop, drop, and roll.
III. Ensure that all residents/visitors are periodically trained to face different emergency situations and provide first aid.
IV. Ensure that smoke alarms are fitted in buildings and are functional.
V. Try to make your residential building, office premises, etc. 'No Smoking' zones.If you absolutely need to, create a separate smoking area.
VI. Be familiar with the exit routes.
VII. Keep the exit routes /staircases free of any obstructions. Periodically check evacuation routes for obstruction, if any.
VIII. Ensure that there is enough open area and wide roads available in and around your home and office premises to ensure easy access and movement of emergency vehicles.
IX. Ensure that exit routes are marked and firefighting equipment is working properly in your office premises and residential area.
X. Ensure that your house and office premises have a first aid kit placed at every segment.
XI. Do not leave any open fire unattended.
XII. Do not accumulate old newspapers or combustible materials in your house.
XIII. Do not burn waste, dry leaves or vegetation.
XIV. Always dispose of through appropriate municipal channels.
XV. Do not store flammable liquids in the house.
XVI. Always keep matches and lighters locked away from children.
XVII. Do not keep papers, clothes and flammable liquids near heaters/stoves/open chulhas. Keep LPG gas stoves on a raised platform; do not keep them on the floor.
XVIII. Turn off the gas cylinder valve and knob of the gas stove after cooking. Don't throw matches, cigarette butts, etc.in waste baskets.
XIX. Don't place oil lamps, agarbattis or candles on wooden floor or near combustible material.
XX. Don't wear loose, flowing and synthetic clothes while cooking.

XXI. Never reach for any article over a fire.
XXII. Always evaluate the electric load requirement for your premises and ensure that the power company supplies electricity accordingly. This will help avoid heating due to overload.
XXIII. • Use standard electrical appliances, switches and fuses, etc. to prevent fire from electrical short circuit. Also, ensure that there are enough Earth-leakage Circuit Breakers (ELCBs) to prevent short circuit.
XXIV. Regularly check for loose electrical connections. Do not run electric wires / cords under carpets or in congested areas.
XXV. Switch off electrical appliances after use and remove plugs from the socket.
XXVI. Switch off the 'Mains' when leaving home for a long duration.
XXVII. Don't plug too many electrical appliances in one socket.
XXVIII. Ensure that there are no major electric installations near day-to-day usage area.

2. In Case of a fire:

I. Raise an alarm and inform the Fire Brigade.
II. Do not panic; Stay calm.
III. Unplug all electrical appliances.
IV. Try to extinguish the fire with available equipment.
V. Close the doors and other openings. Place a wet cloth under the doors to stop the smoke from spreading. Use a wet cloth to cover your mouth to filter inhalation.
VI. Exit immediately if the fire is out of control.
VII. Do not go back for your possessions.
VIII. In case of burn injuries due to fire, pour water over burn until pain subsides.

3. If you are trapped by a fire:

I. Stay close to the floor if smoke permeates your location.
II. Before opening a door, check it for heat. Use the back of your hand to test the temperature at the top of the door, the knob and the frame before opening. If it is hot, do not open.
III. If you are unable to escape through a door, use a window. However, if it is too high to jump from a window, try to attract attention by waving something. If you can leave the room, close the door behind you - this will slow down the progress of the fire. Crawl low. If your clothes catch fire, drop to the ground and roll to extinguish flames.

4.In case you hear the fire alarm:

I. Leave the premises by the nearest available exit.
II. Close all doors and windows behind you. Do not use lifts. Use staircases.
III. On arrival of the fire service, help them to help you.
IV. Give way to fire engines to enable them to reach the spot quickly.
V. Don't park your vehicles close to fire hydrants/underground static water tanks.
VI. Guide firemen to water sources i.e. tube wells, ponds, static tanks, etc.

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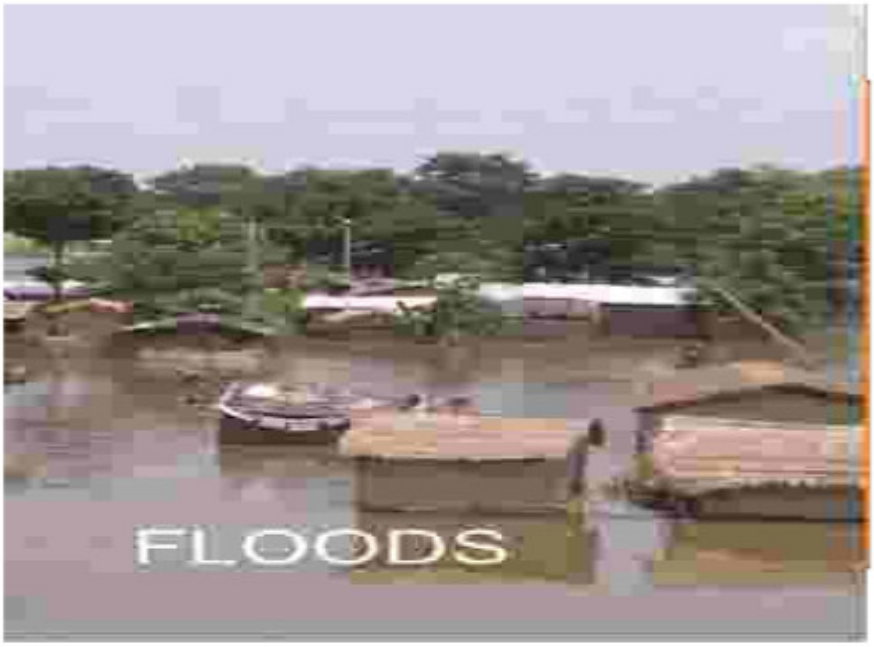
Dos & Don'ts
Flood



1. Before:

I. Ignore rumours, Stay calm, Don't panic.
II. Keep your mobile phones charged for emergency communication; use SMS.
III. Listen to radio, watch TV, read newspapers for weather updates.
IV. Keep cattle/animals untied to ensure their safety.
V. Prepare an emergency kit with essential items for safety and survival.
VI. Keep your documents and valuables in water-proof bags.
VII. Know the safe routes to nearest shelter/raised pucca house.
VIII. Evacuate immediately to safe places when directed by government officials.
IX. Store enough ready-to-eat food and water for at least a week.
X. Be aware of flash flood areas such as canals, streams, drainage channels.

2. During:

I. Don't enter floodwaters. In case you need to, wear suitable footwear.
II. Stay away from sewerage lines, gutters, drains, culverts, etc.
III. Stay away from electric poles and fallen power lines to avoid electrocution.
IV. Mark any open drains or manholes with visible signs (red flags or barricades).
V. Do not walk or drive in the flood waters. Remember, two feet of moving flood water can wash
    a. away big cars as well.
VI. Eat freshly cooked or dry food. Keep your food covered.
VII. Drink boiled/chlorinated water.
VIII. Use disinfectants to keep your surroundings clean.

3. After:

I. Do not allow children to play in or near flood waters.
II. Don't use any damaged electrical goods, get them checked.
III. If instructed, turn off utilities at main switches and unplug appliances
    a. - do not touch electrical equipment if wet.
IV. Watch out for broken electric poles and wires, sharp objects and debris.
V. Do not eat food that has been in flood waters.
VI. Use mosquito nets to prevent malaria.

VII. Be careful of snakes as snake bites are common during floods.
VIII. Don't use the toilet or tap water if the water lines/sewage pipes are damaged.
IX. Do not drink tap water until advised by the Health Department that the water is safe to drink.

4. If you need to evacuate:

I. Raise furniture, appliances on beds and tables.
II. Put sandbags in the toilet bowl and cover all drain holes to prevent sewage backflow.
III. Turn off power and gas connection.
IV. Move to a higher ground/ safe shelter.
V. Take the emergency kit, first aid box, valuables and important documents with you.
VI. Do not enter deep, unknown waters; use a stick to check water depth.
VII. Come back home only when officials ask you to do so.
VIII. Make a family communications plan.
IX. Clean and disinfect everything that got wet.

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Dos & Don'ts
Forest Fire

1. Prevention and Preparedness:

I. Keep emergency contact numbers of district fire service department and local forest authorities handy.
II. Immediately inform them in case of an unattended or out-of-control fire.
III. Never leave a fire unattended in the vicinity of forested areas. Completely extinguish the fire by dousing it with water and stirring the ashes until cold.
IV. Be careful while using and fuelling lanterns, stoves and heaters during camping. Make sure lighting and heating devices are cooled before refueling. Avoid spilling flammable liquids and store fuel away from appliances.
V. Do not discard cigarettes, matches and smoking materials while passing through forested areas.
VI. Do not burn stubble, municipal waste, etc. next to a forest area.
VII. Do not burn dry waste in farms close to forest areas.
VIII. Know your evacuation route(s). Keep emergency supplies ready.
IX. Practice evacuation drills regularly. Determine safe meeting locations.

2. Evacuation in case of forest fire:

I. Evacuate immediately on instructions from local authorities.
II. Take precautions for protection from flying sparks and ashes.
III. Untie cattle to ensure their safety.

3. Before leaving your house:

I. Remove all combustibles, including firewood, yard waste, cooking gas cylinders and fuel cans, etc. from your yard.
II. Close all windows, vents, and doors to prevent draft.
III. Fill large vessels with water to limit the spreading of fire. It can also be used for emergency dousing.
IV. Cut down bushes and hedges close to the house to isolate the house from fire.
V. Clear all gully and roof spaces of leaves. Spray water to dampen house roof, walls and any trees and foliage adjacent to the house.

VI. Close shutters, blinds or any noncombustible window coverings to reduce radiant heat.
VII. Keep the radio ON for official announcements.

4. If caught in a forest fire in an open area:

I. Don't try to outrun the blaze. Instead, look for a static water body such as a pond or a river to take refuge until the fire passes. Donot take refuge in a fast river or stream.
II. If there is no water nearby, find a depressed, cleared area with little vegetation, lie low to the ground and cover your body with wet clothes, a blanket, or soil until the fire passes.
III. Breathe through a moist cloth, if possible, to avoid inhaling smoke.
IV. Take shelter in an area with little or no fuel to feed the fire.

5. If trapped at home in a forest fire:

I. Stay calm. As the fire front approaches, retreat inside the house. It is probable that the fire will pass before the house burns down.
II. If a closed door is hot to the touch, do not open it as there may be fire on the other side.

6. If caught in a vehicle in forest fire:

I. Stay in your vehicle. It is less dangerous than trying to outrun a forest fire on foot.
II. Close windows and air vents.
III. Drive slowly with headlights full on.
IV. Watch carefully for other vehicles and people on foot.
V. Do not drive through heavy smoke. If you can't see what's ahead, don't risk danger.

7. In case you must stop:

I. Park as far as possible from trees and thickets.
II. Keep lights on and the engine off.
III. Stay on the floor of your vehicle.
IV. Cover your body with anything nonflammable.
V. Do not panic if smoke and sparks enter the vehicle as fuel tanks rarely explode.

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Dos & Don'ts
Heat Wave

DO's

1, Must for All:

I. Listen to Radio; watch TV; read Newspaper for local weather news or download weather information related mobile app.
II. Drink sufficient water - even if not thirsty. Persons with epilepsy or heart, kidney or liver disease who are on fluid-restricted diets; or have a problem with fluid retention should consult a doctor before increasing liquid intake.
III. Use ORS (Oral Rehydration Solution), homemade drinks like lassi, torani (rice, water), lemon water, buttermilk, coconut water, etc. to keep yourself hydrated.
IV. Wear lightweight, light-coloured, loose, cotton clothes.
V. If outside, cover your head: Use a cloth, hat or umbrella. Use sunglasses to protect your eyes and sunscreen to protect your skin.
VI. Get trained in first aid.
VII. Take special care for the elderly, children, sick or overweight as they are more likely to become victims of excessive heat.
VIII. Grow more trees.

2. Employers and Workers:

I. Provide cool drinking water at the workplace.
II. Provide resting shade clean water, buttermilk, first-aid kits with ice-packs and ORS (Oral Rehydration Solution) for all workers.
III. Caution workers to avoid direct sunlight.
IV. Schedule strenuous jobs to cooler times of the day.

V. Increasing the frequency and length of rest breaks for outdoor activities.
VI. Give lighter work and shorter hours to workers new to a high heat area.
VII. Pregnant women and workers with a medical condition should be given additional attention.
VIII. Notify workers about heat wave alerts.

3. Other Precautions:

I. Stay indoors as much as possible.
II. Traditional remedies like onion salad and raw mango with salt and cumin can prevent heat stroke.
III. Never leave children or pets alone in a closed vehicle.
IV. Use fans, damp clothing and take a bath in cold water frequently.
V. Offer water to vendors and delivery people who come to your home or office.
VI. Use public transport and car-pooling. This will help reduce global warming and heat.
VII. Don't burn dry leaves, agriculture residue and garbage.
VIII. Conserve water bodies. Practice rainwater harvesting.
IX. Use energy-efficient appliances, clean fuel and alternative sources of energy.
X. If you feel dizzy or ill, see a doctor immediately or ask somebody to take you to the doctor immediately.

4. For a cooler home: Use solar reflective white paint, cool roof technology, air-light and cross ventilation and tharmocol insulation for low-cost cooling. You can also keep haystacks or grow vegetation on roofs.

I. Install temporary window reflectors such as aluminum foil-covered cardboard to reflect heat back outside.
II. Keep your home cool, use dark colour curtains, tinted glass/ shutters or sunshade and open windows at night. Try to remain on the lower floors.
III. Green roofs, green walls and indoor plants reduce heat by cooling the building naturally, reducing air-conditioning requirements and release of waste heat.
IV. Maintain AC temperature at 24 degrees or higher. This will reduce your electricity bill and make your health better.

5. While constructing a new home:

I. Use cavity wall technology instead of regular walls.
II. Construct thick walls. They keep the interiors cool.
III. Construct lattice walls and louvered openings. They allow maximum air flow while blocking the heat.
IV. Use natural materials like lime or mud to coat walls.
V. Avoid glass, if possible.
VI. Consult a Building Technology expert before construction.

6. For CATTLE DON'Ts

I. Keep animals in shade and give them plenty of clean and cold water to drink.
II. Do not make them work between 11am to 4pm.
III. Cover the shed roof with straw, paint it white or plaster with dung-mud to reduce temperature.

IV. Use fans, water spray and foggers in the shed.
V. During extreme heat, spray water and take cattle to a water body to cool off.
VI. Give them green grass, protein-fat bypass supplement, mineral mixture and salt. Make them graze during cooler hours.

7. DON'Ts:

I. Avoid going out in the sun, especially between 12.00 noon and 3.00 p.m.
II. Avoid strenuous activities when outside in the afternoon.
III. Do not go out barefoot.
IV. Avoid cooking during peak hours. Open doors and windows to ventilate cooking area adequately.
V. Avoid alcohol, tea, coffee and carbonated soft drinks, which dehydrates the body.
VI. Avoid high-protein, salty, spicy and oily food. Do not eat stale food.
VII. Do not leave children or pets in parked vehicles.
VIII. Avoid using incandescent light bulbs which may generate unnecessary heat, as can computers or appliances.

8. Tips for treatment of a person affected by sunstroke:

I. Use a wet cloth / pour water on the victim's head.
II. Give the person ORS to drink or lemon sarbat / torani or whatever is useful to rehydrate the body.
III. Take the person immediately to the nearest health centre.
IV. If consistently experiencing high body temperature, throbbing headache, dizziness, weakness, nausea or disorientation in the summer, call an ambulance.

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Dos & Don'ts
Industrial Accident

In the event of an industrial accident, it's crucial to prioritize safety and follow established procedures. Key actions include providing first aid, reporting the incident, and documenting details for risk assessment. Avoid spreading rumors, and ensure clear communication during and after the incident.

Do's

• **Prioritize safety:** Immediately address any immediate hazards and ensure the safety of those involved.

• **Provide first aid:** Administer necessary first aid to injured individuals and seek professional medical help if required.

- **Report the incident:** Document the incident thoroughly, including the details, date, time, location, and involved personnel. Report it to the appropriate authorities (e.g., supervisors, safety personnel).
- **Follow established procedures:** Adhere to the site's emergency response plan and safety protocols.
- **Document the scene:** Take photos or videos of the accident scene before it is disturbed, if safe to do so.
- **Communicate clearly:** Provide accurate information to relevant parties and avoid spreading rumors.
- **Seek professional help:** Contact emergency services or other relevant authorities as needed.

Don'ts

- **Don't touch chemicals with bare hands:** If chemicals are involved, avoid direct contact with bare hands.
- **Don't move injured personnel unnecessarily:** Unless they are in immediate danger, avoid moving injured individuals.
- **Don't block emergency exits:** Keep emergency exits and pathways clear for safe evacuation.
- **Don't panic and spread rumors:** Maintain a calm demeanor and avoid spreading misinformation.

- **Don't interfere with investigations:** Allow authorities to conduct their investigation without interference.
- **Don't ignore safety concerns:** Address any potential hazards or unsafe conditions promptly.
- **Don't take shortcuts:** Always follow established safety procedures, even if it takes more time.
- **Don't use damaged or malfunctioning equipment:** Ensure all equipment is in good working order and properly maintained.
- **Don't enter confined spaces without proper authorization and training:** Confined spaces can present unique hazards, so it's crucial to follow proper procedures.
- **Don't ignore safety protocols:** Adhere to all established safety procedures and guidelines.

Dos & Don'ts
Landslides

1. Before: During:

I. Grow more trees/vegetation as it can hold the soil together.
II. Listen to radio/Watch TV/Read newspaper for any alerts.
III. Keep drains clean, weep holes open. Do not change the natural drainage system.
IV. Do not place debris, waste or fill material on a steep slope.
V. Watch out for any warning signs such as subsidence of building, cracks on rocks, muddy river water.
VI. Do not construct near steep slopes and drainage path.
VII. Store emergency supplies of food and water, flashlights, batteries and medicine ready.
VIII. Keep a 'disaster kit' with essential identity documents ready.

2. During:

I. Ignore rumours. Stay calm. Don't panic.
II. Stay together with your companions.
III. Landslide debris moves from uphill to downhill. You should, therefore, avoid low-lying areas or valleys. If you notice any warning signs such as unusual sounds like trees cracking Or boulders knocking together, Move away from landslip path or downstream valley quickly;
IV. Inform nearest Tehsil/ District HQ/ Disaster Management Helpline.

3. After:

I. Do not touch/walk over loose material and electrical wires or poles.
II. Move away from landslip path and downstream valley quickly. Check for injured and trapped persons.

III. Do not move an injured person without rendering first aid unless he/she is in immediate danger.
IV. Do not drink contaminated water directly from rivers springs, wells, etc.
V. Locate the nearest public shelter.
VI. Stay away from the slide area. There may be a danger of additional slides.
VII. Re-plant damaged ground as soon as possible. Erosion caused by loss of ground cover can lead to flash flooding.
VIII. Stay away from the location until the emergency workers and the experts confirm that it is safe.

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Dos & Don'ts
Lightning

Darkening skies, thunder, hair standing up on the back of your neck or tingling skin mean lightning is imminent.

1. Before:

I. Cut down or trim trees that may be in danger of falling on your home.
II. An important lightning safety guide is the 30-30 rule. After you see lightning, start counting to 30. If you hear thunder before you reach 30, go indoors. Suspend activities for at least 30 minutes after the last clap of thunder.
III. Always keep the earthing working to avoid damage to electrical equipment.
IV. Consider buying surge protectors, lightning rods, or a lightning protection system to protect your home, appliances, and electronic devices.

2. During

(A) If Indoors:

I. Unplug all electrical equipment before the storm arrives. Don't use corded telephones, electrical devices, chargers, etc.
II. Stay away from windows and doors; stay off verandas.
III. Don't touch plumbing and metal pipes. Do not use running water.

(B) If Outdoors After

I. Get inside a house/building. Stay away from structures with tin roofs/metal sheets.
II. If caught under the open sky, crouch. Don't lie down or place your hands on the ground. Don't take shelter near/under trees. Spread out; don't stand in a crowd. Stay clear of water bodies.
III. If you are outside, seek refuge in a car or grounded building when lightning or thunder begins.

IV. Stay put if you are inside a car/bus/covered vehicle.
V. Don't use metallic objects; stay away from power/telephone lines.
VI. Get out of water - pools, lakes, small boats on water bodies.
VII. Avoid hilltops, open fields and beaches.

3, After

I. Watch out for fallen power lines and trees. Report them immediately.

4. Treating the affected

I. Administer CPR (Cardio Pulmonary Resuscitation), if needed.
II. Seek medical attention immediately.

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Dos & Don'ts
Nuclear Radiological Emergencies

1. Before:

I. Learn about nuclear radiation hazards.
II. Discuss nuclear radiation safety with children, family, friends and neighbours.
III. Keep emergency contact numbers handy.

2. During:

I. Go indoors. Close doors/windows. Stay inside.
II. Switch on the radio/television and look out for public announcements from your local authority.
III. Cover all food, water and other consumables. Eat only such covered items.
IV. If you are out in the open, cover your face and body with a wet cloth. Return home quickly, remove footwear before entering. Take a bath and wear fresh clothes. Keep the removed footwear and clothes packed in a polythene bag to be checked for contamination by authorities.
V. Follow official instructions.
VI. During prolonged contamination issues, try to feed milking cattle contamination free fodder and water.

3. Don'ts:

I. Do not panic.
II. Do not spread and/ or believe in rumours.
III. Do not stay outside/or go outside unless it is really necessary.
IV. Do not use water from open wells/ponds; exposed crops, vegetables, food or milk.

Dos & Don'ts
Thunder Storms

1. Before

I. Prepare an emergency kit with essential items for safety and survival.
II. Secure your house; carry out repairs; don't leave sharp objects loose.
III. Secure outside objects that could blow away and cause damage.
IV. Remove rotting trees/broken branches that could fall and cause injury or damage.
V. Listen to radio, watch TV or read newspapers for weather updates and warnings.

2. During

I. Keep a watch on local weather updates and warnings.
II. Try to stay indoors; stay off verandas.
III. Unplug all electrical equipment. Don't use corded telephones. Use your battery operated radio for news updates.
IV. Don't touch plumbing and metal pipes. Do not use running water.
V. Stay away from structures with tin roofs/ metal sheets.
VI. Don't take shelter near/under trees.
VII. Stay put if you are inside a car/bus/covered vehicle.
VIII. Don't use metallic objects; stay away from power/telephone lines.
IX. Get out of water - pools, lakes, small boats on water bodies - and take safe shelter immediately.

X. Remember, rubber-soled shoes and rubber tyres provide NO protection from lightning.
XI. Avoid rubbing your eyes in order to prevent eye infection, which is common during this season.
XII. Apply a small amount of petroleum jelly to the inside of the nostrils to prevent drying of your mucous membranes.

3. After:

I. Stay away from storm-damaged areas.
II. Listen to local radio/TV stations for updated information or instructions on weather and traffic updates.
III. Help children, women, elderly and differently-abled.
IV. Stay away from fallen trees/power lines and report them to nearest Tehsil/District HQ immediately.

4. For Animals:

I. Designate a safe area in or near your house to shelter your animals in a severe thunderstorm.
II. Keep your animals away from open water, pond or river.
III. Keep your animals away from tractors and other metal farm equipment.
IV. Don't allow your animals to congregate under trees.
V. Watch your animals closely and try to keep them under your direct control.

Dos & Don'ts
Tsunami

1. Before:

I. Construct houses/buildings as per Bureau of Indian Standards (BIS) codes.
II. Educate yourself and your family about tsunami risk.
III. Prepare an 'emergency kit' and make a family communications plan.
IV. Know the height of your street above sea level and the distance of your street from the coast or other high-risk water bodies.
V. If you are a tourist, familiarise yourself with local tsunami evacuation protocols.
VI. If an earthquake occurs and you are in a coastal area, turn on your radio to learn if there is a tsunami warning.
VII. Know your community's warning systems and disaster plans, including evacuation routes. Practice evacuation through identified routes.
VIII. Identify the highest ground and the safest, nearest, easiest way to reach the same.
IX. Know if the school evacuation plan requires you to pick your children up from school or from any other location. Be aware that telephone lines during a tsunami watch or warning may be overloaded and routes to and from schools may be jammed.

2. During:

I. Stay calm. Do not panic.
II. Evacuate immediately to safe places when directed by government officials.
III. Move inland to higher ground immediately.
IV. Stay away from the beach.
V. Save yourself, not your possessions.
VI. Help those who may require special assistance - infants, elderly people, and individuals with access or functional needs.

VII. If you are in the water, then grab onto something that floats, such as a raft/ tree trunk, etc.
VIII. If you are in a boat, then face the direction of the waves and head out to the sea. If you are in a harbor, then go inland.

3. After

I. Return home only after officials tell you it is safe.
II. Avoid areas which are affected by a disaster.
III. Stay away from debris in the water.
IV. Check yourself for injuries and get first aid as needed before helping injured or trapped persons.
V. If someone needs to be rescued, call professionals with the right equipment to help.
VI. Help people who require special assistance - infants, elderly people, people with access and functional needs.
VII. Use radio or television for the latest updates.
VIII. Stay out of any building that has water around it as tsunami water can cause floors to crack or walls to collapse.
IX. Use caution when re-entering buildings or homes.
X. To avoid injury, wear protective clothing and be cautious when cleaning up.
XI. Do not eat or drink anything from open containers.
XII. Leave a message stating where you are going if you must evacuate your house.
XIII. Do not spread and/ or believe in rumours.

Dos & Don'ts
Urban Flood

1. Before

I. Keep drains clean - Do not litter waste, plastic bags, plastic bottles in drains.
II. Remain safe inside - Try to be at home if high tide and heavy rains occur simultaneously.
III. Be informed/be alert - Listen to radio, watch TV or read newspapers for weather updates and flood warnings.
IV. Survival is key - Prepare an emergency kit with essential items for safety and survival.
V. Keep your documents and valuables in
VI. water-proof bags.
VII. Do not venture into flood water.
VIII. Do not spread and/ or believe in rumours.

2. During

I. Ensure safety - Turn off power and gas connection; be alert for gas leaks.
II. Respond quickly - Evacuate low-lying areas and move to higher places.
III. Evade illness - Drink boiled/chlorinated water.
IV. Watch your step - Stay away from sewerage lines, gutters, sharp objects and debris.
V. Don't get electrocuted - Stay away from electric poles and fallen power lines to avoid electrocution.
VI. Don't walk/swim through flowing water.
VII. Don't drive through flooded areas.
VIII. Don't eat food that has come into contact with flood water.
IX. Don't use any damaged electrical goods.
X. Don't use electrical equipment while standing on wet floors, especially concrete.

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LESSON

12

FINAL PRACTICAL EXERCISE

Time-Lecture 01 Periods, Practical-04 Pds. Total-5 Pds.

LESSON OBJECTIVES

Upon completion of this lesson, you will be able to:

1. Familiarize themselves with the operational sequence of a community responder, being a member of the family and securing its well being before deciding to join the community response team.
2. Gather information and formulate plan of action to search and locate possible trapped victims.
3. Conduct C-QRST, evacuate and transport victims safely in the event of an emergency or a disaster.

► *PPT 12-1 to 12-2*

Suggested Duration:
Briefing: 45 minutes
Exercise: 2 hours

Materials:
- PWB
- IG
- Reference Materials
- Visual Aids
- Multimedia Projector
- Projection Screen

Activities:

Phase 1: Family Well-being, preparing and organizing the response team. (15 minutes table top exercise)

Phase 2: Scene Size up and Search (30 minutes)

Phase 3: C-QRST, CSAR, Management of the dead, interfacing with professional responders. (45 minutes)

Suggested Instructors Activity

1

Purpose

To demonstrate the knowledge, techniques and skills learned in the CADRE course; to take the required steps when securing yourself and your family before helping others, organizing team after disaster strikes, arriving and securing the scene, conduct Community Search and Rescue, safely extricate simulated surface or visible victims in a simulated Disaster Scenario.

2

Performance Objectives

Upon completing the CADRE Course, your team will be able to perform the following tasks:

2.1 Secure your well-being and of the family
2.2 Receive the information and request for assistance
2.3 Organize and Plan for response
2.4 Select all necessary logistical needs
2.5 Safely respond to the scene, evaluate it and report the situation.
2.6 Secure the scene and request resources
2.7 Gain access to the affected person and evaluate the situation and provide appropriate care.
2.8 Conduct triage and extrication of trapped person if appropriate and stabilization of the injured
2.9 Package and prepare for transport
2.10 Share relevant information with professional pertaining to the condition of the patient and treatment given
2.11 Assist professional responder when needed
2.12 Community Discussion after response/action
2.13 Prepare for the next emergency

The Final Practical Exercise will be divided into **three phases**.

3

Tools, Equipment and Supplies

In order to complete the performance objectives, each work group will be given three consecutive simulated scenarios and the appropriate equipment and supplies.

3.1 Phase I

- LCD projector
- Power point presentation with pictures of disaster
- Flip chart stand and flip charts
- Table top exercise questionnaire to be answer by the team

3.2 Phase II

- One (1) megaphone
- Flip charts
- Permanent markers
- Scene tape*
- PPE

3.3 Phase III

- PPE
- TEA s for CSAR (Pry bar, etc.)
- Cribs
- 4 Fire extinguishers
- Trauma kit
- Ribbons 18 inches length (Green-30pcs, Red-30pcs)
- Masking tape 4 inch
- Splints
- Buckets
- Concrete slab - 2 (150cm X 150cm x 15 cm)
- Dummy (2)
- Ambulance for professional responders*

You must use your own complete set of personal protective equipment. You must complete all three phases within 1 hour and 30 minutes, following the procedures learned in this course. The Final Practical Exercise will be conducted in a field location with three simulated scenarios.

4

Procedure Checklists

Total time limit for all phases: 1 hour and 30 mins

Total number of instructors: 4 instructors, 4 assistants

4.1 Phase I: Securing Your Well-Being and Family Members

Time Limit: 15 minutes
(There will be an activation call before the start of Phase I.)

Number of Instructors: 1 lead instructor, 1 assistant

Sequence:

4.1.1 Secure your well-being and family members

4.1.2 Assess home and turn off utilities, decide to evacuate or stay.

4.1.3 Take required safety precautions.

4.1.4 Once cleared, decide to join the team and proceed to pre-determined area for team accounting.

4.2 Phase II: Scene Size Up and Search

Time Limit: 30 minutes

Number of Instructors: 1 lead instructor, 2 assistants

Sequence:

4.2.1 Gather information from neighbors, team members and identify area to be search.

4.2.2 Establish and prioritize areas with greater chance of having trapped victims.

4.2.3 Develop plan of action to conduct search.

4.2.4 Assign tasks to team members appropriately.

4.2.5 Complete inspection of building (360 degrees, if possible)

4.2.6 Conduct Search and Rescue and evacuate victim if possible.

4.2.7 Locate all possible access points.

4.2.8 Consider the possible use of alternative search methods.

4.2.9 Locate the possible trapped victim with minimum margin of error.

- ***NOTE:*** *it is important that the instructor in charge replace the pictures in the PP presentation to local pictures*
- ***PPT 12-3 1st info***
- ***PPT 12-4 2nd info***
- ***PPT 12-5 Gen Scenario***
- ***PPT 12-6***
- ***PPT 12-7 to 12-9***
- ***PPT 12-10 to 12-11***
- ***PPT 12-12***

4

Procedure Checklists (Cont.)

4.3 Phase III: C-QRST, CSAR, Management of the Dead, Interfacing with Professional Responders.

Time Limit: 45 minutes

Number of Instructors: 4 lead instructors, 4 assistant instructors

Sequence:

4.3.1 Conduct C-QRST if deemed necessary

4.3.2 Evacuate Victims to designated treatment area

4.3.3 Neutralize Hazards with precaution.

4.3.4 Lift the concrete slab to remove the patient.

4.3.5 Conduct complete patient assessment before moving the patient.

4.3.6 Stabilize and immobilize the patient. Utilize available resources in lieu of backboards

4.3.7 Bring out the patient correctly and monitor status.

4.3.8 Maintain all safety measures throughout the entire operation.

4.3.9 Conduct the operation as a team, with proper rotation and distribution of task.

4.3.10 Interface with Professional Response team.

4.3.11 Describe other activities learned in the course.

Note:

Appropriate timing for each sequence should be strictly observed by the instructors to properly evaluate each and every procedure that is being done by the participants.

The lead instructor of this lesson must clearly identify each instructor tasks so there will be a clear understanding on how the different activities will be handled during the exercise.

An instructor may act as a by stander and/or a facilitator in each designated activity and an overall safety officer will be assigned to monitor the safety of all the participants, instructors, guests and observers during this activity.

SCENARIO #1: EARTHQUAKE

11:45pm **1st notification**	Your family and neighbors were awakened in your sleep when you felt vibration and movement of the ground. Hanging objects swing. Dinner plates, glasses, windows and doors rattle. Floors and walls of wood-framed buildings creak. **What will be your First reaction?**
01:00am **2nd notification**	You again felt movement of the ground. Hanging objects swing violently. Dinning utensils clatter and clink, some are broken. Some figurines and decors fell. Light cabinets topple over. The strength of movement frightened your family members prompting them to run outside of the house. Upon reaching the front of your house you see your neighbors are also outside frightened. After several minutes with no more tremors felt you and your neighbors decide to go back to your own homes.
3rd notification **General Scenario**	**To be presented in the classroom.** Morning, upon waking-up, you heard from the news that 8.2 earthquake happened at 11:45pm last night with the epicenter located at _____ city. There are buildings and residences that were reported to have collapsed during the 1:00am aftershock. **What shall you do to prepare your family in this situation?** **What shall you do to help your neighbors?**

► ***NOTE:***
Avoid using names of real persons, places, establishments, organizations and the like when developing your scenario

SCENARIO #2: TSUNAMI

11:00pm **1st notification**	Without warning, a series of large sea waves hit your town at around 2300H. Your family and neighbors were awakened in your sleep when you heard water rushing through the ground level of your house and through the streets bringing down trees and small wooden houses. Vehicles and debris are swept away by the fast current reaching a height of more than 10 feet. **What will be your First reaction?**
01:00am **2nd notification**	Looking outside your window you see several bodies afloat and most of the vehicles are either submerged or floating. People on the roofs are crying out for help. You noticed that it will take a long time for the water to recede.
3rd notification **General Scenario**	**To be presented in the classroom.** *An earthquake struck in the south pacific creating a Tsunami with sea waves reaching a height of about 20-30meters. Struck the nearby coastal areas, affecting around 15 towns across a 100 kilometer coastline. At about 0600h, water finally receded. Injuring and drowning a number of people and leaving several neighbors missing. **What will you do to prepare your family in this situation?** **What shall you do to help your neighbors?**

SCENARIO #3: CYCLONE

11:45pm **1st notification**	You heard from the news that a **CYCLONE** is approaching your region. It is going to hit your city with maximum sustained winds of 180km/h. Electric companies will soon shut down the electricity supply in your city. **What will be your First reaction?**
01:00am **2nd notification**	You are now experiencing strong winds with heavy rain. Visibility outside is very low. You hear debris hitting the walls of your house. Power is out and it has become clear to you that this will not end soon.
3rd notification **General Scenario**	**To be presented in the classroom.** *Super Typhoon Chakravat has made land fall at around 0100H and continued to devastate the region with maximum sustained winds of 185km/h. Super Typhoon is approximated to leave the region at around 0700H this morning. **What will you do to prepare your family in this situation?** **What shall you do to help your neighbors?**

Final Practical Exercise

Station 1, 2, and 3

Group Name: _____ **Dates:** _____

Instructions: The participant will say out loud what he or she is doing, stating possible findings, while demonstrating each of the following procedures. Check the box showing on which attempt the participant was able to perform the step successfully.

Performance Objectives	Attempts				P/F
	1	2	3	4	
Phase 1 • Secure well-being of family • Determine to evacuate home or let your family stay • Organize and plan to respond • Proceed to pre-designated area					
Phase 2 • Safely respond to the scene • Evaluate and report situation to professional response group if communication lines are intact. • Secure the scene and request necessary assistance • Conduct search and identify possible location of victim					
Phase 3 • Conduct C-QRST if needed • Transport victims to designated areas • Give appropriate treatment to injured victims • Evacuate victims safely using appropriate technique • Mitigate hazards safely • Lift heavy objects using techniques learned • Interface with rescuers • Other activities					

Comments: _____

_____

Overall Performance: ☐ Outstanding ☐ Successful ☐ Needs Improvement

Instructor: _____

CADRE LESSON 11 EVALUATION

Course Location: _____ **Dates:** _____

Do not write your name on this form. Please complete a copy of this form at the end of every lesson. Your evaluations are very valuable towards improving the course. Please use the ratings below.

1 VERY POOR	2 POOR	3 AVERAGE	4 GOOD	5 EXCELLENT

Please fill in the required information.	**Lesson Number :**	**Lesson Name :**	
	Instructors Name		
Use a scale from 1 to 5 as described above to rate the various lesson components.	**Lesson Rating (rate 1 to 5)**		
	Content	Instructor	Method
	Workbook	Interaction	
Mark your selection with an "X"	**Instruction Level** ☐ Too basic	☐ Appropriate	☐ Too advanced
	Duration ☐ Too short	☐ Appropriate	☐ Too long
	Usefulness Was this lesson useful to you?	☐ Yes	☐ No
Rate from 1 to 5	**Overall Lesson Rating** Taking all the above into consideration, I rate this lesson: _____		
If you need additional space, please use the back of the sheet.	**Comments and Observations**		

Thank you for your help. Your input is valuable.
Please turn in this completed form to the instructor.

LESSON

13 COURSE REVIEW

LESSON OBJECTIVES

Upon completion of this session, you will be able to:

1. Answer questions and resolve issues that were recorded in the 'File' by the participants.
2. Review the most important practical procedures that were demonstrated and practiced throughout the course.

▶ *PPT 13-1 to 13-2*

Suggested Duration:
Lecture: 45 minutes

Activities:
Review
Question & Answer Session

Materials:
- PWB
- FC
- IG
- Reference Materials
- Visual Aids
- Multimedia Projector
- Projection Screen

1
Introduction

Thank participants for their participation and willingness to learn. It was a great pleasure for the entire group of instructors.

The class benefited from all the participation and a higher level of learning was achieved.

Congratulate the participants for working well together in their practical stations, particularly with the final practical exercise.

Suggested Instructors Activity

2
Development

- Answer any questions and resolve issues from all lessons. Instructors in particular lessons will answer the questions.
- The Course Coordinator will act as the moderator.
- Review the file and answer issues, if any

  Lesson 1: Course Introduction

  Lesson 2: Common Hazards and the Community Response Group

  Lesson 3: Securing Family and Preparing for Response and Incident Command System (ICS)/Incident Response System (IRS)

  Lesson 4: Basic Life Support

  Lesson 4-II Basic First Aid and Triage

  Lesson 5: Dead Body Management

  Lesson 6: Fire Emergencies

  Lesson 7: Basic Search Techniques

  Lesson 8: Basic Rescue Technique

  Lesson 9: Water Emergencies

  Lesson 10: Other Emergencies

  Lesson 11: Dos & Don'ts of various natural & manmade disasters

  Lesson 12: Final Practical Exercise

  Lesson 13: Course Review

  Remind the participants to submit the filed-up the course evaluation in lesson number pages 1-10 to 1-13.

► *PPT 3-3 to 3-14*

3
Closing

"This review has covered all of the lessons throughout the course.
Thank you and congratulations to all of you"

CADRE LESSON 13 EVALUATION

Course Location: _____ **Dates:** _____

Do not write your name on this form. Please complete a copy of this form at the end of every lesson. Your evaluations are very valuable towards improving the course. Please use the ratings below.

1 VERY POOR	2 POOR	3 AVERAGE	4 GOOD	5 EXCELLENT

Please fill in the required information.	**Lesson Number :**	**Lesson Name :**	
	Instructor's Name		
Use a scale from 1 to 5 as described above to rate the various lesson components.	**Lesson Rating (rate 1 to 5)**		
	Content	Instructor	Method
	Workbook	Interaction	
Mark your selection with an "X"	**Instruction Level** ☐ Too basic	☐ Appropriate	☐ Too advanced
	Duration ☐ Too short	☐ Appropriate	☐ Too long
	Usefulness Was this lesson useful to you?	☐ Yes	☐ No
Rate from 1 to 5	**Overall Lesson Rating** Taking all the above into consideration, I rate this lesson: _____		
If you need additional space, please use the back of the sheet.	**Comments and Observations**		

Thank you for your help. Your input is valuable.
Please turn in this completed form to the instructor.

GLOSSARY

A

Accident an unexpected and undesirable event, especially one resulting in damage or harm.

Agitated to cause to move with violence or sudden force.

Anchoring a rigid point of support, as for securing a rope.

Anthrax an infectious, often fatal disease of cattle, sheep, and other mammals

Assist an act of giving aid; help

Assistance
1. The act of assisting.
2. Aid; help

Atmosphere the air or climate in a specific place.

Awareness
1. Having knowledge or cognizance
2. Archaic Vigilant; watchful.

B

Baking soda a white crystalline compound, $NaHCO_3$, with a slightly alkaline taste, used in making effervescent salts and beverages, artificial mineral water, pharmaceuticals, and fire extinguishers. Also called bicarbonate of soda, sodium bicarbonate.

Bandage Is a piece of material used either to support a medical device such as a dressing or splint, or on its own to provide support to the body.

Benchmarks Standards, norms

Bight
1. a. A loop in a rope.
   b. The middle or slack part of an extended rope.
2. A bend or curve

BLS **Basic life support** is a level of medical care which is used for patients with life-threatening illness or injury until the patient can be given full medical care. It can be provided by trained medical personnel, including emergency medical technicians, and by laypersons who have received BLS training. BLS is generally used in the pre-hospital setting, and can be provided without medical equipment.

Body Bowline/ Double Bowline is a type of loop knot. Instead of the single turn of the regular bowline, the double bowline uses a round turn. This forms a more secure loop than a standard bowline.

Bowline is an ancient but simple knot used to form a fixed loop at the end of a rope. The structure of the bowline is identical to that of the sheet bend, except the bowline forms a loop in one rope and the sheet bend joins two ropes.

Bowline on a bight is a knot which makes a pair of fixed-size loops in the middle of a rope. Its advantages are that its loops do not slip and it is reasonably easy to untie after being exposed to a strain.

Bruising a **bruise**, also called a **contusion**, is a type of relatively minor hematoma of tissue in which

capillaries are damaged by trauma, allowing blood to seep into the surrounding extracellular space and that is always caused by internal bleeding.

C

Capillary Refill is the rate at which blood refills empty capillaries. It can be measured by holding a hand higher than heart-level, pressing the soft pad of a finger or toe until it turns white, and taking note of the time needed for color to return once pressure is released. Normal refill time is less than 2 seconds.

Capsized Boat The common definition for **capsized** refers to when a boat or ship is tipped over until inverted.

Cardiac Arrest (also known as **cardiopulmonary arrest** or **circulatory arrest**) is the pausing of normal circulation of the blood due to failure of the heart to contract effectively.

Cartridge An **air cartridge** in is a replaceable component of a Fire extinguisher that contains the pressurized air to expel the extinguishing agent out.

CERT Community Emergency Response Team

Certified Lay Responder refer to Lesson 2 definition of Certified Lay Responder.

Choking is the mechanical obstruction of the flow of air from the environment into the lungs. Choking prevents breathing, and can be partial or complete, with partial choking allowing some, although inadequate, flow of air into the lungs.

Cholera an acute, infectious disease characterized by profuse diarrhea, vomiting, cramps, etc.

Clove hitch is a type of knot. It consists of two identical half hitches made successively around an object. It is most effective used as a crossing knot. Although it can be used as a binding knot, it is not particularly secure in that role.[1] A clove hitch made around the standing part of the line is known as either two half-hitches or Buntline hitch, depending on whether half-hitches progress away or towards the hitched object.

CO2 **Carbon Dioxide** (CO_2) is a chemical compound composed of two oxygen atoms covalently bonded to a single carbon atom. It is a gas at standard temperature and pressure and exists in Earth's atmosphere in this state.

Coil is made up of materials, usually rigid, which can be fashioned into a helical shape.

Combustion **burning** is the sequence of exothermic chemical reactions between a fuel and an oxidant accompanied by the production of heat andconversion of chemical species. The release of heat can result in the either glowing or a flame.

Conduction is a material which contains moveable electric charges. In metallic conductors, such as copper or aluminum, the movable charged particles are electrons

Convection is one of the major modes of heat transfer in which matter or heat is transported by the larger-scale motion of currents in the fluid.

COVID-19 COVID-19 is a disease caused by a new strain of coronavirus. 'CO' stands for corona, 'VI' for virus, and 'D' for disease. Formerly, this disease was referred to as 2019 novel coronavirus or '2019-nCoV.

CPR **Cardiopulmonary resuscitation** is an emergency procedure for people in cardiac arrest or, in some circumstances, respiratory arrest. CPR is performed both in hospitals and in pre-hospital settings

Cribs any of various cellular frame-works of logs, squared timbers, or steel or concrete objects of similar form assembled in layers at right angles, often filled with earth and stones and used in the construction of foundations, dams, retaining walls.

Current **1. A current (Fluid)**, in a river or stream, is the flow of water influenced by gravity as the water moves downhill to reduce its potential energy. The current varies spatially as well as temporally within the stream, dependent upon the flow volume of water, stream gradient and channel geometrics.

2. Current (Electric) is the flow (movement) of electric charge. The SI unit of electric current is the ampere, and electric current is measured using an ammeter. For the definition of the ampere, see the Ampere article.

Cylinder A **gas cylinder** or tank is a pressure vessel used to store gases at high pressure.

D

Dam A **dam** is a barrier that impounds water or underground streams. Dams generally serve the primary purpose of retaining water, while other structures such as flood-gates orlevees (also known as dikes) are used to manage or prevent water flow into specific land regions. Hydropower and pumped-storage hydroelectricity are often used in conjunction with dams to provide clean electricity for millions of consumers.

Distress is also used by Search and Rescue services to describe targets in adverse or critical conditions.

Draperies A **curtain** (sometimes known as a **drape**) is a piece of cloth intended to block or obscure light, or drafts, or water in the case of a shower curtain. Items that can be used to support the head in case of emergency.

Dressing is an adjunct used by a person for application to a wound to promote healing and/or prevent further harm. A dressing is designed to be in direct contact with the wound, which makes it different from a bandage.

Drowning is death from suffocation (asphyxia) caused by a liquid entering the lungs and preventing the absorption of oxygen leading to cerebral hypoxia and myocardial infarction.

Dry Chemical **ABC** or **Multi-Purpose dry chemical** is a dry chemical extinguishing agent. It uses a specially fluidized and siliconized mono ammonium phosphate powder. ABC dry chemical is usually a mix

of mono ammonium phosphate and ammonium sulphate, the former being the active one.

Duct tape is a vinyl, reinforced, multi-purpose pressure sensitive tape with a soft and flexible shell and pressure sensitive adhesive. It is generally silver or black in color but many other colors have recently become available. With a standard width of 1⅞ inches (48 mm), duct tape was originally developed during World War II in 1942 as a water resistant sealing tape for ammunition cases.

E

Earthquake A weak to violent shaking of the ground produced by the sudden movement of rock materials below the earth□s surface

Electrical transformer is a device that transfers electrical energy from one circuit to another through inductively coupled conductors □ the transformer coils.

Epidemic It is the occurrence of communicable/non-communicable diseases or illnesses of the same nature in excess of the normal.

Equilibrium also known as a Figure Eight Bend, a double figure eight bend and a rewoven eight is a knot for joining two ropes of roughly similar size.

Evacuation Emergency evacuation is the immediate and rapid movement of people away from the threat or actual occurrence of a hazard.

F

Figure of eight bend also known as a **Figure Eight Bend, a double figure eight bend**, and a **rewoven figure eight** is a knot for joining two ropes of roughly similar size.

Fire drill A **fire drill** is a method of practicing the evacuation of a building for a fire or other emergency. Generally, the emergency system (usually an alarm) is activated and the building is evacuated as though a real fire had occurred. Usually, the time it takes to evacuate is measured to ensure that it occurs within a reasonable length of time.

Fire Extinguisher is an active fire protection device used to extinguish or control small fires, often in emergency situations. It is not intended for use on an out-of-control fire, such as one which has reached the ceiling, endangers the user (i.e. no escape route, smoke, explosion hazard, etc.), or otherwise requires the expertise of a fire department. Typically, a fire extinguisher consists of a hand-held cylindrical pressure vessel containing an agent which can be discharged to extinguish a fire.

Fire Tetrahedron is an addition to the fire triangle. It adds the requirement for the presence of the chemical reaction which is the process of fire.

Flammable is defined at how easily something will burn or ignite, causing fire or combustion

Flashover is the near simultaneous ignition of all combustible material in an enclosed area. When certain materials are heated they undergo thermal decomposition and release flammable gases. Flashover occurs when the majority of surfaces in a space are heated to the autoignition temperature of the flammable gases

Flood A condition that occurs when water flows over natural or artificial confines of a stream or body of water, or when run-off from heavy rainfall accumulates over low-lying areas.

Flood is an overflow or accumulation of an expanse of water that submerges land.

Foam The most general definition of **foam** is a substance that is formed by trapping many gas bubbles in a liquid or solid.
A foam is normally an extremely complex system consisting of polydisperse gas bubbles

Fulcrum hinge, swivel, pivot

G

Grid A common type of a lattice graph (known under different names, such as **square grid graph**

H

Hailing (hail) to call or summon

Halons Haloalkanes are widely used commercially and consequently are known under many chemical and commercial names. They are used as flames retardants, fire extinguishers, refrigerants, propellants, solvents, and pharmaceuticals.

HazMat Dangerous goods, also called hazardous materials or HazMat, are solids, liquids, or gases that can harm people, other living organisms, property, or the environment.

Heat Cramps Heat cramps are the mildest form of heat illness. These are painful muscle cramps and spasms that occur during or after intense exercise and sweating in high heat.

Heat Exhaustion Heat exhaustion is more severe than heat cramps. It's caused by a loss of water and salt in the body. It occurs in conditions of extreme heat and excessive sweating without adequate fluid and salt replacement. Heat exhaustion happens when the body can't cool itself correctly. If left untreated, it can progress to heat stroke.

Heat Stroke Heat stroke is the most severe form of heat illness. It occurs when the body's heat-regulating system is overwhelmed by excessive heat. The skin may be dry if the ability to sweat has been lost. It is a life-threatening emergency and requires immediate medical care.

Heimlich Maneuver Abdominal thrusts, also known as the Heimlich Maneuver. Performing abdominal thrusts involves a rescuer standing behind a patient and using their hands to exert pressure on the bottom of the diaphragm. This compresses the lungs and exerts pressure on any object lodged in the trachea, hopefully expelling it. This amounts to an artificial cough.

Hypothermia is a condition in which core temperature drops below that require for normal metabolism and body functions which is defined as 36.5–37.5 °C (98–100 °F)

I

Induction Electromagnetic Induction is the production of voltage across a conductor situated in a changing magnetic field or a conductor moving through a stationary magnetic field.

Incident Command System The **Incident Command System** (ICS) is a standardized hierarchical **structure** that allows for a cooperative response by multiple agencies, both within and outside of government, to organize and coordinate response activities without compromising the decision-making authority of local **command**.

Incident Response System Inspired from ICS the Incident Response System (IRS) was developed by NDMA in 2010, is an effective mechanism for reducing the scope for ad-hoc measures in response. It incorporates all the tasks that may be performed during Disaster Management irrespective of their level of complexity. Organisation functions through Incident Response Teams (IRTs) in the field, in line with their administrative structure and DM Act 2005.

INSARAG The International Search and Rescue Advisory Group (INSARAG) was established in 1991. This establishment followed the initiatives of the specialised international Urban Search and Rescue (USAR) teams who operated together in the Mexican earthquake of 1985 and the Armenian earthquake of 1988. So as not to duplicate existing structures, the group was created within the framework of existing humanitarian coordination within the United Nations (UN).

Inhibition a stoppage or decrease in the rate of action of a chemical reaction.

J

Joints A **joint** is the location at which two or more bones make contact. They are constructed to allow movement and provide mechanical support, and are classified structurally and functionally.

L

Landslide a massive outward and downward movement of slope-forming materials. It is restricted to movement of rocks and soil masses.

Level of Consciousness an **altered level of consciousness** is a measure of arousal other than normal.
Level of consciousness (LOC) is a measurement of a person□s arousability and responsiveness to stimuli from the environment

Lever is a rigid object that is used with an appropriate fulcrum or pivot point to multiply the mechanical force (effort) that can be applied to another object (load).

Ligaments tissue that connects bones to other bones.

M

Mitigate is the discipline of dealing with and avoiding risks.

N

Natural Phenomenon is a non-artificial event in the physical sense, and therefore not produced by humans, although it may affect humans (e.g. bacteria, aging, natural disasters, death). Common examples of natural phenomena include volcanic eruptions, weather, and decay. Most natural phenomena, such as rain, are relatively harm less so far as humans are concerned. Various types of natural phenomena include (but are not limited to) meteorological phenomena (like hurricanes, thunderstorms, and tornadoes) and geological phenomena (like volcanic activity and earthquakes).

Nausea and Vomiting is a sensation of unease and discomfort in the upper stomach with an urge to vomit.

NFPA National Fire Protection Association is a U.S. organization charged with creating and maintaining minimum standards and requirements for fire prevention and suppression activities, training, and equipment, as well as other life-safety codes and standards. This includes everything from building codes to the personal protective equipment utilized by firefighters while extinguishing a blaze

NFPA (Cont.)

O

Oxidation the deposit that forms on the surface of a metal as it oxidizes.

P

Pale can be due to poor circulation of the blood. A pale color which can be caused by illness, emotional shock or stress.

Personal Floatation Device also referred to as, **lifejacket, life preserver, Mae West, life vest, life saver, cork jacket, life belt, flotation suit, etc.** is a device designed to assist a wearer, either conscious or unconscious, to keep afloat with his or her mouth and nose (airway) of his or her head□s face above the water surface when in or on water.

Plague an epidemic disease that causes high mortality

Political Riots A category for riots arising from a group expressing political dissent or discontent, or arising from a political battle or dispute. This is in contrast to riots arising from simple disorder, sports riots, crowd control riots, and so on.

Poison a substance, natural or synthetic, that causes damage to living tissues and has an injurious or fatal effect on the body, whether it is ingested, inhaled, or absorbed or injected through the skin

Postmortem of or pertaining to examination of the body after death

R

Radiation describes any process in which energy travels through a medium or through space, ultimately to be absorbed by another body.

Rafts a more or less rigid floating-platform made of buoyant material or materials

Recovery Position the **recovery position**, more technically the **lateral recumbent** position, is an airway management technique for assisting people who are unconscious, or nearly so, but are still breathing. It is frequently taught alongside CPR in first aid.

S

Seizures the outward effect can be as dramatic as a wild thrashing movement or as mild as a brief loss of awareness

Sheet Bend also known as **becket bend, weaver□s knot** and **weaver□s hitch**) is a bend that joins two ropes together. Doubled, it is effective in binding lines of different diameter or rigidity securely together.

Shock commonly known simply as **shock**, is a serious, life-threatening medical condition characterized by a decrease in tissue perfusion to a point at which it is inadequate to meet cellular metabolic needs.

Smother is the mechanical obstruction of the flow of air from the environment into the mouth and/or nostrils, for instance, by covering the mouth and nose with a hand, pillow, or a plastic bag.

Soft Tissue Injury is damage of the soft tissue of the body. These types of injuries are a major source of pain and disability. The four fundamental tissues that are affected are the epithelial, muscular, nervous and connective tissues.

Square Knot / Reef Knot is an ancient and simple binding knot used to secure a rope or line around an object. Although the reef knot is often seen used for tying two ropes together, it is not recommended for this purpose due to potential instability of the knot.

Styropore / Styrofoam Box a brand of expanded plastic made from polystyrene.

Swelling is the enlargement of organs caused by accumulation of excess fluid in tissues.

T

Tenderness pain or discomfort when an affected area is touched

Tendons is a tough band of fibrous connective tissue that usually connects muscle to bone and is capable of withstanding tension.

Topography It is also the description of such surface shapes and features especially their depiction in maps.

Tree Stumps is usually a small remaining portion of the trunk with the roots still in the ground. Stumps may show the age-defining rings of a tree.

TRIAGE is a process of prioritizing patients based on the severity of their condition.

Tsunami a series of traveling ocean waves of long length and period, usually caused by a seismic disturbances in the ocean floor or confines which, upon reaching the shore, loses speed but increases in height, depending upon the residual force upon arrival; such waves may rush in shore and cause devastation to human settlements and infrastructures along the shorelines.

Turbulent Waters turbulence causes the formation of eddies of many different length scales.

Typhoid an infectious, often fatal, febrile disease, usually of the summer months, characterized by intestinal inflammation and ulceration, caused by the typhoid bacillus, which is usually introduced with food or drink.

V

Venom a toxic substance produced by some animals (such as snakes, scorpions, or bees) that is injected into prey or an enemy chiefly by biting or stinging and has an injurious or lethal effect

Volcanic Eruption the ejection of volcanic materials such as lava, ashes, rock fragments steam and other gases through a fissure brought about by tremendous pressure which forces open the rock formation overlying pockets of molten rocks or steam reservoirs found under the earth's crust.

W

Wedge hold, lodge or fix in place

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1. PEER CADRE Instructors Guide (2021) prepared by ADPC and NDRF.
2. NDMA's Dos and Don'ts of various natural and manmade disasters.
3. NCRB's Data of Road accident.
4. Google photos.
5. Training photos of NDRF units.

Community Action for Disaster Response (CADRE)
is designed to train the community first responders with basic knowledge and skills to respond safely to disasters and emergencies.