2013

Assam State Disaster Management Authority
& Doctors For You

# Mass Casualty Management

## Course Book

**To provide medical relief, sustainable healthcare services, capacity building and risk reduction activities for vulnerable communities in both crises and non crises situations.**

DOCTORS FOR YOU (DFY), a humanitarian organization based in India, formed by doctors, medical students and like minded people. The thrust of DFY's work is to provide medical relief, sustainable healthcare services, capacity building and risk reduction activities during crisis and non crisis situations. The organization has vast experience of working in disasters which include Mumbai floods 2005, Bihar floods 2008, Andhra Pradesh-Karnataka floods 2009, Orissa floods 2011 and Assam ethnic violence 2012. It has received various recognitions including the prestigious British Medical Journal Award under the best team in crisis zone category for its work during the Bihar Floods.

For more details on DFY please do visit www.doctorsforyou.org

Or email at info@doctorsforyou.org

## Topics

# 1. Basic Disaster Terminologies

## Learning Objectives:

- Overview of disasters.
- To understand the different phases of disaster management cycle.
- To understand the type of disaster and resulting public health emergencies.

## Introduction:

Disaster is a sudden, unpredictable, unfamiliar, calamitous event, bringing great damage, urgency, uncertainty, threat, loss, and destruction and devastation to life and property. The damage caused by disasters varies with the geographical location, climate and the type of the earth surface, degree of vulnerability.

The Indian National Disaster Management Act, 2005 defines disaster management as a continuous and integrated process of planning, organizing, coordinating and implementing measures which are necessary or expedient for:

a) Prevention of danger or threat of any disaster;
b) Mitigation or reduction of risk of any disaster or its severity or consequences;
c) Capacity building;
d) Preparedness to deal with any disaster;
e) Prompt response to any threatening disaster situation or disaster;
f) Assessing severity or magnitude of effects of any disaster, evacuation, rescue and relief;
g) Rehabilitation and Reconstruction

A disaster is followed by following characteristics: large number of dead, injured and missing, large number of unaccompanied children, loss of normal source of food and potable water, loss of shelter and household necessities, loss of land tenure, loss of means of livelihood, overcrowding and communicable diseases, destruction of environment Communication and logistics problems, insecurity and tension.

Table- Type of Disaster

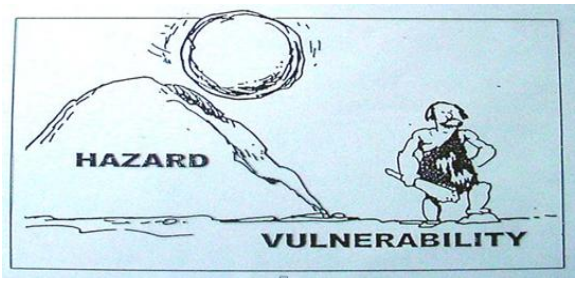
| No | Category of Hazard | Type of Disasters |
|---|---|---|
| 1 | Geological | Earthquake<br>Tsunami<br>Landslide |
| 2 | Hydro-Metrological | Flood<br>Flash Flood<br>Strom<br>Cyclone<br>Drought |
| 3 | Biological | Outbreak<br>Epidemic<br>Pandemic<br>Plant & Animal disease |
| 4 | Technological | Transportation<br>Industrial |

| | | |
|---|---|---|
| 5 | Environmental | Bush, Forest Fire |
| 6 | Political, Social, Extremism | Conflict Terrorism |

**Disaster Terminologies**

**Hazard**: An event or occurrence that has the potential for causing injuries to life and damaging property & the environment.

**Vulnerability**: A condition or sets of Conditions that reduces people's ability to prepare for withstand or respond to a hazard.




**Capacity**: Conditions or abilities which increase a community's ability to deal with hazards

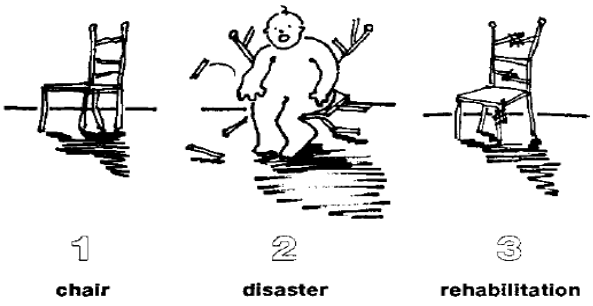
**Disaster**: A serious disruption of the functioning of a community causing widespread human, material or environmental losses which exceed the ability of the affected community to cope using its own resources. During disasters **external help or resources are required** by the community.


**Emergency**: Risk that **can be managed using existing resources** and support in a given condition and situation.

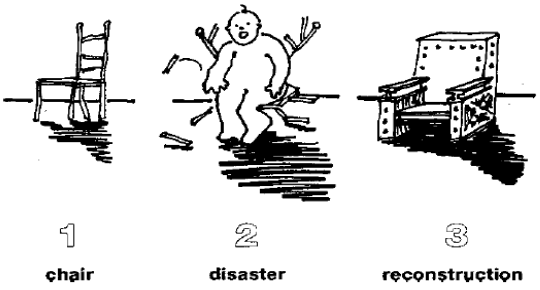
**Response**: Actions taken immediately following the impact of a disaster when exceptional measures are required to meet the basic needs of the survivors

**Rehabilitation**: Actions taken in the aftermath of a disaster to:

- Assist victims to repair their dwellings;
- Re-establish essential services;
- Revive key economic and social activities



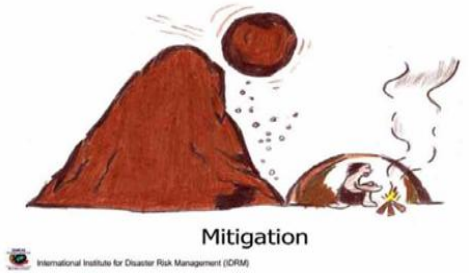

**Reconstruction**: Permanent measures to repair or replace damaged dwellings and infrastructure and to set the economy back on course




**Development**: Sustained efforts intended to improve or maintain the social and economic well-being of a community

**Disaster Preparedness**: Ability to predict, respond to and cope with the effect of a disaster

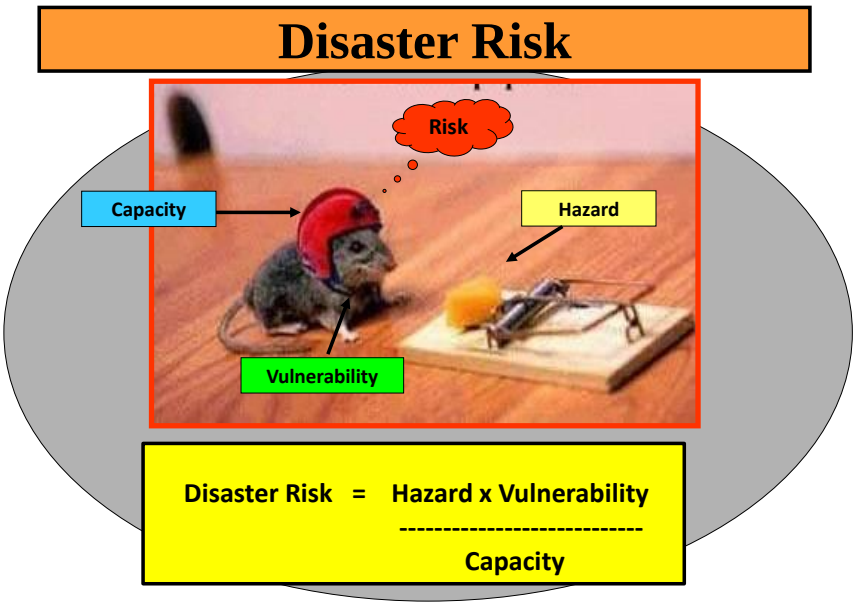

**Mitigation**: Measures taken in advance of a disaster aimed at reducing its impact on society and the environment



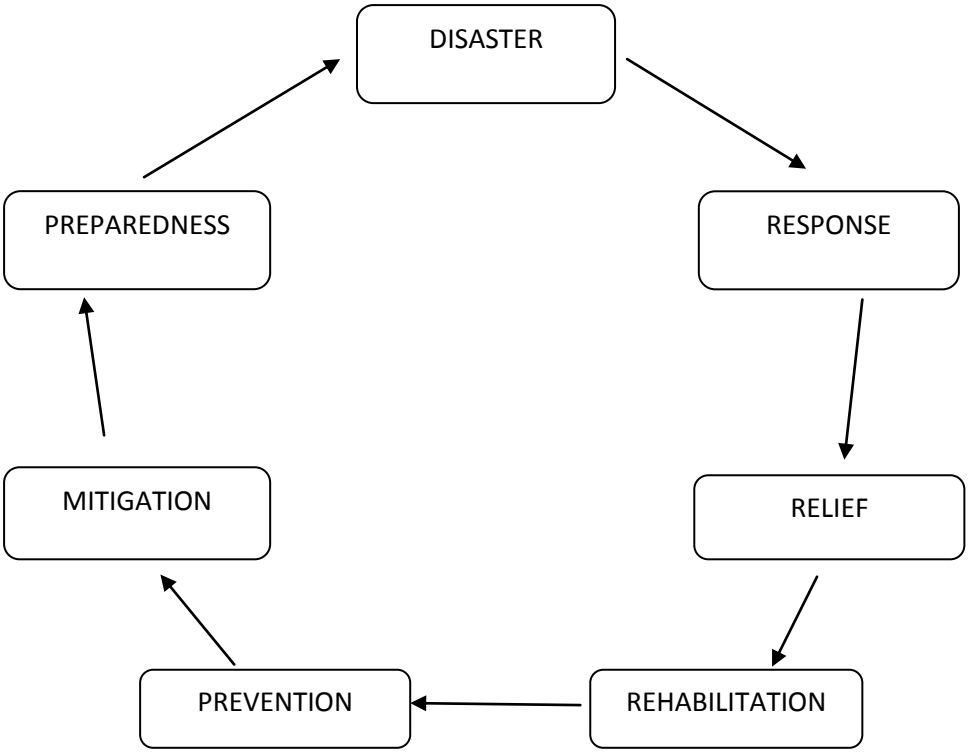

**Prevention**: Activities designed to provide permanent protection from disasters.

**Risk**: The probability that negative consequences may arise when hazards interact with vulnerable areas, people, property and environment

Risk=Hazard X Vulnerability/Capacity




**Disaster Management Cycle**



## 2. Extrication Evacuation and Transport

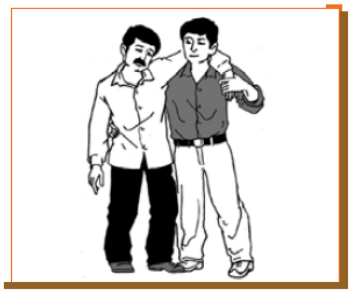
### Learning Objectives:

- To know how to extricate patients from a variety of situations.
- To use scarce resources for transportation of needy patients

### *1. SINGLE RESCUE*

**Human Crutch:**

Casualty is in a position to help themselves.



**Pick-a-back:**

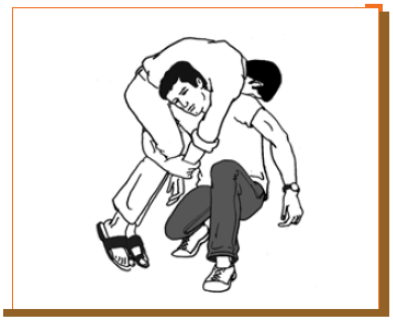
Casualty is conscious without any injury but unable to walk.

**Pick-a-back (Reverse)**
**(The rescuer and the casualty stand back-to back):**

Casualty is conscious but unable to walk for an injury such as burn on the belly or chest, a wound on the neck, or face or any upper body parts.

**Fireman's Lift:**

When the casualty is unconscious but without any injury

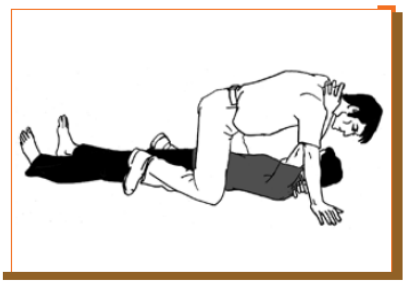


*Step1*

*Step 2*

**Rescue Crawl:**

Casualty is unconscious, too heavy or found in a smoke filled room, or in a confined place limiting movement.



**Bowline Drag:**

Casualty found in a narrow space / confined area.

**Toe Drag:**

Casualty found in a narrow space / confined area where the rescuer finds difficulty to enter.

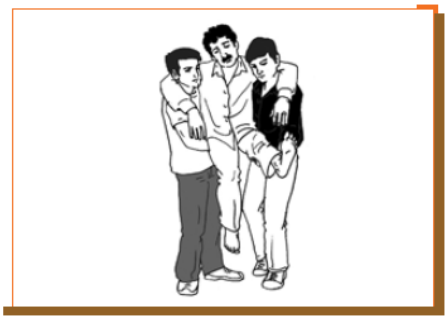
## *2. MULTIPLE RESCUE*

**Two-Handed Seat:**

casualty is conscious but unable to walk

**Three-Handed Seat:**

Casualty is conscious, heavy and / or has bleeding or injury to one of the legs



**Four-Handed Seat:**

Casualty is heavy but without any injury.

**Fore and After Method:**

Casualty has an injury in the abdomen and is unable to move

**Blanket Lift:**

Casualty is found in a grave condition and need to be shifted in flat condition, but the rescuers do not have a stretcher to carry the casualty.

*Step 1*

*Step 2*

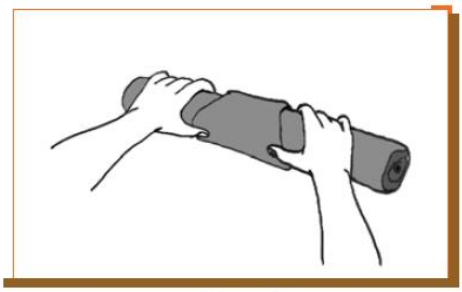
**Standard Ambulance Stretcher:**

**Moving a patient with a suspected closes head, neck & spinal Injury:**

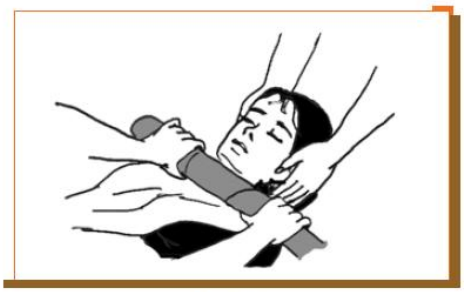
**Recovery Position:**

## Immobilisation of Neck:

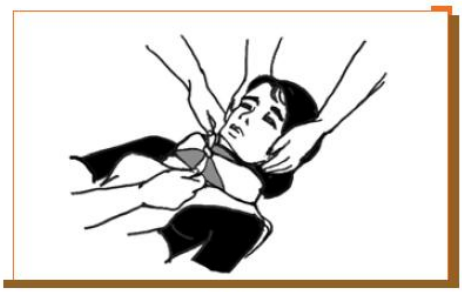
*Step 1*



*Step 2*



*Step 3*



*Step 4*

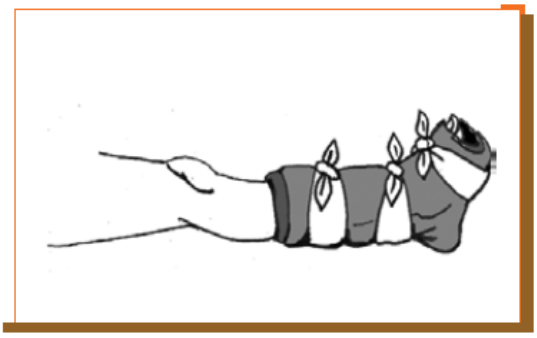
## Fractures:

### Upper arm

### Lower arm

### Upper leg

### Lower leg



# 3. Triage and First Response

## Learning Objectives:

- Concept of Triage
- Use of triage in field situations

## Introduction:

### What Is Triage?

During medical triage; victims are evaluated, sorted by the urgency of the treatment.

Needed, and set up for immediate or delayed treatment.

Triage was, in fact, initiated by the military and that experience has shown that triage is an effective strategy in situations where:

- There are many more victims than rescuers
- There are limited resources
- Time is critical

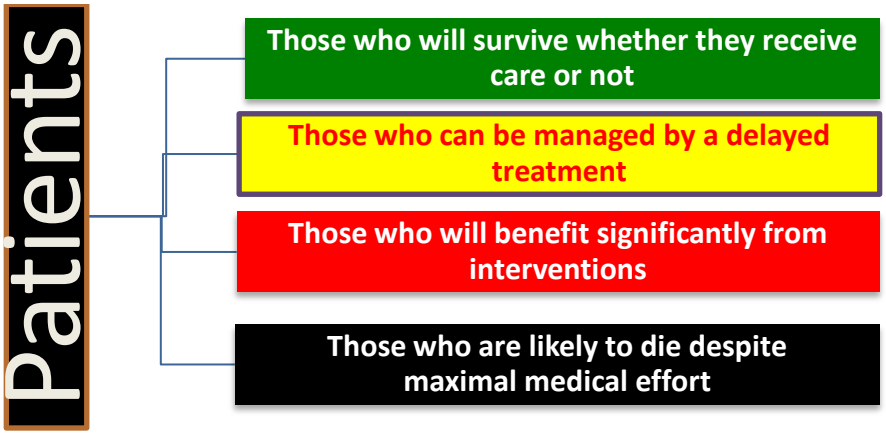
Triage occurs as quickly as possible after victims are located or rescued. During medical triage, victims' conditions are evaluated and the victims are prioritized into four categories:

- **Immediate (I):** The victim has life-threatening injuries (airway, bleeding, or shock) that demand immediate attention to save his or her life; rapid, lifesaving treatment is urgent. These victims are marked with a red tag or "I."

- **Delayed (D):** Injuries do not jeopardize the victim's life. The victim may require professional care, but treatment can be delayed. These victims are marked with a yellow tag or "D."

- **Minor (M):** Walking wounded and generally ambulatory. These victims are marked with a green tag or "M."

- **Dead (DEAD):** No respiration after two attempts to open the airway. Because CPR is one-on-one care and is labour intensive, CPR is not performed when there are many more victims than rescuers. These victims are marked with a black tag or "DEAD."




- Immediate (I): Victim has life-threatening injuries (airway, bleeding, or shock)
- Delayed (D): Injuries do not jeopardize victim's life; treatment can be delayed
- Minor (M): Walking wounded and generally ambulatory
- Dead (DEAD): No respiration after two attempts to open airway

From triage, victims are taken to the designated medical treatment area (immediate care, delayed care, or the morgue).

First Responders do not rescue those tagged DEAD. If the scene is deemed safe and it is appropriate to do so, CERT members may move the DEAD to the morgue.

It is crucial to the physical and mental well-being of disaster survivors that the morgue be placed away from the other groups. Traditionally, blue tarps are used to identify and conceal the morgue area.

**Rescuer Safety during Triage**

If hazardous materials are present, rescuer safety is paramount. First Responders should leave the scene to avoid harm to them and to reduce the risk of spreading the contamination.

## Triage Process:

### Triage in Disaster Environment

- Step 1: Stop, Look, Listen, and Think
- Step 2: Conduct voice triage
- Step 3: Start where you stand; follow systematic route
- Step 4: Evaluate each victim and tag
- Step 5: Treat "I" victims immediately
- Step 6: Document triage results

**Step 1: Stop, Look, Listen, and Think**. Before your team starts, stop and size up the situation by looking around and listening. Think about your safety, capability, and limitations, and decide if you will approach the situation. If you decide to proceed, quickly make a plan about your approach that all members understand.

**Step 2: Conduct voice triage.** Begin by calling out, "Community Emergency Response Team. If you can walk, come to the sound of my voice." Speak loudly and firmly. If there are survivors who are ambulatory, tag them M and direct them to a designated location. If rescuers need assistance and there are ambulatory survivors, then these survivors should be asked to provide assistance.

These persons may also provide useful information about the location of the victims. Note that, during triage, these individuals must be tagged "M."

**Step 3: Start where you stand, and follow a systematic route.** Start with the closest victims and work outward in a systematic fashion.

**Step 4: Evaluate each victim and tag them "I" (immediate), "D" (delayed), "M" (minor), or DEAD.**

Remember to evaluate the walking wounded.

Remember to ASK for permission to treat if the individual is conscious. Say that you will explain more about how to do a triage evaluation in a minute.

**Step 5: Treat "I" victims immediately**. Initiate airway management, bleeding control, and/or treatment for shock for Category "**I"** victims.

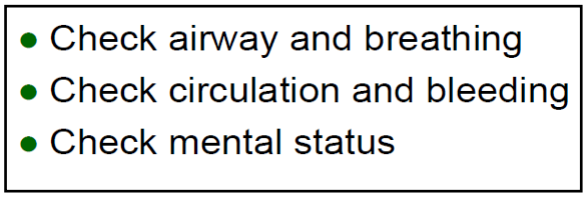
**Step 6: Document triage results for**

- Effective deployment of resources
- Information on the victims' locations
- A quick record of the number of casualties by degree of severity

The rescuer's safety is paramount during triage. Stress should be laid on the importance of wearing proper protective equipment to avoid endangering personal health.

**Evaluating a Victim during Triage**

The goal of triage is to identify and treat victims who need immediate care as rapidly as possible. As an expansion of Step 4 on the previous page, there is a certain order for doing a triage evaluation. Every evaluation should be done in this order.




While conducting a triage evaluation the responder should:

- Start with the airway. At an arm's distance, make contact with the victim and speak loudly. If the victim does not respond, then:
  - Position the airway.
  - Look, listen, and feel.
  - Check breathing rate. Abnormally rapid respiration (above 30 per minute) indicates shock. Maintain the airway and treat for shock and tag "I."
  - If the victim is not breathing after two attempts to open the airway, then tag the victim "**DEAD**."

**Second, check for bleeding.**

- Stop uncontrolled bleeding.
- Perform blanch test for capillary refill (greater than 2 seconds should be marked "**I**").
- Or perform a radial pulse test.
- If pulse present, continue to assessment of mental status. Note abnormal pulse.
- If pulse absent or abnormal, elevate status to "I" and treat for bleeding and shock.

**Third, check mental status.**

If no response, the victim's status is "**I**." If the victim passes all tests, his or her status is "**D**." If the victim fails one test, status is "**I**." Remember that everyone gets a tag.

| Step | Procedures |
|---|---|
| 1 | Check airway/breathing. At an arm's distance, make contact with the victim and speak loudly. If the victim does not respond:<br>▪ Position the airway.<br>▪ Look, listen, and feel.<br>▪ Check breathing rate. Abnormally rapid respiration (above 30 per minute) indicates shock. Maintain the airway and treat for shock and tag "I."<br>▪ If below 30 per minute, then move to Step 2.<br>▪ If the victim is not breathing after two attempts to open airway, then tag "DEAD." |
| 2 | Check circulation/bleeding.<br>▪ Take immediate action to control severe bleeding.<br>▪ Check circulation using the blanch test (for capillary refill) or a radial pulse test.<br>• Press on an area of skin until normal skin color is gone. Time how long it takes for normal color to return. Treat for shock if normal color takes longer than 2 seconds to return, and tag "I."<br>• Or check the radial pulse.<br>• If present, continue to step 3.<br>• Note if the pulse is abnormal (rapid, thready, weak, etc.)<br>• If absent, tag "I" and treat for bleeding and shock. |
| 3 | Check mental status. Inability to respond indicates that immediate treatment for shock is necessary. Treat for shock and tag "I." |

**Triage evaluation should be done rapidly. The goal should be to do it within 15-30 seconds.**

# 4. Principles of First Aid

## Learning Objectives:

- First aid and wound management in the field
- First aid during snake bite

## Introduction:

You may come across situations, where you will have to manage common wounds and injuries. This section would help you understand the management of different types of wounds.

Wounds are of three categories:

- ✓ Wounds without bleeding
- ✓ Wounds with bleeding
- ✓ Infected Wound

***Care of the wounds with no bleeding***

These wounds include small abrasions, small cuts, scrapes and other small wounds. Bleeding is usually limited to oozing and is due to damage to minute blood vessels. Even these types of wounds need to be attended immediately as they may get contaminated and become infected.

Take the following steps while managing these wounds:

- Wash your hands using soap and water
- Clean the wound using pre boiled and cold water (Soap can be used if the wound is contaminated with dirt. But remember excess soap may damage the flesh.)
- Or, gently wipe the dirt away using cotton without rubbing it. Rubbing disturbs the clot and restart bleeding, thus delaying the healing process. Use different cotton swabs each time
- Place a piece of clean gauze or cloth over the wound. Cloth should be light enough to allow passage of air for quick healing.
- Advise the person to change the gauze or cloth every day.

**Remember**
*Any bit of dirt that is left in a wound can cause an infection. A clean wound will heal without any medicine. Cleanliness is of first importance in preventing infection and helping wounds to heal. If a person gets a cut, scrape or wound, he/she should be referred immediately to take Tetanus Toxoid injection.*

**Family members should be warned to:**

- ✓ Avoid using animal or human faeces or mud on a wound. These can cause dangerous infections, such as tetanus.
- ✓ Never put alcohol, tincture of iodine, or any medicine directly into a wound; doing so will damage the flesh and make healing slower.
- ✓ Avoid disturbing the scab (a dry covering over the wound) that has been formed.
- ✓ Visit a health facility if there is a deep/sharp cut for which stitches may be needed.
- ✓ Refer persons to nearby health facility immediately in case the cut is large

***Care of the infected wounds***

- *Any wound which is red, swollen, hot, and painful with pus or a foul smell is an infected wound.*
- A deep bullet or knife wound runs a high risk of dangerous infection. You can know that the infection is spreading to other parts of the body if there is fever and a red line above the wound.

Wounds which may become dangerously infected are:
- Wounds with debris or made with dirty objects
- Puncture wounds and other deep wounds that do not bleed
- Wounds made where animals are kept: in cowsheds, pigpens, etc
- Large wounds with severe laceration or bruising
- Wounds due to bites, especially from dogs or other animals
- Bullet wound or knife wound

*Management of infected wounds* – Infected wounds are serious and need immediate medical attention. Quick referral to a health facility for treatment with an antibiotic and injection for Tetanus Toxoid is needed. Leave the wound open and avoid covering the wound with bandages. Fresh air enables these wounds to heal faster

***Care of the wound with minor bleeding:***

Minor bleeding can be controlled by pressure and elevation. A small adhesive dressing is normally all that is necessary. Medical aid is needed if the bleeding does not stop or if the wound is at a special risk of infection.

***Management –***

1. Wash your hand thoroughly with soap and warm water
2. If the wound is dirty, clean us by rinsing lightly under running water
3. Pat gently dry with a sterile swab or clean tissue
4. Temporarily cover the wound with sterile gauze. Clean the skin around it with soap and water. Swab away from wound and use a new swab for each stroke
5. Pat dry, the cover the wound with an adhesive dressing
6. If there is a risk of infection then advise the person to get the medical advise at the health institution or the camp.

***Severe external bleeding:***

Massive external bleeding is dramatic and can shift your focus from other first aid priorities; remember the ABC and resuscitation. Bleeding at the face or neck can obstruct the airway. Rarely blood loss is so great that the heart stops. You should also remember that shock may develop and person may lose consciousness.

Protecting yourself

If you have any sores or open wounds, make sure that they are covered with a waterproof adhesive bandage. Use disposable gloves whenever possible and wash your hands thoroughly is soap and water before and after treatment.

***Management –***

Your aims are –

i. To control the bleeding
ii. To prevent shock
iii. To minimise the risk of infection
iv. To arrange urgent removal to hospital

Steps to control bleeding from wound:

1. Raise the injured part
2. Apply pressure on the wound directly by tying a clean cloth/bandage but do not waste time hunting for a dressing.
   If you can not apply direct pressure E.g. if an object is protruding – press down firmly on either side
3. Raise and support and injured limb above the level of person's heart. Handle limbs gently if the injury involves a fracture.
4. It may be useful to ask the person to lay down as this will reduce the blood flow from the site of injury and minimise the shock.
5. Hold the pressure. Don't keep checking to see if the bleeding has stopped because this may damage or dislodge the clot that's forming and cause bleeding to resume.
6. Bandage the injured part firmly but not so tightly as to impede the circulation. If bleeding strikes through the dressing, bandage another firmly over the top.
7. If there is protruding foreign body build up pads on either side of the object until they are high enough to bandage over the object without pressing on it.
8. Secure and support the injured part as for a broken bone (explained in the next section)
9. Arrange to shift the patient to the nearest functional health institution or camp.

Rarely direct pressure is impossible to apply or is insufficient to control the bleeding from a limb. In these cases, indirect pressure may be applied to a **"pressure point",** where a main artery runs close to a bone. Pressure at these points will cut off the blood supply to the limb. It must not be applied for longer than 10 minutes.

**Pressure points** –

i. Brachial Pressure point – Brachial artery runs along the inner side of the upper arm. Press your finger tips in between the muscles to compress artery against the bone
ii. Femoral Pressure point – The femoral artery crosses the pelvic bone in the centre of the groin crease. Lay the person down with knee bent to locate the groin fold and press very firmly with thumbs.

***Do not use a tourniquet. It can make the bleeding worse, and may result in tissue damage and even gangrene.***

10. **If the bleeding ca not be controlled by pressing ob the wound, or the pressure point, and if the person is losing a lot of blood, do the following –**

| | | |
|---|---|---|
| Step 1 | Keep pressing the wound | |
| Step 2 | Keep the wounded part as high as possible | |

| | | |
|---|---|---|
| Step 3 | Tie the arm or leg as close to the wound as possible between the wound and the body. Tighten enough to control bleeding. ***Do not make it so tight that the arm or leg becomes blue*** |  |
| Step 4 | For the tie, use a folded cloth or wide belt; ***never use thin rope, string or wire*** | |

***Precautions***

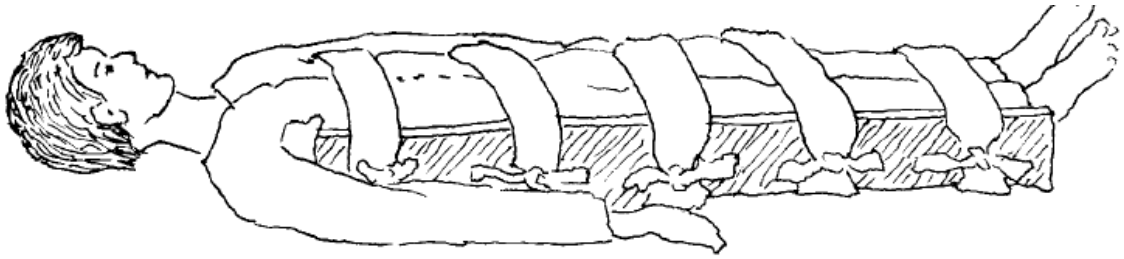
- ✓ Tie the limb only if the bleeding is severe and cannot be controlled by pressing directly on the wound or at the pressure point
- ✓ Loosen the tie for a moment every half an hour to see if it is still needed and to let the blood circulate. Leaving it too long may damage the arm or leg so much that its must be cut off
- ✓ IF bleeding or injury is severe, raise the feet and lower the head to prevent shock

## *I. Broken bones*

When a bone is broken, the most important thing to do is keep the bone in a fixed position. This prevents more damage and lets it mend. Before trying to move or carry a person with a broken bone, keep the bones from moving with splints, strips of bark, or a sleeve of a cardboard. Later a plaster cast can be put at the fractured part at the functional health institution.

***Broken thigh or hip bone***

A broken upper leg or hip often needs special attention. It is best to splint the whole body like this: and to take the injured person to a health center at once.



***Broken necks and backs***

If there is any chance a person's back or neck has been broken, **be very careful when moving him**. Try not to change his position. If possible, bring a health worker before moving him. If you must move him, do so without bending his back or neck. For instructions on how to move the injured person, (as explained below)

***Broken ribs***

These are very painful, but almost always heal on their own. It is better not to splint or bind the chest. The best treatment is to take aspirin and rest. It may take months before the pain is gone

completely. A broken rib does not often puncture a lung. But if a rib breaks through the skin, or if the person coughs blood or develops breathing difficulties (other than pain),use antibiotics and seek medical help.

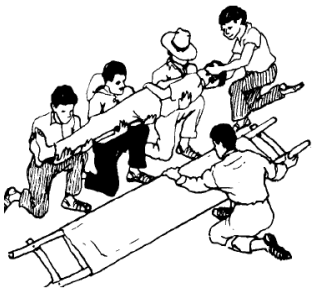
***Broken bones that break through the skin (open fractures)***

Since the danger of infection is very great in these cases, it is always better to get help from a health worker or doctor in caring for the injury. Wear gloves or plastic bags on your hands and clean the wound and the exposed bone very gently but thoroughly with cool, boiled water. Cover with a clean cloth. **Never put the bone back into the wound until the wound and the bone are absolutely clean.** Splint the limb to prevent more injury. If the bone has broken the skin, use an antibiotic immediately to help prevent

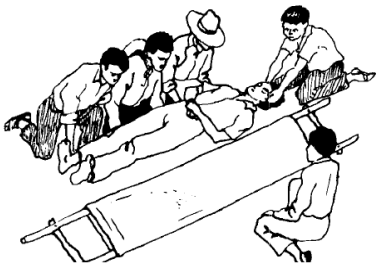
*CAUTION:* **Never rub or massage a broken limb or a limb that may possibly be broken.**

***II. How to move a badly injured person***

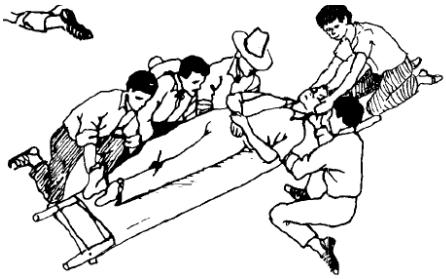
With great care, lift the injured person without bending him anywhere. Take special care that the head and neck do not bend.



Have another person put the stretcher in place



With the help of everyone, place the injured person carefully on the stretcher.



If the neck is injured or broken, put tightly folded clothing or sandbags on each side of the head to keep it from moving

When carrying, try to keep the feet up, even on hills.

### *III. Snake bite*

All snakes are not poisonous, nor can they outrun man as commonly believed. Snakebites are common in rainy seasons and night hours. There are only four Common Krait, Russel's Viper, Sawscaled Viper and Cobra.

**Identification of poisonous and non-poisonous snake bite**

- **Poisonous Snake:** The bite of a poisonous snake leaves marks of the two fangs ( and at rare times, other little marks made by the teeth).
- **Non – Poisonous Snake :** The bite of a snake that is not poisonous leaves only 2 rows of teeth marks, but no fang marks. This identification is most reliable if we know the species of the snake.

**Sign of poisonous snake bite**

- Pain at the site of bite. There may also be pain in abdomen and sometimes diarrhoea
- There may be local swelling.
- Blister formation around the site and spreading blister suggest a large dose of venom.
- Local tissue necrosis with an offensive, rotten smell
- Weakness of the muscle around the eyes (drooping of eyelids). The person may start seeing double (double vision) and may develop a squint. He may not be able to swallow anything.
- Cough, difficulty in breathing leading to death. (Cough indicates severe poisoning and may not appear until 10 hours after the bite)
- Abnormal bleeding
- There may be vomiting and collapse
- Shock and haemorrhage may occur up to a week after the bite if anti venom is not given.

**First aid in any snake bite**
Do it RIGHT also known as RIGHT approach for snake bite patients.

***'Do it R.I.G.H.T.' approach means***

**R*eassurance***- Reassure the patients that most of the snakes are non poisonous

**I*mmobilisatio***n as per a fractured limb-- (but no tourniquet application, earlier it was recommended method)

**G*etting*** to **H*ospital*** without delay - Take the patient to the nearest health centre at the earliest by any available method ---- even rickshaw will do (don't wait for the ambulance)

**T*elling*** the doctor of any symptoms that develop as it helps the doctors to identify the type of poison of snake whether it is Neurotoxic, Hemotoxic etc. Symptoms may include drooping of lids, unconsciousness, sleepiness, bleeding from bite site etc.

The effective and quick first aid can save most patients.

1. Make the person lie down and relax. Do not make the patient walk.
2. In case of non-poisonous snake bite, it is sufficient to clean and disinfect the wound.

3. Poisonous Snakebite is dangerous – refer to the health centre immediately after following first aid:
    - Keep the bitten area still; do not allow it to move.
    - Wrap the bitten area with wide elastic bandage or clean cloth to slow the spread of poison.
    - Put on a splint to prevent the limb from moving.
    - Carry the person, on a stretcher or a bed to the nearest health centre.
    - If the snake has been killed, you can take along the snake, because different snakes require different treatment (anti-venom). If anti-venom is needed, leave the bandage on until the injection is given. Bandage should be removed in hospital only after the doctor advice.

You should know about the hospitals in your area, where anti snake venom drugs and doctors are available to undertake the treatment**.**

# 5. Managing Reproductive and Child Health Services in Emergencies

## Learning Objectives:

- To understand Minimum Initial Service Package during emergencies
- Importance of reproductive health care during emergencies
- Managing deliveries during emergencies

## Introduction:

Reproductive health care in emergencies is not a luxury, but a necessity that saves lives and reduces illness. Until recently, it has been a neglected area of relief work, despite the fact that poor reproductive health becomes a significant cause of death and disease especially in camp settings once emergency health needs have been met. The International Federation recognizes the importance of reproductive health in emergencies by stating, "Reproductive health in times of disaster is one of the most important technical areas to cover efficiently."

**Some facts:**

- 75% of most refugee populations are women and children including about 30% who are adolescents.
- 25% are in the reproductive stage of their lives, at 15-45 years old.
- 20% of women of reproductive age (15-45), including refugees and internally displaced, are pregnant.
- More than 200 million women who want to limit or space their pregnancies lack the means to do so effectively.
- In developing countries, women's risk of dying from pregnancy and childbirth is 1 in 48.
- Additionally, it estimated that every year more than 50 million women experience pregnancy-related complications, many of which result in long-term illness or disability.

## Minimum Initial Service Package:

The Minimum Initial Service Package (MISP)[1] for reproductive health is a coordinated set of priority activities designed to: prevent and manage the consequences of sexual violence; prevent excess neonatal and maternal morbidity and mortality; reduce HIV transmission; and plan for comprehensive reproductive health services in the early days and weeks of an emergency.

- Minimum refers to the basic, limited reproductive health needs that need to be addressed.
- Initial refers needs fulfilled in early phases of an emergency, without specific needs assessment
- Services to be delivered to those in need
- Package refers to the supplies i.e. Reproductive Health Kit and other activities such as coordination / planning which should be done as early as possible.

***MISP Objectives & Activities:***

1. ***Identify an organization(s) and individual(s) to facilitate the coordination and implementation of the MISP*** by:

1Women Commission for Refugee Women and Children: Minimum Initial Service Package for Reproductive Health in Crisis Situations, 2007

- ensuring the overall Reproductive Health Coordinator is in place and functioning under the health coordination team
- ensuring Reproductive Health focal points in camps and implementing agencies are in place
- making available material for implementing the MISP and ensuring its use

***2. Prevent sexual violence and provide appropriate assistance to survivors by:***

- ensuring systems are in place to protect displaced populations, particularly women and girls, from sexual violence
- ensuring medical services, including psychosocial support, are available for survivors of sexual violence

***3. Reduce the transmission of HIV by:***

- enforcing respect for universal precautions
- guaranteeing the availability of free condoms
- ***ensuring that blood for transfusion is safe***

***4. Prevent excess maternal and neonatal morbidity and mortality by:***

- providing clean delivery kits to all visibly pregnant women and birth attendants to promote clean home deliveries
- providing midwife delivery kits (UNICEF or equivalent) to facilitate clean and safe deliveries at the health facility
- initiating the establishment of a referral system to manage obstetric emergencies

***5. Plan for the provision of comprehensive reproductive health services, integrated into Primary Health* Care (PHC), as the situation permits by:**

- collecting basic background information identifying sites for future delivery of comprehensive RH services
- assessing staff and identifying training protocols
- identifying procurement channels and assessing monthly drug consumption

**Coordination of the MISP**

Coordination of MISP activities is necessary at multiple levels, including within each agency responding to the emergency as well as at the local/camp, district, regional, state, national and international level. It is to ensure that efforts are not duplicated, useful data and information are shared among humanitarian stakeholders in time and scarce resources are used efficiently. The qualified and experienced health staff coordinating for reproductive health from the local health authority side should be identified at the earliest. Emergency Reproductive Health professionals should be in their post for a minimum of six months, as it typically takes at least this amount of time to implement the MISP and take the transition to provide comprehensive reproductive health services. It is the coordinator role to monitor and evaluate the MISP activities. She/he should collect or estimate basic demographic and health information of the affected population.

**MISP Indicators:**

The following data should be collected and monitored every month as a minimum

***Indicators on safe motherhood:***

- Coverage of clean delivery kits
- Percentage as per types of obstetric complications treated at the primary health centre/camp level and referral level
- Percentage of maternal and neonatal deaths in health facilities

***Indicators on sexual violence:***

- Number of incidents of sexual violence anonymously reported to health and protection services and security officers
- Number of survivors of sexual violence who seek and receive health care (anonymous reporting is of utmost importance)

***Indicators on STI and HIV prevention:***

- Percentage of health facilities with sufficient supplies for universal precautions: disposable injection materials, gloves, protective clothing and safe disposal protocols for sharp objects
- Percentage of referral hospitals with sufficient HIV tests to screen blood and consistently using them
- Number of condom distributed in a specified time period.

**Prevention and responding to sexual violence**

The following key actions should be taken:

***I. To reduce the risk of sexual violence***

- Design and locate settlements for displaced populations, in consultation with the population and women in particular, to enhance physical security
- Locate latrines, hygiene and water points in accessible, secure places
- Provide latches to lock latrines and washing facilities
- Provide adequate lightening on paths used at night
- Provide security patrols
- Provide direct transport to firewood collection sites or patrol collection routes in close collaboration with displaced women and girls
- Ensure the inclusions of female workers in food distribution registration and other services
- Ensure the presence of female protection officers
- Discuss sexual violence issues during health coordination meetings
- Identify individuals or groups that may be at higher risk of sexual violence (e.g. Single female-headed households, unaccompanied minors etc.) and in consultation with these persons themselves, address their protection and assistance needs.
- Ensure confidential reporting system (so beneficiaries have the possibility of reporting suspicious and threatening behaviour before incidents occur).

***II. To respond appropriately to survivors***

- Ensure a standard medical response to sexual violence survivors, including the option of emergency contraception, preventive treatment of STIs, post-exposure prophylaxis for prevention of transmission of HIV, and tetanus and hepatitis B vaccination and wound care as appropriate.
- Ensure privacy and confidentiality of the survivors.
- Ensure the presence of same-sex, same-language health worker and, if the survivor wishes, a friend or family member, present for any medical examination.
- Ensure the physical safety of survivor immediately following an incident of sexual violence
- Ensure the displaced population is informed of the availability and location of services for sexual violence survivors
- Ensure the availability of appropriate, culturally appropriate psychological support.
- Ensure that locations where incidents of sexual violence have occurred are identified and documented and relevant preventive measures are established.

**Reduce transmission of HIV and STIs**

Women and adolescent girls are very vulnerable to sexual violence and hence to STI and HIV infection in the environment of poverty, insecurity, instability and powerlessness in the beginning phase of emergencies. It is necessary to do everything possible to contribute to the efforts to stop and reverse the increase of new infections.

**The following activities should be undertaken:**

***I. Enforce respect for universal precautions***

***II. Guarantee the availability of free condoms***

***III. Safe blood transfusion***

**Prevent excess maternal and neonatal mortality and morbidity**

***I. Antenatal and postnatal care***
***II. Counselling and orientation on danger signs***
***III. Clean delivery kits***
***IV. Establishing or maintaining referral system***
***V. Neonatal care***
***VI. Continuing postnatal care***

**Setting-up Comprehensive Reproductive Health Services**

# 6. Psychosocial Health in Emergencies (PFA)

## Learning Objectives:

- To identify people who require Psychological First Aid in Emergencies
- To know the basic steps of PFA
- Do's and don'ts while providing PFA

## Introduction:

**PFA involves –**

- providing practical care and support, which does not intrude;
- assessing needs and concerns;
- helping people to address basic needs (for example, food and water, information);
- listening to people, but not pressuring them to talk;
- comforting people and helping them to feel calm;
- helping people connect to information, services and social supports;
- Protecting people from further harm.

**It is also important to understand what PFA is not:**

- It is not something that only professionals can do.
- It is not "psychological debriefing" in that PFA does not necessarily involve a detailed discussion of the event that caused the distress.
- It is not asking someone to analyze what happened to them or to put time and events in order.
- Although PFA involves being available to listen to people's stories, it is not about pressuring people to tell you their feelings and reactions to an event.

## Who is PFA for?

PFA is for distressed people who have been recently exposed to a serious crisis event. You can provide help to both children and adults. However, not everyone who experiences a crisis event will need or want PFA. Does not force help on people who do not want it, but make yourself easily available to those who may want support.

**People who need more immediate advanced support:**

1. people with serious, life-threatening injuries who need emergency medical care
2. people who are so upset that they cannot care for themselves or their children
3. People who may hurt themselves
4. people who may hurt others

## When is PFA provided?

Although people may need access to help and support for a long time after an event, PFA is aimed at helping people who have been very recently affected by a crisis event. You can provide PFA when you first have contact with very distressed people. This is usually during or immediately after an event. However, it may sometimes be days or weeks after, depending on how long the event lasted and how severe it was.

## Where is PFA provided?

You can offer PFA wherever it is safe enough for you to do so. This is often in community settings, such as at the scene of an accident, or places where distressed people are served, such as health centers, shelters or camps, schools and distribution sites for food or other types of help. Ideally, try to provide PFA where you can have some privacy to talk with the person when appropriate. For people who have been exposed to certain types of crisis events, such as sexual violence, privacy is essential for confidentiality and to respect the person's dignity.

## Respect safety, dignity and rights:

When you take on the responsibility to help in situations where people have been affected by a distressing event, it is important to act in ways that respect the safety, dignity and rights of the people you are helping. The following principles apply to any person or agency involved in humanitarian response, including those who provide PFA:

**Respect people's…**

**Safety**

- Avoid putting people at further risk of harm as a result of your actions.
- Make sure, to the best of your ability, that the adults and children you help are safe and protect them from physical or psychological harm.

**Dignity**

- Treat people with respect and according to their cultural and social norms.

**Rights**

- Make sure people can access help fairly and without discrimination.
- Help people to claim their rights and access available support.
- Act only in the best interest of any person you encounter.

| Do's | Don'ts |
|---|---|
| Be honest and trustworthy | Don't exploit your relationship as a helper |
| Respect people's right to make their own decisions | Don't ask the person for any money or favour for helping them |
| Be aware of and set aside your own biases and prejudices | Don't make false promises or give false information |
| Make it clear to people that even if they refuse help now, they can still access help in the future | Don't exaggerate your skills |
| Respect privacy and keep the person's story confidential, if this is appropriate | Don't force help on people, and don't be intrusive or pushy |
| Behave appropriately by considering the person's culture, age and gender | Don't pressure people to tell you their story |
| | Don't share the person's story with others |
| | Don't judge the person for their actions or feelings |

## Providing PFA:

**Good Communication** – Being calm and showing understanding can help people in distress feel more safe and secure, understood, respected and cared for appropriately.

**Things to say and do** – Try to find a quiet place to talk, and minimize outside distractions.

- Respect privacy and keep the person's story confidential, if this is appropriate.
- Stay near the person but keep an appropriate distance depending on their age, gender and culture.
- Let them know you are listening; for example, nod your head or say "hmmmm…."
- Be patient and calm.
- Provide factual information, if you have it. Be honest about what you know and don't know. "I don't know, but I will try to find out about that for you."
- Give information in a way the person can understand – keep it simple.
- Acknowledge how they are feeling and any losses or important events they tell you about, such as loss of their home or death of a loved one. "I'm so sorry. I can imagine this is very sad for you."
- Acknowledge the person's strengths and how they have helped themselves.
- Allow for silence.

**Things NOT to say and do** –

- Don't pressure someone to tell their story.
- Don't interrupt or rush someone's story (for example, don't look at your watch or speak too rapidly).
- Don't touch the person if you're not sure it is appropriate to do so.

- Don't judge what they have or haven't done, or how they are feeling. Don't say: "You shouldn't feel that way," or "You should feel lucky you survived."
- Don't make up things you don't know.
- Don't use terms that are too technical.
- Don't tell them someone else's story.
- Don't talk about your own troubles.
- Don't give false promises or false reassurances. »» Don't think and act as if you must solve all the person's problems for them.
- Don't take away the person's strength and sense of being able to care for themselves.
- Don't talk about people in negative terms (for example, don't call them "crazy" or "mad").

## Action principles of PFA:

There are three action principles of PFA – look, listen and link

**a. Look**

- Check for safety.
- Check for people with obvious urgent basic needs.
- Check for people with serious distress reactions.

| Look | Questions | Important message |
|---|---|---|
| Safety | • What dangers can you see in the environment, such as active conflict, damaged roads, unstable buildings or flooding?<br>• Can you be there without likely harm to yourself or others? | If you are not certain about the safety of the crisis site, then do not go. Try to get help for people in need. If possible, communicate with people in distress from a safe distance. |
| People with obvious urgent basic needs | • Does anyone appear to be critically injured and in need of emergency medical help?<br>• Does anyone seem to need rescuing, such as people trapped or in immediate danger?<br>• Does anyone have obvious urgent basic needs, such as protection from the weather, torn clothing?<br>• Which people may need help in terms | Know your role and try to get help for people who need special assistance or who have obvious urgent basic needs. Refer critically injured people to medical personnel or others trained in physical first aid. |

| | | |
|---|---|---|
| | of accessing basic services and special attention to be protected from discrimination and violence?<br>• Who else is available around me to help? | |
| People with serious distress reactions | • Are there people who appear extremely upset, not able to move on their own, not responding to others, or in shock?<br>• Where and who are the most distressed people? | Consider who may benefit from PFA and how you can best help. |

People may react in various ways to a crisis. Some examples of distress responses to crisis are listed below:

- Physical symptoms (for example, shaking, headaches, feeling very tired, loss of appetite, aches and pains)
- Crying, sadness, depressed mood, grief
- Anxiety, fear
- Being "on guard" or "jumpy"
- Worry that something really bad is going to happen
- Insomnia, nightmares
- Irritability, anger
- Guilt, shame (for example, for having survived, or for not helping or saving others)
- Confused, emotionally numb, or feeling unreal or in a daze
- Appearing withdrawn or very still (not moving)
- Not responding to others, not speaking at all
- Disorientation (for example, not knowing their own name, where they are from, or what happened)
- Not being able to care for themselves or their children (for example, not eating or drinking, not able to make simple decisions)

Some people may only be mildly distressed or not distressed at all. Most people will recover well over time, especially if they can restore their basic needs and receive support such as help from those around them and/or PFA.

**b. Listen**

- Approach people who may need support.
- Ask about people's needs and concerns.

- Listen to people, and help them to feel calm.

Listening properly to people you are helping is essential to understand their situation and needs, to help them to feel calm, and to be able to offer appropriate help. Learn to listen with your:

- Eyes – Giving the person your undivided attention
- Ears – Truly hearing their concerns
- Heart – With caring and showing respect

**Steps:**

**Approach people who may need support:**

- Approach people respectfully and according to their culture.
- Introduce yourself by name and organization.
- Ask if you can provide help.
- If possible, find a safe and quiet place to talk.
- Help the person feel comfortable; for example, offer water if you can.
- Try to keep the person safe.
- Remove the person from immediate danger, if it is safe to do so.
- Try to protect the person from exposure to the media for their privacy and dignity.
- If the person is very distressed, try to make sure they are not alone.

**Ask about people's needs and concerns:**

- Although some needs may be obvious, such as a blanket or covering for someone whose clothing is torn, always ask what people need and what their concerns are.
- Find out what is most important to them at this moment, and help them work out what their priorities are.

**Listen to people and help them to feel calm:**

- Stay close to the person.
- Do not pressure the person to talk.
- Listen in case they want to talk about what happened.
- If they are very distressed, help them to feel calm and try to make sure they are not alone.

**c. Link**

- Help people address basic needs and access services.
- Help people cope with problems.
- Give information.

- Connect people with loved ones and social support.

Frequent needs:

- Basic needs, such as shelter, food, and water and sanitation.
- Health services for injuries or help with chronic (long-term) medical conditions.
- Understandable and correct information about the event, loved ones and available services.
- Being able to contact loved ones, friends and other social supports.
- Access to specific support related to one's culture or religion.
- Being consulted and involved in important decisions.

**Ending your help**

When and how you stop providing help will depend on the context of the crisis, your role and situation, and the needs of the people you are helping. Use your best judgment of the situation, the person's needs and your own needs. If appropriate, explain to the person that you are leaving, and if someone else will be helping them from that point on, try and introduce them to that person. If you have linked the person with other services, let them know what to expect and be sure they have the details to follow up. No matter what your experience has been with the person, you can say goodbye in a positive way by wishing them.

# 7. Basic Life Support

## Learning Objectives:

### Shock

Shock is a life threatening condition that develops when the body's blood pressure drops to very low levels. It can result from great pain, losing a lot of blood, severe illness, heart attacks, severe dehydration, severe burns, or severe allergic reaction. Shock should be treated on top priority. It may lead to death if not treated in time.

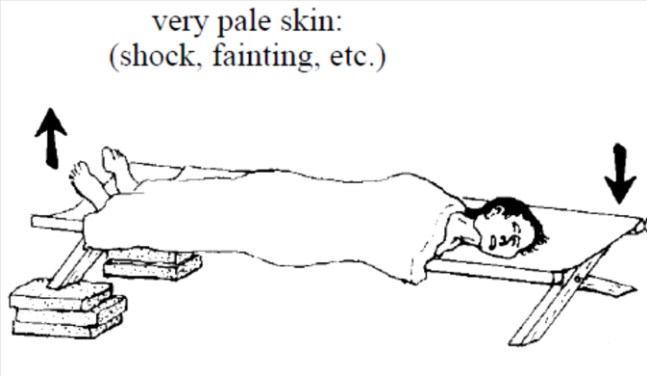
### Signs of Shock

- weakness after fainting especially on standing up
- sensation of vomiting
- blurry vision
- feels cold with clammy skin
- too much sweating even in cold weather
- severe thirst
- blood pressure drops very low
- restlessness, mental confusion, or loss of consciousness.
- weak rapid pulse (more than 100 per minute for an adult, more than 140 per
- minute for a child over 2 years old, and more than 190 per minute for a baby)

### What to do to prevent or treat shock

At the first sign of shock, or if there is risk of shock –

- ✓ Have the person lie down with his feet a little higher than his head, like this:



- ✓ **If the shock is due to a head injury , do not raise person's feet. Make him sit propped up (half sitting position against a pillow) (take illustration from pg 111 of WTND or pg -51 of PIPHC)**
- ✓ If the person feels cold, cover her with a blanket
- ✓ If she is conscious, give her warm water or other lukewarm drinks. But if shock is due to injury (accidents or injuries to chest or abdomen) then do not give anything to drink as she may need surgery or blood transfusion soon.
- ✓ If she is in pain then give her a paracetamol or other pain killers
- ✓ Keep calm, reassure the person
- ✓ If shock is due to allergic reaction , treat accordingly
- ✓ Loosen any belts or tight clothing the person may be wearing but do not remove clothing

**If the person is unconscious –**

- ✓ Lay the person on her side with her head low, tilted back and to one side. If there is choking, pull the tongue forward with your finger.
- ✓ If she has vomited, clear the mouth immediately. Be sure that the head is low, tilted back, and to one side (see above) so she does not breathe vomit into her lungs.
- ✓ If she has a neck or spine injury, do not tilt the head or move the back.
- ✓ Do not give her anything by mouth until she becomes conscious.
- ✓ If you or someone nearby knows how, give intravenous solution (normal saline) at a fast drip.
- ✓ Seek medical help fast.

**What to do when breathing stops**

Common causes for breathing to stop are –

- ➢ Something stuck in throat
- ➢ Tongue or thick mucus blocking the throat
- ➢ Drowning, choking on smoke or poisoning
- ➢ Strong blow to the head or chest
- ➢ Heart attack

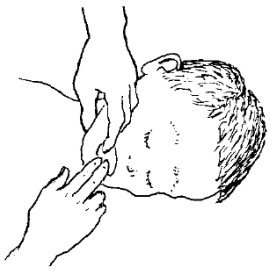
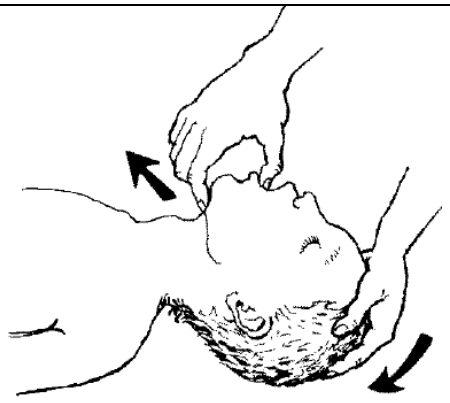
**A person who has stopped breathing has only 4 minutes… You must act fast by starting mouth to mouth breathing and also calling for help**

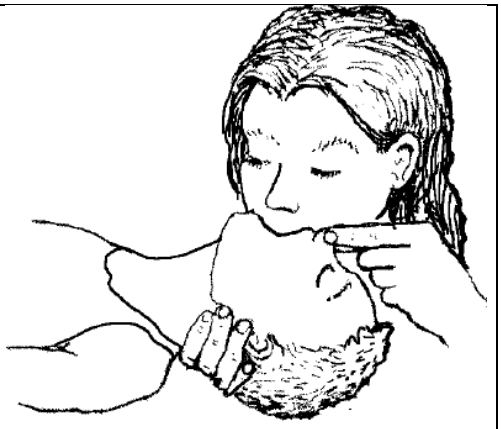
**In case of drowning –**
Start mouth to mouth breathing at once – if possible, even before the drowning person is out of the water as soon as it is shallow enough to stand.

Always start mouth to mouth breathing at once even before trying to get water out of the drowning person's chest

**When a person is having trouble with breathing-**

- Lips, nails and tongue of the person turns blue
- Pulse is slow and irregular
- Breathing is irregular and absent
- Person may lose consciousness

| **Mouth to Mouth Breathing** | | |
|---|---|---|
| **Step1** | Quickly remove anything stuck in mouth or throat. Pull the tongue forward. If there is mucus in the throat, quickly try to clear it. |  |
| **Step 2** | Lay the person face up, tilt his/ her head way back and pull his/ her jaw forward as shown in the picture  |  |

<table>
<tr>
<td>Step 3</td>
<td>Pinch and close his/ her nostrils with your fingers,<br><br>Open his/ her mouth wide<br><br>Cover his/ her mouth with yours<br><br>Blow strongly into his/ her lungs so that the chest of the person rises<br><br>Pause to let the air come back out and blow again<br><br>Repeat about 15 times per minute.<br><br>In case of newborn babies breathe very gently about 25times per Minute<br><br>If the chest of the person does not rises then you should look for any obstruction in the airway –<br><br>➢ Turn the person to the side and thump his/ her back, this will make the obstructing material come to the front of the throat. Open the mouth and remove it with your finger (covered with cloth)<br><br>➢ In case of a child, hold it up by feet and thump the back.</td>
<td>  </td>
</tr>
<tr>
<td colspan="3">Continue mount to mouth breathing until the person can breathe by himself/ herself or until there is no doubt that s/he is dead. You can try and keep it up for an hour.<br><br>You should call for an ambulance for help and shift the person to the nearby functional health institution or camp as soon as possible.</td>
</tr>
</table>

**Note:** If there is an open sore or bleeding in the mouth, or hepatitis or HIV and it is not possible to give mouth-to-mouth breathing, then CPR should be given.

### IV. Loss of Consciousness

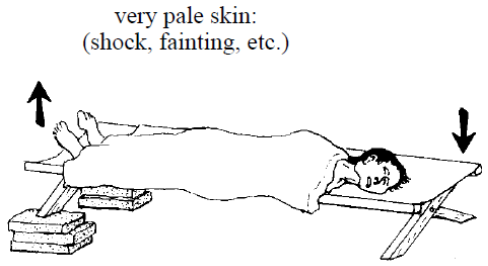
**Common causes of loss of consciousness are –**

- Fainting (from fright, weakness, low blood sugar, etc.)
- Heat stroke
- Stroke
- Heart attack

- Shock
- Seizures
- Poisoning
- Drunkenness
- A hit on the head (getting knocked out)

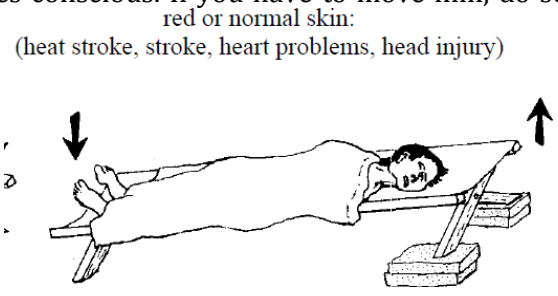
If a person is unconscious and you do not know why, **immediately check each of the following:**

1. Is he **breathing** well? If not, tilt his head way back and pull the jaw and tongue forward. If something is stuck in his throat, pull it out. If he is not breathing, use mouth-to-mouth breathing at once (as explained above)
2. Is he **losing a lot of blood?** If so, control the bleeding (as explained below)
3. Is he in shock (moist, pale skin; weak, rapid pulse)? If so, lay him with his head lower than his feet and loosen his clothing (as shown in the figure)
4. Could it be **heat stroke** (no sweat, high fever, hot, red skin)? If so, shade him from the sun, keep his head higher than his feet, and soak him with cold water (ice water if possible) and fan him. (as shown in the figure)




**If there is any chance that the unconscious person is badly injured:**

- It is best not to move him until he becomes conscious. If you have to move him, do so with great care, because if his neck or back is broken, any change of position may cause greater injury (as explained later).
- Look for wounds or broken bones, but move the person as little as possible. Do not bend his back or neck.




**Never give anything by mouth to a person who is unconscious**

**What to do –**

- ✓ Check responsiveness , shake the person
- ✓ Proceed to the A. B. C (Airway. Breathing and Circulation) assessment (box 1)
- ✓ If A. B. C is present and there is no spinal injury use recovery position (as explained below)
- ✓ If A.B. C not present perform CPR (Cardio Pulmonary Resuscitation)

**ABC**

A- **Airway –** Check whether the passage from the nose and throat to the lungs should be clear of any obstruction. Obstructions can be food or foreign body in case of conscious casualty and tongue or foreign body in case of unconsciousness.

B- **Breathing –** Check whether the person is breathing properly as a person can only survive for few minutes without oxygen. Give mouth to mouth breathing to the person if the breathing has stopped or is irregular (as explained above)

**C- Circulation –** Check for the pulse, breathing or any movement to assess the status of circulation i.e., pumping of blood by heart

- **Any person who does not have normal ABC needs immediate medical help.**
- **If the person is breathing normally then turn him / her to the recovery position**

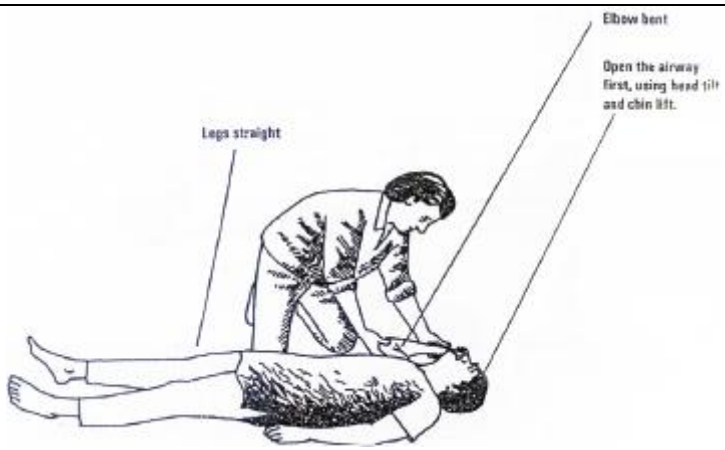
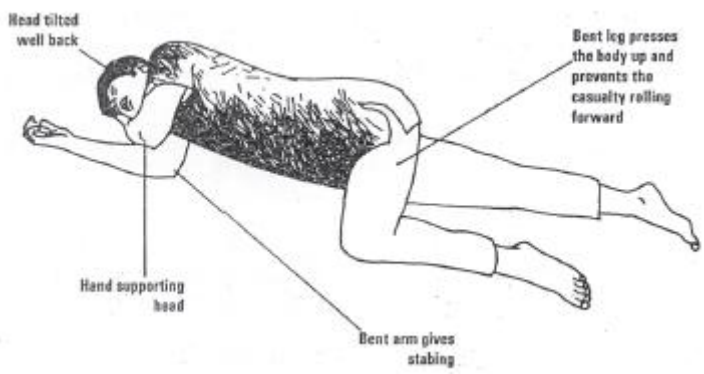
**The Recovery Position**

Any unconscious person should be placed in the recovery position as soon as possible. This position prevents the tongue from blocking the throat. Since the head is slightly lower than the rest of the body, it allows liquids to drain from the mouth, reducing the risk of inhaling the stomach contents.

The head and neck are kept in a straight line, while the bent limbs are kept in a straight line. The bent limbs keep the body propped in a secure and comfortable position. If you must leave the unconscious person unattended, s/he can safely be left in the recovery position while you get help.

The technique for turning shown below assumes that the person is lying on his/ her back from the start. Not all the steps will be necessary if the person is found lying on his/ her side or front.

Before turning the person, you should remove his/ her spectacles, if worn and any bulky objects from pockets.

| Recovery Position | | |
|---|---|---|
| **Step 1** | Kneel beside the person, open his/ her airway by tilting the head and lifting the chin.<br><br>Straighten his/her legs.<br><br>Place the arm nearest to you at right angles to his/ her body, elbow bent and move the hand palm to the upper side. |  |
| **Step 2** | Bring the arm furthest from you across the chest and hold the hand, palm outwards, against the person's cheek |  |
| **Step 3** | With your other hand, grasp the thigh furthest from you and pull the knee up, keeping the foot flat on ground |  |
| **Step 4** | Keeping his/ her hand pressed against his/ her cheek, pull at the thigh to roll the person towards and on to her side. |  |
| **Step 5** | Tilt the head back to make sure the airway remains open. Adjust the hand under then cheek if necessary so that the head stays in this tilted position | |

| | |
|---|---|
| **Step 6** | Adjust the upper leg, if necessary, so that both the hip and knee are bent at the right angles |
| **Step 7** | Arrange for transport to nearest functioning health institution or camp |

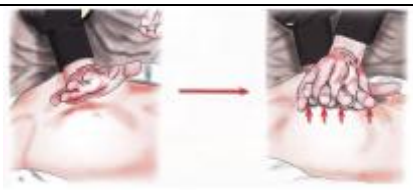
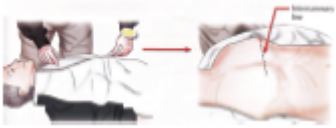
**Infant Recovery Position -**

- ✓ Cradle the infant in your arms, with the head tilted downwards to prevent the child from choking on its tongue or by inhaling vomit
- ✓ Maintain this position until you get medical help

**Modifying the recovery position**

Depending on the person's condition, you may have to modify the recovery position to avoid making injuries worse. For example, an unconscious person with spinal injury needs extra support at the head and neck during turning and in the final position, to keep the head and trunk aligned at all times. If limbs are injured and cannot be bent, use extra helpers or place rolled back blankets against the person's body to avoid toppling forward.

**If the person is not breathing normally then start CPR - Cardio Pulmonary Resuscitation as follows-**

| **CPR** | | |
|---|---|---|
| Step 1 | Kneel by the side of the victim |  |
| Step 2 | Place the heel of one hand in the centre of victim's chest |  |
| Step 3 | Place the heel of your other hand on top of the first hand. | |
| Step 4 | Interlock the fingers of your hands and ensure that pressure is not applied over the victim's ribs |  |

| | | |
|---|---|---|
| Step 5 | Position yourself vertically above the victim's chest and with your arms straight, press down on the sternum 4-5 cm |  |
| Step 6 | After each compression release all the pressure on the chest without losing contact between your hands and sternum | |
| Step 7 | Repeat at the rate of at least 100 times a minute (a little less than 2 compression a second) | |
| Step 8 | Compression and release should take equal amount of time | |
| Step 9 | After 30 compressions give mouth to mouth breathing to the victim after doing the head tilt chin lift manoeuvre |   |

**Combine chest compressions with rescue breaths** –

1. After 30 compressions give mouth to mouth breathing to the victim
2. Give a total of two rescue breaths and the return your hands without delay to the correct position on the sternum and give a further 30 chest compressions
3. Continue with chest compression and recue breaths in a ratio of 30:2
4. Stop to recheck the victim only if he starts breathing normally; otherwise do not interrupt resuscitation.

**Only CPR –**

1. If you are unable or not willing to give rescue breaths, give CPR only
2. If chest compressions only are given these should be continuous at the rate of 100 per minute
3. Stop to recheck the victim only if he starts breathing normally; otherwise do not interrupt resuscitation.

**CPR in Children -**

The adult sequence may also be used for children but following minor modifications in the sequence will make it more suitable for use in children.

1. Give initial rescue breaths before stating chest compressions
2. If you are on your own perform CPR for approximately one minute before going for help
3. Use one or two hands as needed for a child over one year to achieve adequate depth of compression

**CPR in infants –**

1. Open the Airway – open the airway using head tilt and lifting of chin. Do not tilt the head too far back
2. Give 2 gentle breaths – If the baby is not breathing give five small gentle breaths. Cover the nose of the baby. Each breath should be 1 second long and you should see the baby's chest rise with each breath
3. Give 15 compressions – Give 15 gentle compressions at the rate of 100 per minute. Use two fingers in the centre of the chest just below the nipples. Press down approximately one third the depth of the chest
4. Repeat with two breaths and 15 compressions
5. **Continue resuscitation until-**

- **Qualified health arrives**
- **Or the victim starts breathing normally**

**Choking**

A foreign object sticking at the back of the throat may either block the throat, or induce muscular spasm. In case of choking, there will be difficulty in speaking and breathing and there may be blueness of the skin. Person may point towards the throat or grasp the neck to indicate the problem.

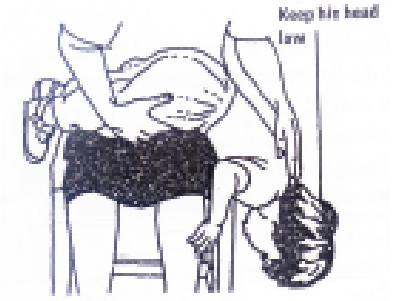
**Management**

**For adults –**

<table>
<tr><td>Step 1</td><td>Reassure the person</td><td></td></tr>
<tr><td>Step 2</td><td>Bend him/ her forwards so that the head is lower than the chest</td><td rowspan="3">  </td></tr>
<tr><td>Step 3</td><td>Encourage him/ her to cough if possible</td></tr>
<tr><td>Step 4</td><td>Give up to five sharp blows on the back between shoulder blades with the flat of your hands.</td></tr>
<tr><td colspan="3">If the back slap fails, then try abdominal thrusts.</td></tr>
<tr><td>Step 1</td><td>Stand behind the victim and put both arms round the upper part of his/her abdomen</td><td rowspan="3">  </td></tr>
<tr><td>Step 2</td><td>Lean the victim forward</td></tr>
<tr><td>Step 3</td><td>Clench your fist and place it between the umbilicus (navel) and the bottom end of sternum (breast bone)</td></tr>
</table>

| | | |
|---|---|---|
| Step 4 | Grasp this hand with your other hand and pull sharply inwards and upwards | |
| Step 5 | Repeat up to five times | |
| If the obstruction is still not relieved, continue alternating five back blows with five abdominal thrusts | | |

**For a child**

| | | |
|---|---|---|
| Step 1 | Place the child over your knee |  |
| Step 2 | Slap him on the back between shoulder blades using less force than for an adult | |
| Step 3 | If blows fail use abdominal thrust only if you have been trained separately to do so in a child otherwise begin resuscitation | |

**For a baby**

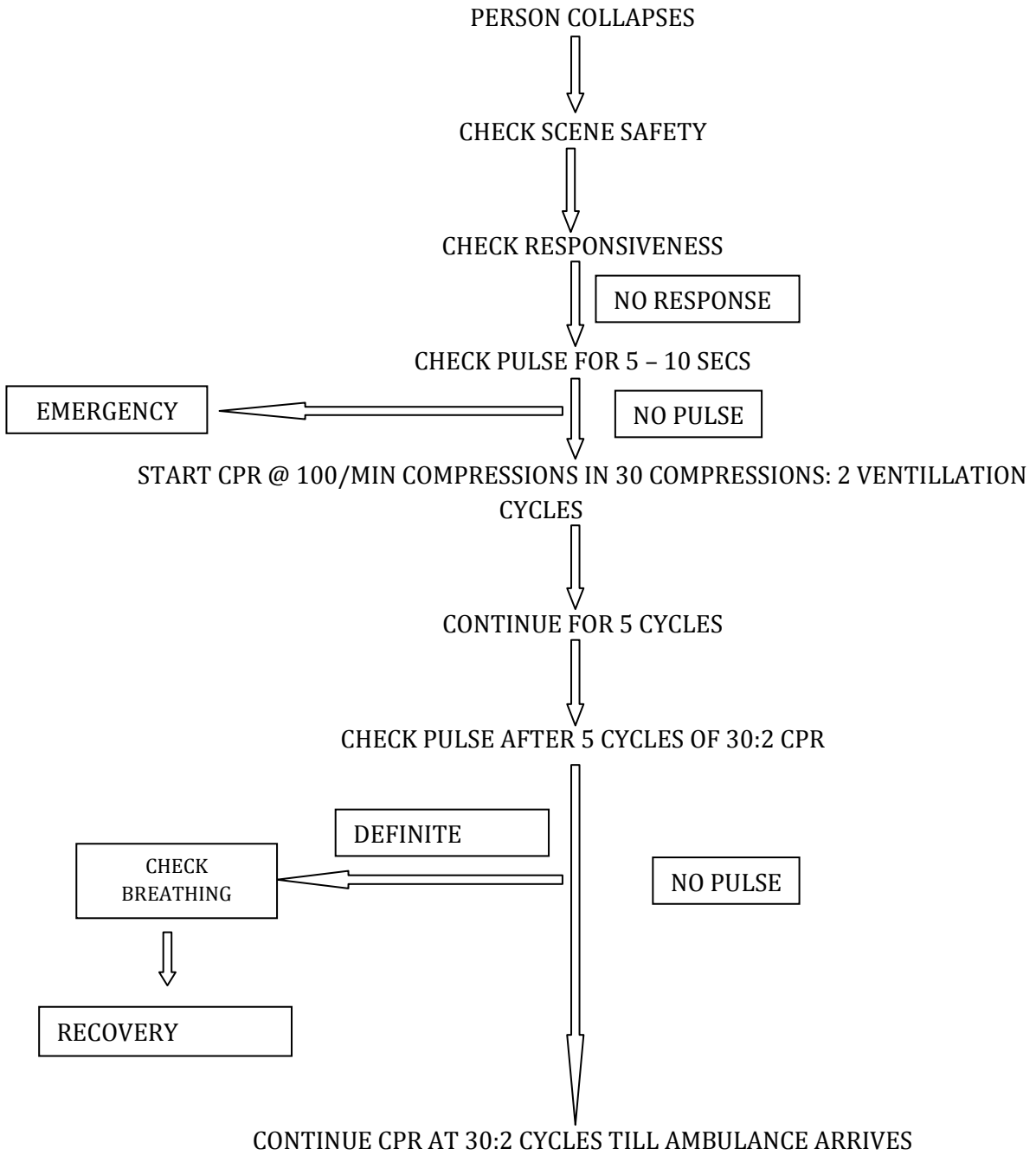
| | | |
|---|---|---|
| Step 1 | Lay the baby along your forearm |  |
| Step 2 | Slap him on the back between shoulder blades using less force than for a child | |
| | Do not use abdominal thrusts on a baby | |

**For a person who becomes unconscious**

| | | |
|---|---|---|
| Step 1 | Loss of consciousness may relive muscle spasm, so check first to see if the person can now breathe. |  |
| Step 2 | If not, then turn him/ her on side and give 4-5 blows between shoulder blades | |
| Step 3 | If back blow fails, kneel on the side of the person and perform abdominal thrusts | |
| Step 4 | Put the heel of one hand below the ribcage (between the navel and ribs) and cover it with other hand.<br><br>(For obese persons, pregnant women, persons in | |

| | | |
|---|---|---|
| | wheelchairs, or small children, place hands on the chest, not the belly.) | |
| Step 5 | Press sharply inwards and upwards up to five times | |
| Step 6 | If the person starts breathing normally, place him/ her in the recovery position and call for medical help. | |
| Step 7 | Check and record breathing rate every 10 minutes | |
| Step 8 | If the person does not start breathing normally, call for medical help urgently. | |

**Steps of BLS:**



## 8. Water Sanitation and Hygiene Promotion (WASH) in Emergencies

### Learning Objectives:

- To know its importance
- To know how it saves life
- To know how it reduces faecal-oral transmission of diseases

### Introduction:

#### What is Wash?

Water, Sanitation and Hygiene (WASH) plays significant role in preventing water related communicable diseases during normal course of development as well as during emergency. The WASH sector deals with safe water supply, safe sanitation services and safe hygiene behaviour. People's participation is the key for any successful WASH intervention and PRIs can play significant role in planning and implementing such interventions during normal course of development as well as during emergency.

The main objective of water supply and sanitation programmes are to reduce the transmission of faecal-oral diseases and exposure to disease-bearing vectors through the promotion of good hygiene practices, the provision of safe drinking water and the reduction of environmental health risks and by establishing the conditions that allow people to live with good health, dignity, comfort and security.

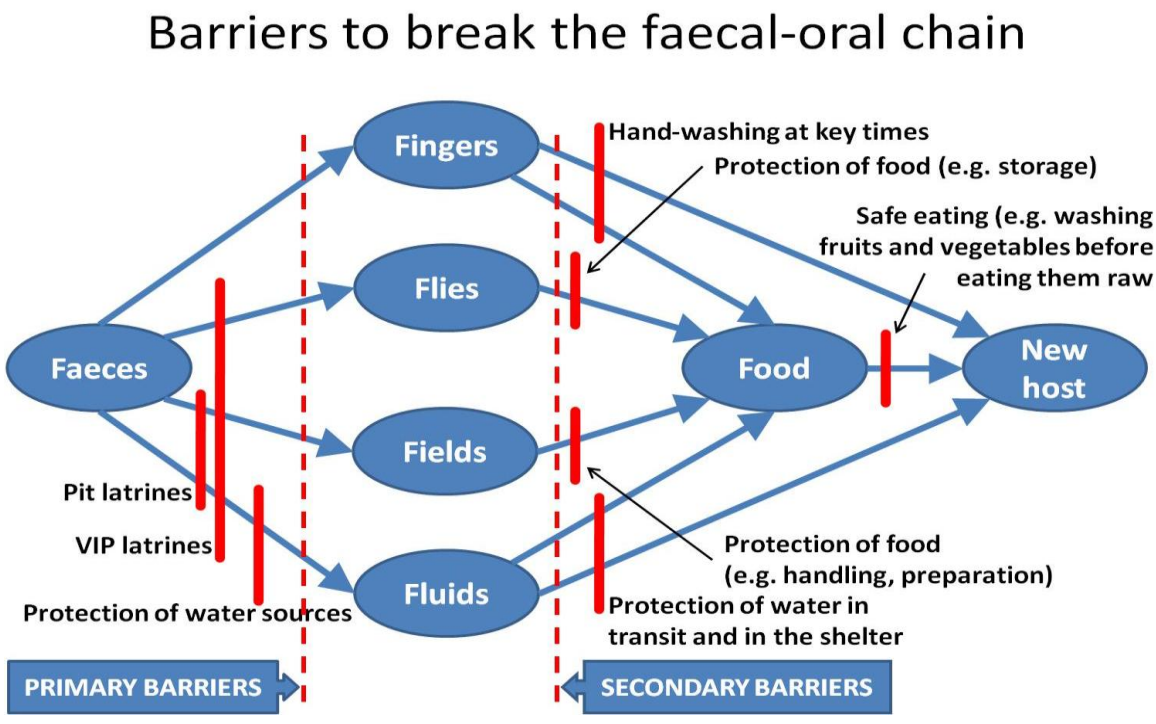
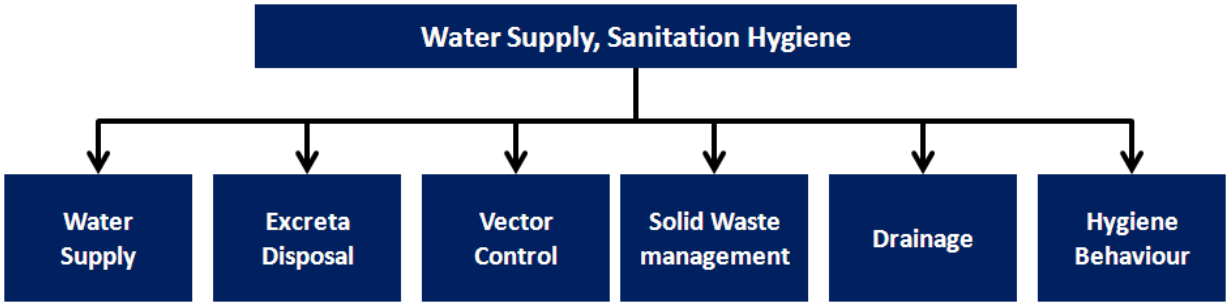



**Figure: WASH programme comprises of six elements as shown in the illustration**

**The Hygiene Improvement Framework**

A comprehensive approach to preventing diarrhoea must address the three key elements of any successful program to fight disease: access to the necessary hardware or technologies, promoting healthy behaviour, and support for long-term sustainability.




The Framework has three core components:

- Improving Access to Water and Sanitation "Hardware"
- Promoting Hygiene
- Strengthening the Enabling Environment.

These components are designed to encourage key household behaviors that reduce the incidence of childhood diarrhea, namely: safe disposal of feces, washing hands correctly at the right times, and storing and using safe water for drinking and cooking.

Three components of the Hygiene Improvement Framework are as follows:

**Increasing Access to Hardware**

The first part of the Framework, the "hardware" component, contains three elements:

• Water Supply Systems
• Improved Sanitation Facilities
• Household Technologies and Materials

**Promoting Hygiene**

The second part of the Framework consists of five basic strategies that can be applied alone or in combination depending on the nature of the program. The primary target audiences are caretakers of young children and children themselves:

• Communication
• Social mobilization
• Social marketing
• Community participation
• Advocacy.

**Strengthening the Enabling Environment**

Supporting the enabling environment typically takes the form of one or more of these activities:

• Policy improvement
• Institutional strengthening
• Community involvement
• Financing and cost-recovery activities
• Cross-sector and public-private partnerships

## Hygiene Promotion in Emergencies:

This fact sheet outlines some of the key activities in dealing with hygiene promotion in post-disaster emergencies.

**What is hygiene promotion?**

The goal of hygiene promotion is to help people understand and develop good hygiene practices to prevent disease and promote positive attitudes towards good health practices.

**Focus of hygiene promotion in emergencies**

The aim of carrying out hygiene promotion in emergencies is to:

- Lower high-risk hygiene behaviour
- Sensitize the target population to the appropriate use and maintenance of facilities.

**Hygiene promotion is not simply a matter of providing information. It is more a dialogue with communities about hygiene and related health problems, to encourage improved hygiene practices.**

Community meeting in carrying out hygiene promotion includes the following activities:

1. Evaluate current hygiene practices.
2. Plan what is needed to promote.
3. Implementation of plan.
4. Monitoring and evaluation of plan.

**Evaluate whether current hygiene practices are good and safe**

The main risks are likely to be:

1. Excreta disposal.
2. Use and maintenance of toilets.
3. Lack of hand washing with soap or alternative.
4. Unhygienic collection and storage of water.
5. Unhygienic preparation and storage of food.

**Planning which good hygiene practices to promote**

Target a small number of practices for each user group: sustained and repeated messages covering a small number of practices are likely to have greater impact than a large amount of

promotional messages centred on several practices. The key is to identify the most harmful practices in each user group and focussing on these. Implement a health promotion programme that meets community needs and is understandable by everyone.

**Implementation of plan**

**Target specific audiences-** Direct messages at groups responsible for carrying out the activity.

**Messages about diarrhoea in children should be directed at those involved in childcare-** It is desirable that all gender groups (women, men, children and those with disabilities), should receive equal attention.

**Identify motives for behavioural change-** It is important to identify and understand cultural norms and use this knowledge as a basis for articulating motives for change.

**Certain behaviours may be seen to confer status within the community and be adopted for this reason.**

**Hygiene messages need to be positive-** Hygiene messages should be presented in a positive light making use of humour wherever possible.

**Identify appropriate communication channels-** We need to know how different target audiences prefer to receive information and any cultural aspects to this.

**Monitor and evaluate the programme to see whether it is meeting targets-** There is a need to review hygiene promotion programmes regularly. Ideally, members of the community should be involved to ensure that issues important to them are covered. The review should evaluate members' feelings about the hygiene message and whether they need more information.

**Good practices that involve use and maintenance of water and sanitation facilities-**

The purpose of water and sanitation facilities is to enable hygiene improvement in order to reduce the public health risks. If these facilities are not properly used or maintained then hygiene improvement is not possible. Some of the good practices that can reduce the disaster risks are:

- Use of latrines
- Avoiding open defecation
- Safe fetching of water (without making hand contact with the inside of the containers)
- Fetching of water from protected water source
- Avoiding water from contaminated sources such as surface water like streams and ponds for the purpose of drinking
- Safe storage of drinking water; store in a container with a lid
- Use of ladle for drawing water and not dipping fingers and hands into the stored water
- Regular maintenance of water abstraction points and sources
- Avoiding use of water at the abstraction point or the source
- Proper drainage of waste water at the household level and community level
- Proper disposal of household and community level garbage and solid waste

**Good practices based on structural measures for DRR**

Structural measures for DRR need to be designed based on the local context and integrated with the development plan of the village. These measures can be in the form of new installation, repair of existing facilities and maintenance. Some examples:

- Fencing or protecting existing water sources
- Construction of concrete apron (platform) to protect the ground water
- Repairing the cracks in the platform
- Construction of drain at the water abstraction point (hand pump, water tap etc)
- Raising the hand pump corresponding to the high flood level
- Construction of raised latrines
- Construction of incinerators for safe disposal of menstrual cloth
- Installation of garbage bins at specific locations
- Construction of drainage to avoid flooding and also deter vectors like flies and mosquitoes

**Why test Water?**

Water is tested for the following reasons:

- For choosing water sources. Tests are done to see if the water can be drunk without treatment, or to determine what treatment methods are needed.
- For monitoring water quality once supplies are established; monitoring the quality of untreated water and monitoring the performance of the treatment system.
- For monitoring water quality at the point of consumption, to see whether it has become contaminated during collection and storage.

# 9. Personal and Safety Measures during Disasters

## Learning Objectives:

- Familiarisation with the various safety measures to be adopted during disasters.

## Earthquake:

- Move beds away from windows.
- Move or secure hanging objects over beds, couches, and other places where people sit or lie.
- Keep shoes and a flashlight under the bed. Keeping shoes under the bed ensures quick access to prevent cutting feet on glass and reduces the risk that glass could fall into them.
- Store heavy and breakable objects on low shelves. Weed killers, pesticides, and flammable products should be stored on bottom shelves or in closed cabinets with latches. Chemicals will be less likely to create hazards if they are stored in lower, confined locations.
- Secure bookshelves, water heaters, and tall furniture to wall studs. Install latches on all cabinets, and anchor overhead lighting fixtures. Secure items that might fall, such as televisions.
- Develop a home earthquake plan so that you know what to do during and after an earthquake.
- Conduct earthquake drills with your family or coworkers. Locate safe spots (e.g., under a sturdy table), and identify danger zones (e.g., near windows).
- Develop a plan for reuniting all family members after an earthquake occurs.
- Keep supplies on hand, including food and water for 3 days, a flashlight with extra batteries, a portable radio, a fire extinguisher, and tools.
- Drop, cover, and hold. Move only as far as necessary to reach a safe place. Most persons injured in earthquakes move more than 5 feet during the shaking.
- If indoors, stay there until the shaking stops. Many fatalities occur when people run outside, only to be killed by falling debris from collapsing walls. It is safer to stay indoors until the shaking stops and it is safe to exit. When going outdoors, move quickly away from the building to prevent injury from falling debris.
- If outdoors, find a spot away from buildings, trees, streetlights and power lines, and overpasses. Drop to the ground and stay there until the shaking stops. Injuries can occur from falling trees, street lights and power lines, or building debris.
- If in a vehicle, pull over at a clear location free of hazards and stop. Stay in the vehicle with seatbelt fastened until the shaking stops. Turn on the radio to get information regarding the quake and any damage to roadways that may have occurred.
- If in a high-rise building, expect the fire alarms and sprinklers to go off during an earthquake. Check for and extinguish small fires. Do not use the elevators.
- If in a coastal area, move to higher ground. Earthquakes often generate tsunamis.
- If in a mountainous area or near unstable slopes or cliffs, be alert for falling rocks and other debris that could be loosened by the earthquake. Also, watch for landslides that could be triggered by the earthquake.

## Flood:

- Know the flood risk in the area, including the elevation above flood stage and the history of flooding in the area.
- Prepare a flood evacuation plan and practice the route. Be aware of which roads become flooded and which remain passable. The entire family should know where to go if they have to evacuate.
- Keep important documents in a water-proof box. Most documents can be replaced, but some are more difficult to replace than others. Protecting them in a water- (and fire-) proof container is the safest plan of action.
- Elevate the furnace, water heater, and electric panel to at least one foot above the level of the floodplain (also called the Base Flood Elevation). In some areas, elevating these appliances and utilities may mean relocating them to a higher floor or even to the attic.
- Move furniture and other items to a higher level. Even if the main floor of the home is flood damaged, moving furniture and other items to a higher level will reduce flood losses.
- Avoid driving- Reserve the roads for those who are in emergency situation.

## Landslide:

- Be alert for signs indicating land movement. Landslides can occur weeks or months after intense storms
- Plant ground cover on slopes and build retaining walls.
- Try and get out of the path of the landslide or mudflow
- Run to the nearest high ground in a direction away from the path.
- If rocks and other debris are approaching, run for the nearest shelter such as a group of trees or a building.
- Listen to a radio or television for the latest emergency information.
- Stay away from the slide area. There may be danger of additional slides.

## Fire:

In the event of a fire, always, remember that time is precious and every second counts. Follow the following tips:-

- Stay calm, don't panic and don't run.
- Raise alarm and alert everyone in your premises.
- Escape first and then call for help.
- Use nearest available exit routes.
- While leaving the premises, close all doors and windows behind you if possible but must ensure that anybody is left behind and you are safe.
- Use only escapes routes because they are built for the purpose.
- Use Staircases. "Don't use Lifts'.
- If you come to a closed door, use the back of your hand to feel the top of the door, the doorknob and the cracks between the door and door frame to make sure that fire is not on the other side. If it feels hot, use your secondary escape route. Even if the door feels cool, open it carefully. Brace your shoulder against the door and open it slowly. If heat and smoke come in, slam the door and make sure it is surely closed, then use your alternate escape route.
- If you are trapped in smoke logged area, lie down and keep your nose close to floor and crawl towards an exit point.
- If you become trapped in your room closes the door and blocks any gaps which might let smoke or fumes through. Shout from the window to attract the attention of rescue team as well as others.

**What not to do:**

- Never stand up in a fire, always crawl low under the smoke and try to keep your mouth covered. Never return to a burning building for any reason; it may cost your life.
- Never go back into a burning building for any reason.
- Teach children not to hide from firefighters. If someone is missing, tell the firefighters. They are equipped to perform rescues safely.
- Don't secure open fire/smoke check door open as they limit the spread of fire smoke when in closed position.
- Don't be tempted to clutter the stairs, corridors and lobbies as they are your escape routes.
- Never use the lift. It you have to leave the building use the staircases.
- Do not stop to collect belongings.
- Don't shout or run. This tends to cause panic to others.

# 10. Management of Human Remains in Disasters

## Learning Objectives:

- Common myths associated with human remains
- Management of human remains during emergencies

## Introduction:

Management of the dead is one of the most difficult aspects of disaster response. It has profound and long-lasting consequences for survivors and communities. Globally, disasters claim thousands of lives each year. However, care of the deceased is often overlooked in disaster planning and the absence of guidance for first responders has recently been highlighted following several large disasters.

Immediately after a major disaster, identifying and disposing of human remains are often done by local communities. Forensic specialists may not be available or unable to rapidly access the affected area. There are simple steps that first responders can take to ensure the dead are treated in a dignified way and that can assist in their identification.

## Activities for effective management of human remains:

The following recommendations are a summary of the main activities that are required to make the management of human remains more effective.

The World Health Organization promotes the dissemination of these recommendations to all authorities, agencies and institutions involved in the management of human remains.

1. Define within the Emergency Operations Committee, the institution that will coordinate all processes related to the management of corpses.

2. Determine rapidly (within the first 24 hours) the magnitude of the event, the available resources, and the most urgent needs.

3. Have a single official spokesperson to provide information concerning the tasks of recovery, identification, and location of victims.

4. Notify family members of the death or disappearance of victims in a clear, orderly, and individualized manner.

5. Facilitate access to the bodies for the persons concerned, and provide all possible assistance in final disposition of the body.

6. Bury the corpses in a way that will allow later exhumation. The use of common graves or mass cremations should be avoided in all circumstances.

7. Ensure that there is a plan for the psychological and physical care for the relief workers. Handling a large number of corpses can have an enormous impact of the health of the working team.

8. Burial of bodies in common graves or the use of mass cremation is unnecessary and a violation of the human rights of the surviving family members.

9. Emphasize that, in general, the presence of exposed corpses poses no threat of epidemics. The corpse has a lower risk for contagion than an infected living person. The key to preventing disease is to improve sanitary conditions and to educate the public.

10. Avoid subjecting relief workers and the general population to mass vaccination campaigns against diseases that are supposedly transmitted by dead bodies.

11. Respect the cultural beliefs and religious norms of the affected populations; when the religious beliefs of the deceased are unknown, respect those of the community where the tragedy occurs.

12. The identification of a large number of corpses is a technical challenge that can be met regardless of the number of victims if the authorities act in accordance with specific procedures. Failure to follow these procedures can result in legal consequences in that survivors might present claims of material and moral damages.

## Myths and realities of management of dead bodies in disasters:

**Myth**: Disasters cause random deaths.
**Reality**: Disasters have the most serious effect on vulnerable (high-risk) geographical areas which is where the poorest populations generally settle.

**Myth**: The fastest way to dispose of dead bodies and to avoid the spread of disease is to bury them in mass graves or cremate them, a process that will relieve the population.
**Reality**: The population will be reassured and can better bear the pain from the loss of loved ones when they follow their beliefs and carry out religious rituals, and know that there is a possibility of identifying and recovering the bodies.

**Myth**: After a disaster, dead bodies always cause epidemics.
**Reality**: Dead bodies do not cause epidemics in cases of disasters.

**Myth**: It is better to restrict information concerning the magnitude of the tragedy.
**Reality**: Restrictions on information promote distrust in the population, resulting in inappropriate 57ehaviours and even violence.

**Myth**: It is impossible to identify large numbers of dead bodies after a tragedy.
**Reality**: There are always methods that allow the identification of bodies or body parts.

**Myth**: DNA technology for the identification of corpses is still not accessible for the majority of countries because of its high cost and the highly technical processes needed.
**Reality**: DNA profiling is rapidly becoming an identification tool that is accessible for all countries. Furthermore, in cases of major disasters, the majority of countries can provide support with economic and technological resources, among them, DNA technology.

## References and Suggested Readings: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