



FIRST-AID BOOKLET

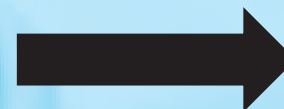
SPLINTING



BLEEDING
CONTROL BY
APPLYING
PRESSURE
WITH
DRESSING



CARDIO
PULMONARY
RESUSCITATION
(CPR)



INTERNATIONAL ROAD FEDERATION (INDIA CHAPTER)

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Amputation Management



Demonstration of Splinting



Heimlich maneuver



CPR Demonstration



Preface

This booklet is a compilation of key First Responder responses that a Bystander/Volunteer acting as a Good Samaritan can provide to a victim of a mishap, as a pre-hospital intervention. This would help in managing trauma and giving a chance to the victim a second chance at life.

This booklet is meant for awareness and educational purposes only and to be referred after undergoing proper training under the supervision of qualified trainers. Our effort has been to provide maximum information but this booklet has its own limitations. All the procedures shown in this book have been performed by trained professionals. All the interventions have been explained in simple, easy to understand manner with the help of photographs, Diagrams and Charts. A special reference has also been made to Good Samaritan Law and the Golden Hour concept to create awareness amongst the Bystanders thereby motivating them to assist as First Responders during emergencies.

Consistently striving towards improvement, we welcome your suggestions and feedback to further enhance this booklet. The efforts of the IRF India's Trauma Care Team in putting together this booklet are duly appreciated and acknowledged. The contents in this booklet have been created by Ms. Kiran, Mr. Hari Krishna Dubey and Mr. Sanjeev Prajapati. Compilations of photographs have been managed by Mr. Sahil Abbas, Mr. Vijay Singh, Mr. Vipin Sharma, Mr. Mohd. Shuaib, Mr. Mohd. Nazim, Mr. Mohd. Gulrej and Mr. Md Firoj, Mr. Sanjeev Prajapati and Ms. Kiran.

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1. ABOUT FIRST AID

First aid - First aid is the first and immediate assistance given to any person suffering from either a minor or serious illness or injury, with care provided to preserve life, prevent the condition from worsening, or to promote recovery.

Five steps of first aid:

1. **Make the area safe** (Traffic, Electricity cables, etc.)
2. **Check Response** (Tap the Shoulder)
3. **Call for help** (Ambulance/any person around you)
4. **Quick evaluation** (Airway, Breathing and Circulation)
5. **Provide first aid** (Provide appropriate and timely first Aid)

2. GOLDEN HOUR PERIOD

The golden hour period is the first “60 minutes” following any injury or trauma. Prompt medical attention during this period can save one’s life. This period is very critical as this window period will influence chances of survival in a trauma victim.

3. GOOD SAMARITAN LAW

If someone helps an unknown injured victim in an emergency situation on a voluntary basis, he/she is called a “**Good Samaritan**”.

According to the guidelines published by MoRTH (Ministry of Road Transport and Highways) in The Gazette of India vide (Notification No. 25035/101/2014-RS dated 12th May, 2015 as well as Section 134A in the Motor Vehicles (Amendment) Act, 2019, information relating to a “Good Samaritan” are as follows:

1. If someone, including an eyewitness, helps an unknown injured victim by taking him to the hospital, he may be allowed to immediately leave without asking any questions.
2. No civil or criminal liability shall be faced by him.
3. Even if he calls police or emergency services informing about an injured person lying on the road, he does not need to give his name or other details if he doesn’t want to. It is voluntary.

Further, in exercise of the powers conferred by Section 134A of the Motor Vehicles Act, 1988 (59 of 1988), the Government of India has made the following rules (Gazette vide notification GSR 584(E), dated 25th Sept, 2020) under Central Motor Vehicles Rules, 1989, namely:

Chapter (ix): Examination of Good Samaritan and Enquiry

Rule no 168: Rights of Good Samaritan

Rule no 169: Examination of Good Samaritan



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4. TRAUMATIC INJURIES MANAGEMENT

Physical injuries with a sudden onset and high degree of severity that demand urgent medical care are referred to as traumatic injuries. It includes road accidents, sports injuries, fall from height, natural disasters, and a wide range of other physical injuries that can happen at home, on the job, on the road, etc. and need urgent medical attention.

(i) Bleeding Control

There are three quick bleeding control techniques that can help in saving the life of a victim.

1. Apply direct pressure with stack of gauze piece or multifold clean clothes
2. Apply gauze piece or clean cloth and cover with compression bandage
3. Apply Splint to the bleeding extremities
4. Place a tourniquet (only use this as a last option)



Apply direct pressure with gauze



Apply gauze piece and cover with compression bandage



Apply Splint to the bleeding Extremities



Apply Tourniquet

(ii) C-Spine Protection – (SMR)

A Cervical collar is used to support and protect the neck and spinal cord of the victim because after an accident, the chance of injury to the neck is high, if we do not support the neck. This will increase the severity of the injury and the victim may suffer paralysis or even death. If a Cervical Collar is not available, we can **use Bottles, Newspapers, Shoes, etc., to immobilize the neck.**



Applying Cervical Collar



Applying bottles for Cervical support



Alternative of Cervical Collar



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(iii) Log Roll Technique – (SMR)

The Log roll, also known as Logrolling, is a technique for moving a patient without bending the spinal column. In this technique, we require a team of 4 rescuers. The First person immobilizes the neck and will give the commands to the other two persons and the fourth person will place the spine board and roll the victim on to the Spine board carefully.

Rescuers get into this position to roll the patient



Roll the patient and place the spine board



Center the patient on the spine board and secure the patient before moving





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(vi) Lifting Techniques:

While lifting the patient, it is important to take precaution as it can affect the spine of the rescuer. Here is some guidelines to lift a patient.



Performing the Power Lift And Body Mechanics



Wrong: Back Bent & Reaching

Shoulder girdle should be aligned over the pelvis.

- Feet shoulder-width apart
- Keep backs straight.
- Lift with legs.
- Keep weight close to the body.

• **Do not twist**

• **Grasp should be made with palms up.**

Tighten your back in normal upright position.

• **Spread your legs apart about 5".**

• **Grasp with arms extended down side of body.**

• **Adjust your orientation and position.**

Reposition feet.

◆ **Lift by straightening legs.**



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(iv) Helmet Removal Technique – (SMR)

To completely remove the helmet from under the patient's head, first person must open the wind shield and second person remove/cut the strap and provide Manual In-Line Stabilization (MILS) by placing their hands on either side as thumb fingers should be in front of the face and remaining fingers at the back of the neck while first person carefully slides the helmet backward and out from the patient's head.

Step1: First person will open the Face Shield and Second person will open or cut the strap.



Step2: Second person will hold the neck of the victim, thumb fingers should be in front of the face and remaining fingers at the back of the neck. (as shown in figure) →



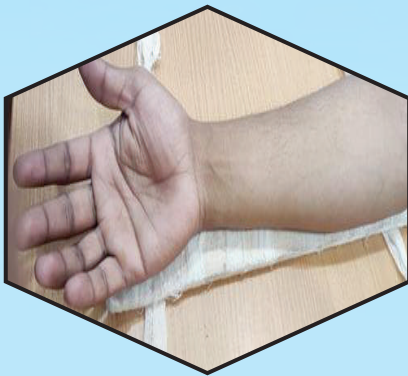
Step3: First person will remove the helmet carefully.



(v) Splinting

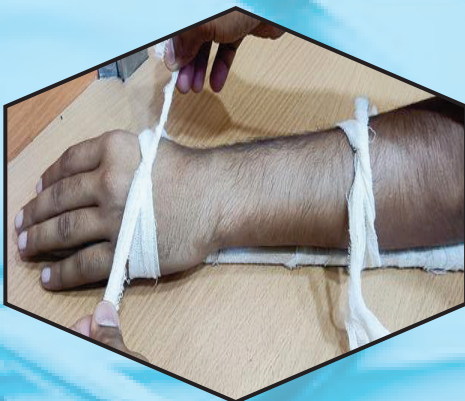
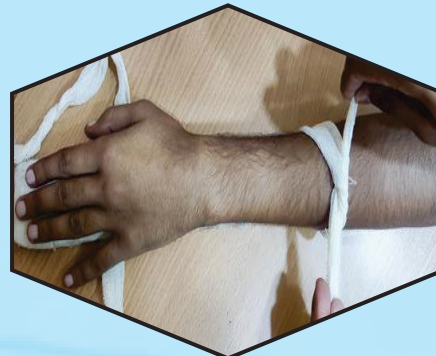
In case of fracture and bleeding, splinting can be done to reduce pain and further injuries. When any medical equipment is unavailable, alternatives like **Newspapers**, **Smooth wooden sticks**, **Umbrella** and any other hard objects can be used as support.

Note: Please avoid sharp and dangerous objects as they can cause injury.



Step1: Always use a splint which covers one joint below and one above of the fractured site.

Step2: While splinting, the fractured part should be stabilised.



Step3: Tie the splint with rope or any cloth from one joint above and one joint below. It should be ensured that splint is not tied very tight.

Step4: One more tie can be done to support the splint further.

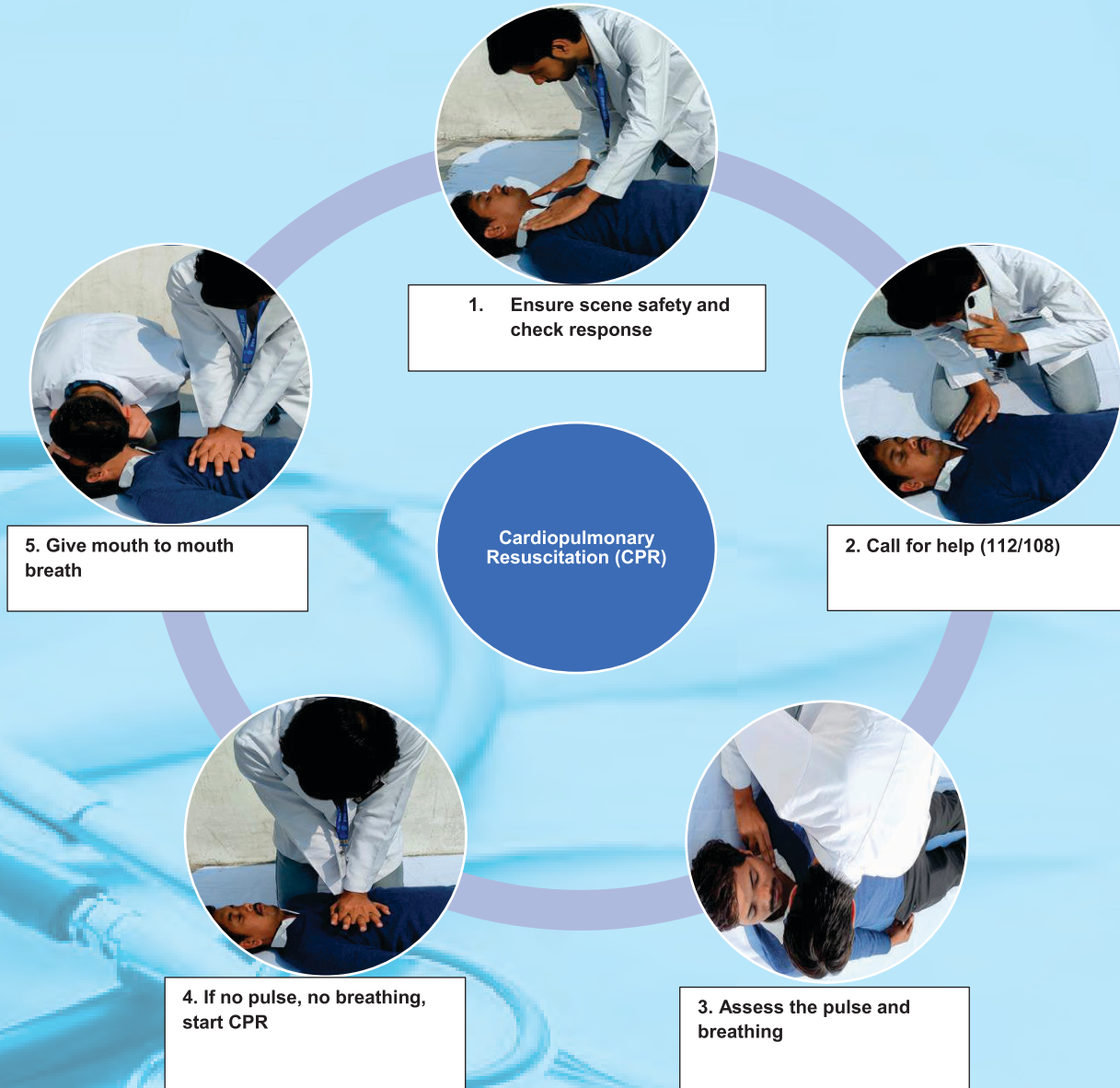




5. BASIC LIFE SUPPORT (BLS)

(vi) Cardiopulmonary Resuscitation (CPR)

CPR stands for **Cardiopulmonary Resuscitation**. It is an emergency life-saving procedure which is done when someone's heartbeat and breathing has stopped. This condition is called Cardiac arrest. This may happen after a medical emergency, such as an electric shock, heart attack, or drowning. CPR consists of 2 techniques - 30 chest compressions and 2 rescue breathe. We will continue with CPR until help arrives or the first responder exhausts or the patient revives. In a minute 100-120 compressions should be done.



6. OTHER MEDICAL EMERGENCIES

Those acute injuries or illnesses that require an immediate attention or may otherwise cause high risk to a person's life or long-term health. It includes Choking, Seizure, Burns, Dog Bite, Snake Bite, Drowning and Nose Bleeding.

(vii) Choking In Adults

Heimlich Maneuver technique is used only when a person is choking due to something blocking the airway. Choking is when any foreign body obstructs the airway and the person is unable to speak, cough, or breathe.

HEIMLICH MANEUVER



Universal sign of choking



Lean the person forward and stand behind him or her.



Make a fist with hands and put your arms around the person



Place the thumb side of the fist- three finger below the end of the chest bone (Sternum) Make quick, hard movement inward and upward

FIVE AND FIVE TECHNIQUE

GIVE FIVE BACK BLOWS



GIVE FIVE ABDOMINAL THRUSTS





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(viii) Seizure/Convulsion

Seizure/Convulsion is a common Neurological Disorder and anyone can develop it at any age. It can cause changes in behaviour, movements, feelings and level of consciousness.

During episodes of Seizure/Convulsion, as a First responder please keep in mind the following Do's and Dont's.

DO'S

- Loosen tight clothing
- Cushion the person's head with pillow
- Stay with the person until the seizure ends naturally and he/she is fully awake
- Remove all sharp objects near the person
- When seizure ends naturally, turn the person on to his/her left side (RECOVERY POSITION)
- Shift the victim to the hospital

DONT'S

- Don't try to stop his/her body movements.
- Don't try to put any object in his/her mouth (spoon, finger, etc.)
- Don't try to smell socks, shoes or any clothes.
- Don't try to give water to the person in between seizure.

RECOVERY POSITION (Left Lateral Position)





(ix) **Burns:** Burns are injuries to the skin caused by **heat, chemicals, electricity, radiation or ice**. Here's what to do if someone gets burned:

Immediate First Aid Steps:

1. Stop the Burning Process:

For **Heat Burns** (like fire or hot objects):

- Immediately move the person away from the source of heat.
- Cool the burn by running cool (not cold) water over the area for at least 10 minutes. If running water isn't available, use a cool, wet cloth.

For **Chemical Burns:**

- Rinse the burned area with plenty of cool water for at least 20 minutes to wash away the chemical.
- Remove any contaminated clothing carefully, but don't touch the burn area directly with your hands.

For **Electrical Burns:**

- Make sure the person is no longer in contact with the electrical source (if safe to do so).
- Call for medical help right away.

2. Cover the Burn: Cover the burn with a clean, non-stick bandage or cloth to protect it from infection.

Avoid using anything sticky, like cotton or band-aids, as they can stick to the burn.

3. Seek Medical Help:

- a. Call for emergency help if the burn is large, the person is having trouble breathing, or if the burn looks very serious (like deep or charred skin).
- b. Always seek medical help for burns on the face, hands, feet, or private areas.

Do's	Dont's
<ul style="list-style-type: none"><input type="checkbox"/> Do remove the person from the heat source right away to stop the burning.<input type="checkbox"/> Do cool the burn with running water for at least 15 minutes as quickly as possible.<input type="checkbox"/> Do cover the burn with a clean, non-stick cloth or bandage to protect it.<input type="checkbox"/> Do seek medical help if the burn is large, deep, or in sensitive areas like the face, hands, or feet.	<ul style="list-style-type: none">• Don't put ice on the burn – it can damage the skin more.• Don't break blisters if they form – they protect the skin underneath.• Don't apply butter, oils, or ointments – these can make the burn worse.• Don't remove burned clothing if it's stuck to the skin.



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(x) Snake bite

In Indian context, more than 270 snake species are present out of which around 60 species are venomous. In case of a bite by a venomous snake, it can become life threatening. India reported approximately 50,000 deaths every year by snake bite. As a first responder, please follow some Do's and Don't's as under:

Do's

- Always wash the wound with clean and running water.
- Stay calm and reassure the victim.
- Take off anything constricting the area, such as a ring or watch and immobilise the bite area.
- Try to remember the snake's colour and pattern or take picture if possible.
- Stabilize the affected area and go to the hospital for vaccination as quickly as possible.

Dont's

- Do not apply tourniquet.
- Do not apply ice; it can damage local tissues.
- Do not cut the affected area.
- Do not attempt to suck the venom out of the affected area.
- Do not apply any herbal paste or Turmeric.
- Do not take the victim to the snake charmer.

(xi) Dog Bite

In India, out of all the animal bites, 95% of the bites are due to dogs. Dog bites are the major cause of Rabies deaths. In India, approximately 20,000 people die every year due to Rabies.



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DO'S

- Rinse the wound with soap and water for 10-20 minutes
- Cover the wound with dressing pad or any clean cloth
- In case of heavy bleeding, apply direct pressure with clean cloth
- Go to the hospital as soon as possible and take anti - rabies vaccine shot as prescribed.

DONT'S

- Do not apply any herbal paste
- Do not apply red chilly powder on the wound
- Do not apply turmeric powder
- Do not apply curd on the wound
- Do not apply ghee on wound

(xii) Drowning

Drowning is a type of suffocation induced by the submersion of the mouth and nose in water. It is more likely to happen to those spending extended periods of time near large bodies of water (River, Sea, Pond, etc.).

First aid for Drowned victim is as under:

1. Remove the victim from the water as quickly and safely as you can. If you are perfect in swimming, then only should you go to take out the victim from the water, otherwise call for help.
2. Don't try to remove water from the abdomen of the victim.
3. If you do not suspect spinal injury, place the victim on the left side so that water, vomitus and secretions can drain from the upper airway.
4. Assess for breathing and pulse.
5. If there is no breathing, establish an airway as rapidly as you can and ventilations.
6. If there is no breathing and pulse, begin chest compressions and perform CPR. Continue resuscitation until Emergency personnel arrive.



(xiii) Nose Bleeding

The two most common causes of nose bleeding are:

1. The First cause is Dry Air, when the nasal members dry out thereby becoming vulnerable to bleeding and infection.
2. The Second cause is Nose picking.

HOW TO MANAGE NOSE BLEEDING?

- ❖ One should not panic and should make the patient sit in upright position with his head slightly forward.
- ❖ With the thumb and the index finger, one should apply pressure on the soft part of the nostrils below the nose bridge.
- ❖ Ask the patient to breathe through the mouth while nostrils are pinched.
- ❖ Continue applying pressure until the bleeding stops.
- ❖ Loosen the tight clothing around neck.
- ❖ After 10 minutes, release the pressure on the nostrils and check to see bleeding has stopped or not.
- ❖ If bleeding persists, seek medical aid.





7. FREQUENTLY ASKED QUESTIONS

Q1 Is the compressions rate the same for adults and children during CPR?

A According to the AHA guidelines, the compression to ventilation ratio for children is 30:2, which is the same for adults. If there are two rescuers, the compression to ventilation ratio will be 15:2.

Q2 What will we do if a patient is responsive but suffering from chest pain?

A Don't ignore the symptoms as this could be a heart attack. Immediately call for help and transfer the patient to the Hospital. Additionally, you can rub the surface of the palm of the victim to maintain blood circulation.

Q3 Is it okay to apply chilly powder/paste on dog bite?

A No, chilly and other spices should need not be applied on dog bite wound which otherwise they will cause more injury and infection. By washing the wound immediately with soap and clean water, the risk of rabies infection which can be greatly reduced.

Q4 Why do ribs fracture after CPR?

A Rib fracture is the most common CPR- related injury because the force and deeper chest compressions are likely to break the ribs. It can recover on their own after some time. At the time of the CPR, the primary objective is to save the life of the victim.

Q5 If someone has a penetrating injury at the time of an accident, should the penetrating object be taken out or left as it is?

A No, the penetrating object should not be pulled out. It can aggravate the injury.

Q6 What should be done to prevent tongue bite during seizures?

A To prevent tongue biting during seizures, the Patient should be kept in the Recovery Position which involves rolling the patient onto their side in order to protect the airway.

Q7 Can we use water in electric burn?

Ans- No, water can further damage the skin and other tissues of the victim.

Q8 Do we have to puncture the blisters caused by burn?

A No, we do not have to puncture the blisters because popping the blister could lead to infection and worsen the burn area further.

Q9 Can we give water to an accident victim?

A No, we should not give water to any trauma victim because the airway of the victim could be compromised.

Q10 Why should the wound be not cut after a snake bite?

A Cutting of the wound could damage the blood vessels and tissues and may lead to infections. A poisonous bite requires antivenom and immediate medical intervention.



SOME IMPORTANT MEDICAL TERMINOLOGIES

- 1. Burn** - An injury that gives a feeling of discomfort caused by exposure to heat, flame, chemical agents, radiation, or electricity.
- 2. Cardiopulmonary** - A medical term referring to or relating to the heart and the lungs.
- 3. Choking** - It is the inability to breathe because the trachea is blocked, constricted, or obstructed. This is caused also by lack of air. It is a common cause of an accident to young children that may lead to death.
- 4. C-Spine** - The Cervical spine is the medical term for the neck bones.
- 5. Drowning** - Drowning is a type of suffocation induced by the submersion of the mouth and nose in a liquid.
- 6. Emergency** - A serious or dangerous situation that requires immediate or urgent action to avoid worsening of the scenario. A situation is considered to be an emergency if it poses an immediate threat to life, property, health or the environment.
- 7. Fracture** - A medical term for a broken bone. Bone fractures usually require immediate hospital care.
- 8. Golden Hour** - The term "golden hour" is commonly used to characterize the urgent need for the care of trauma patients. This term implies that morbidity and mortality are affected if care is not instituted within the first hour after injury
- 9. Heart attack** - Occurs when the flow of oxygen-carrying blood to the heart is blocked often due to fat build-up, cholesterol or other substances.
- 10. Injury** - A term that refers to harm or damage to the body due to accidents, falls, hits or weapons.
- 11. Log roll Technique - Log roll** or logrolling is a maneuver used to move a patient without flexing the spinal column.
- 12. SMR** - Spinal motion restriction (SMR) is stabilization of the head, neck, torso, and pelvis of injury or trauma victims so that the spinal cord is protected from movement of potentially fractured or unstable boney elements of the spine Spinal motion restriction (SMR) is stabilization of the head, neck, torso, and pelvis of injury or trauma victims so that the spinal cord is protected from movement of potentially fractured or unstable boney elements of the spine.
- 13. Splinting** - Splinting means to support and immobilize (as a broken bone) with a splint.
- 14. Tourniquet**:-A device, such as a strip of cloth or a band of rubber, that is wrapped tightly around a leg or an arm to prevent the flow of blood to the leg or the arm for a period of time. A tourniquet may be used when drawing blood or to stop bleeding after an injury.
- 15. Ventilation**: The movement of air between the environment and the lungs via inhalation and exhalation.

Some Important Helpline Numbers:

- NATIONAL EMERGENCY NUMBER: **112**
- POLICE: **100**
- DISASTER MANAGEMENT SERVICES: **108**
- FIRE : **101**



C-Spine Protection



Demonstration of Log-rolling



Demonstration of Splinting



Demonstration of Bleeding Control



Demonstration of Helmet Removal



INDIA CHAPTER

ABOUT INTERNATIONAL ROAD FEDERATION INDIA CHAPTER (IRF-IC)

IRF has been active in India since 2005 through IRF Geneva and was formally registered under the Societies Registration Act 1860 of India in 2011. In year 2011, the International Road Federation (IRF), Geneva Switzerland set up a dedicated India Chapter known as IRF-IC as a membership-based organization, representing leading corporates, Government entities and institutional players drawn from the road and mobility sectors. IRF-ICs mission is to promote safe and sustainable development of roads and road networks that enables access and sustainable mobility for all. Its approach is centered around the 5Es of Road Safety, namely, Engineering of Roads, Engineering of Vehicles and policy Intervention, Education and Emergency Care.

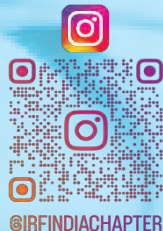
Mr. Kiran K. Kapila, President of IRF Geneva for 9 years and presently its President (Emeritus), has made immense contribution in shaping IRF India and its activities in the road safety domain. His passion for road safety is driving IRF India to relentlessly and consistently carry out various road safety programmes.

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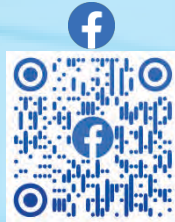
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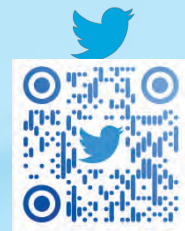
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