

# NATIONAL DISASTER RESPONSE FORCE



# MFR

## PARTICIPANT'S WORK BOOK

**Foreword**  
**Director General, NDRF**



It is a matter of great pride and honour that the National Disaster Response Force (NDRF) has developed a comprehensive and meticulously crafted Medical First Responder (MFR) participant workbook, tailored specifically to the respective BFRC modules. This workbook has been designed to enhance the understanding of key lessons outlined in the syllabus. I am confident that this initiative will significantly contribute to the standardization of course content and streamline training across all NDRF units and the NDRF Academy.

Over the years, NDRF has demonstrated its commitment to excellence by training its rescuers at Battalion Headquarters and the NDRF Academy in Nagpur. Our training journey, initiated with support from ADPC & NSET- PEER (Program for Enhancement of Emergency Response), has evolved considerably, incorporating significant modifications to meet emerging needs. With the passage of time and the evolution of disaster management practices, there arose a pressing need for a thorough review and harmonization of our training curriculum.

Following a comprehensive Training Needs Analysis (TNA), it became evident that the content and delivery of training required uniformity. This MFR workbook, meticulously developed with inputs from the PEER participants workbook, authoritative reference materials, and reliable online sources, is a major step in this direction.

I extend my sincere appreciation to the Board of Officers, under the leadership of Shri Pranshu Srivastava, 2IC (Training), NDRF HQ, for their dedication and hard work in preparing this invaluable resource. I am confident that this workbook will serve as a vital tool for equipping our rescuers with the knowledge and skills needed for effective and efficient disaster response, fulfilling our goal of providing a standard reference for training.

**(PIYUSH ANAND, IPS)**  
**Director General, NDRF**

**Foreword**  
**Inspector General, NDRF**



The National Disaster Response Force has firmly established itself as a cornerstone of disaster management in the country. From its inception to becoming synonymous with disaster response, this remarkable journey has been shaped by relentless dedication and adaptability.

The transition from a combat-oriented foundation to an inherently humanitarian mission required a profound transformation in training. Early efforts in the 2000s laid the groundwork for developing modules with assistance from national and international experts. While these efforts were instrumental in shaping NDRF's capabilities, the dynamic nature of disaster management demanded a fresh evaluation of training methodologies and materials.

Recognizing this, a Training Needs Analysis (TNA) was conducted, leading to the introduction of updated training protocols. The compilation of the MFR participant workbook is a testament to this continuous improvement. It represents the culmination of extensive effort, ensuring uniformity and excellence in MFR training across all units and the NDRF Academy.

I commend the officers and instructors from NDRF HQ and NDRF Academy, who were part of the Board of Officers, for their tireless work in preparing this critical resource. Their dedication has been instrumental in achieving the vision of standardized training. I am confident that this initiative will further enhance the competence and preparedness of our responders.

**(NARENDRA SINGH BUNDELA, IPS)**  
**Inspector General, NDRF**

## Foreword

**Deputy Inspector General, NDRF**



It is with great satisfaction that I acknowledge the collaborative efforts of our instructors from the Academy and HQ NDRF in creating the Medical First Responder (MFR) participant workbook. This endeavour reflects the collective knowledge and expertise of our personnel, demonstrating their unwavering commitment to excellence in training.

I extend my heartfelt gratitude to **the team members**, whose extensive experience with the PEER-India project and his active involvement in the Technical Curriculum Review Group (TCRG) of ADPC-PEER were instrumental in shaping the content. His insights and dedication were pivotal in aligning the workbook with NDRF's unique requirements.

The MFR workbook is more than a training document; it is a foundational resource designed to enhance learning and skill acquisition. It aims to equip responders with the requisite knowledge to effectively manage disaster scenarios, ensuring uniformity in training across BFRC modules.

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

**(B.B. VAID)**  
**Deputy Inspector General, NDRF**



## **BOO/TEAM CONTRIBUTION**

This book has been prepared by the dedicated efforts of well experienced and knowledgeable team members which comprising, **Shri Pranshu Srivastava, Second-In-Command, NDRF HQ, Shri Vimal Bounthiyal, Second-In-Command, NDRF Academy, and Insp Jograj Sharma, NDRF Academy.** The efficient team has diligently compiled vital information to equip rescuers with the skills and understanding needed in challenging situations.

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

# ACKNOWLEDGEMENT

---

The NDRF (National Disaster Response Force) would like to acknowledge those individuals whose hard work and efforts have made this MFR course content:

Sincere thanks to all the members of the Miami-Dade Fire Rescue Department; Office of U.S. Foreign Disaster Assistance in San Jose, Costa Rica; and members of the agencies and institutions in the Latin American/Caribbean region who made the original Medical First Responder Course possible.

## MIAMI-DADE FIRE RESCUE PERSONNEL

- *International Programs Bureau OIC* — Capt. Ricardo E. García
- *Course Development Coordinator* — Manuel F. Bazzani
- *CSSR Course Coordinator* — Capt. Ronald K. Bernard
- *English Language Program Coordinator* — Capt. Karls Paul-Noel

The original version of this material has been retained for use in the regional level course. PEER countries have adapted the CSSR curriculum to suit the requirement and existing response system and procedures in their respective countries.

## 2015 COURSE REVIEW WORKSHOP

### TEAM MEMBERS

Lt. Col. Roj Pratap Rana, *Nepal Army*

- Keshav Kumar, *National Disaster Response Force – India*
- Muhammad Mamun, *Fire Service and Civil Defense – Bangladesh*
- Ayaz Aslam, *Punjab Emergency Service/Rescue 1122*
- Sharad Wagle, *NSET*

## 2021 TECHNICAL CURRICULUM REVIEW GROUP (TCRG) MEMBERS

- Mr. Pranshu Srivastava, *Dy Comdt, HQ, NDRF, New Delhi, India*
- Mr. Rana Sangram Singh, *Dy. Comdt, 11<sup>th</sup> NDRF, Varanasi, India*
- Mr. Amit Kumar Singh, *Inspector, 1<sup>st</sup> NDRF, Guwahati, India*

Mentors of TCRG  
Coordinator of TCRG

Mr Arun Rawat  
Mr Tariq Sohail, ADPC

TCRG members constituted in 2020 and updated MFR in 2021 for INDIA. TCRG members reviewed, made recommendations and revised MFR course material to include new updates on international standards and guidelines.

This content is again reviewed in 2024 by NDRF as per the requirement of NDRF and this content will be used for training purpose.

# TABLE OF CONTENTS

---

<b>Foreword</b>	03
<b>Board Contribution</b>	05
<b>Acknowledgement</b>	08
<b>Lesson 1</b> Course Introduction	11
<b>Lesson 2</b> Emergency Medical Systems and the Medical First Responder	25
<b>Lesson 3</b> Infectious Disease and Precautions	37
<b>Lesson 4</b> The Incident	45
<b>Lesson 5</b> Anatomical References	61
<b>Lesson 6</b> Patient Assessment	83
<b>Lesson 7</b> Basic Life Support and Cardiopulmonary Resuscitation	111
<b>Lesson 8</b> Oxygen Therapy	157
<b>Lesson 9</b> Hemorrhage and Shock	169
<b>Lesson 10</b> Soft-Tissue Injuries	179
<b>Lesson 11</b> Musculoskeletal Injuries	197
<b>Lesson 12</b> Injuries to the Skull, Spinal Column and Chest	219
<b>Lesson 13</b> Burns and Environmental Emergencies	237
<b>Lesson 14</b> Poisoning	263

# MEDICAL FIRST RESPONDER

## TABLE OF CONTENTS

<b>Lesson 15</b>	Medical Emergencies, Part 1: Cardiovascular Emergencies and Abdominal Distress	287
<b>Lesson 16</b>	Medical Emergencies, Part 2: Respiratory Emergencies	307
<b>Lesson 17</b>	Medical Emergencies, Part 3: Seizures, Diabetic Emergencies and Cerebral Vascular Accidents	321
<b>Lesson 18</b>	Childbirth Emergencies	337
<b>Lesson 19</b>	Lifting and Moving Patients	367
<b>Lesson 20</b>	Report Writing and Preparation for the Next Call	379
<b>Lesson 21</b>	Triage and Multiple Casualty Incidents	389
<b>Lesson 22</b>	Course Review	401
<b>Lesson 23</b>	Final Practical Evaluation	405
<b>Glossary</b>		411

# MFR



## Medical First Responder

- **Three weeks course**
- **Delivery through interactive lectures and demonstration practice sessions by experienced instructors**
- **Targets emergency and disaster first response groups.**
- **Trains individuals with the knowledge and skills to assess, treat and transport sick or injured patients as a result of an emergency or disaster.**



# Acronym

## Emergency medical Systems and the Medical First Responder

EMS - Emergency Medical Systems

MFR - Medical First Responder

EMT: Emergency Medical Technician

**LOC:** Level of Care

ICS - Incident Command System

BFRC-Basic First Responder Course

## Infectious Disease and Precautions

PPE - Personal Protective Equipment

ISO - Isolation Procedures

BIS- Body Substance Isolation

STD-Sexually Transmitted Disease

TB- Tuberculosis

HIV- Human Immune Deficiency Virus

AIDS-Acquired Immune Deficiency Virus

## Anatomical References

AR - Anatomical References

PNS-Peripheral Nervous System

ANS-Autonomic Nervous System

CNS-Central Nervous System

## **Patient Assessment**

PA - Patient Assessment

SAMPLE - (Signs & Symptoms, Allergies, Medications, Pertinent history ,Last oral intake, Events.)

PMS-Pulse, Motor Function, Sensation

AVPU-Alert, Verbal, Painful, Unresponsive

TRI – Triage

FOC - Focused Assessment

LOC- Level Of Consciousness

RPSPBP-Respiration, Pulse, Skin, Pupil, Blood Pressure

ROTS-Rigidity, Open Injury, Tenderness

ABC-Airway, Breathing, Circulation

CAB-Circulation .Airway , Breathing

BPDOC-Bleeding, Pain, Deformity, Open Injury, Crepitus Sound

PPM-Pulse Minute

## **Basic Life Support and Cardiopulmonary Resuscitation**

BLS - Basic Life Support

CPR - Cardiopulmonary Resuscitation

AED - Automated External Defibrillator

FBAO-Foreign Body Airway Obstruction

ACLS-Advance Care Life Support

## **Oxygen Therapy**

OT - Oxygen Therapy

CAN - Cannula

NBR-Non Re-breather Mask

BVM-Bag Valve Mask

CO<sub>2</sub>-Carbon Dioxide

CO-Carbon Monoxide

PSI-Pressure Per Square Inch

## **Hemorrhage and Shock**

HS - Hemorrhage and Shock

WBC-White Blood Cell (Corpuscles)

RBC-Red Blood Corpuscles

## **Soft-Tissue Injuries**

STI - Soft-Tissue Injuries

CUT – Cuts

LAC – Lacerations

PUN – Punctures

AVU – Avulsions

BITE - Bites and Stings

RICE-Rest, Ice, Compression, Elevation

## **Skull, Spinal Column, and Chest**

CBR - Cerebrospinal Fluid Leaks

CSF- Cerebrospinal Fluid

## **Burns and Environmental Emergencies**

TBSA- Total Body Surface Area

BSA- Body Surface Area

## **Poisoning**

AVM- Anti Venom Serum

## **Medical Emergencies, Part 1: Cardiovascular Emergencies and Abdominal Distress**

CHF - Congestive Heart Failure

## **Medical Emergencies, Part 2: Respiratory Emergencies**

COPD - Chronic Obstructive Pulmonary Disease

EMPH – Emphysema

PNM – Pneumonia

ALI - Acute Lung Injury

TB – Tuberculosis

## **Medical Emergencies, Part 3: Seizures, Diabetic Emergencies, and Cerebral Vascular Accidents**

CVA - Cerebral Vascular Accidents

HYPO – Hypoglycemia

HYPER – Hyperglycemia

## **Childbirth Emergencies CE - Childbirth Emergencies**

APGAR- Appearance, Pulse , Grimace, Activity, Respiratory

## **Report Writing**

PHT-Pre Hospital Treatment

TU-Transport Unit

## **Triage And Multiple Casualty Incidents**

START- Simple Triage and Rapid Treatment.

MCI-Multiple Casualty Incident.

ICS- Incident Command System



[illegible]