Model Curriculum

MCr Name: Advanced Cardiopulmonary Life Support

MCr Code: HSS/MCr-0007

NSQF Level: 6

Model Curriculum Version: 1.0

Healthcare Sector Skill Council || Healthcare Sector Skill Council,520, DLF Tower A, 5th Floor, Jasola District Centre, New Delhi – 110025

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Training Parameters

Sector	Healthcare
Sub-Sector	Allied Health & Paramedics
Occupation	Curative Services
Country	India
NSQF Level	6
Aligned to NCO/ISCO/ISIC Code	
Minimum Educational Qualification and Experience	Graduate in the relevant field (MBBS/ BHMS/ BAMS/ BUMS/BDS/ Nursing/ Allied Health Professionals/Pharmacy/Paramedic) or equivalent Or Pursuing 4th year UG (in case of 4-year UG with honours/ honours with research) in the relevant field (MBBS/ BHMS/ BAMS/ BUMS/BDS/ Nursing/ Allied Health Professionals/ Pharmacy/Paramedic) and continuing education Or Certified Emergency Medical Technicians or equivalent from HSSC with 4.5 years of experience
Pre-Requisite License or Training	Completed HSSC certification in Basic Cardiopulmonary Life Support
Minimum Job Entry Age	21 years
Last Reviewed On	27/08/2024
Next Review Date	27/08/2027
NSQC Approval Date	27/08/2024
QP Version	1.0
Model Curriculum Creation Date	27/08/2024
Model Curriculum Valid Up to Date	27/08/2027
Model Curriculum Version	1.0
Minimum Duration of the Course	15 Hrs.
Maximum Duration of the Course	15 Hrs.

Program Overview

This section summarizes the end objectives of the program along with its duration.

Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills.

- Understand the key scientific principles that contribute to increased patient survival during critical situations.
- Apply the BCPLS (Basic Cardiopulmonary Life Support), Primary, and Secondary Assessment sequence to systematically evaluate adult patients.
- Perform prompt, high-quality BCPLS, including prioritizing early chest compressions and integrating early AED (Automated External Defibrillator) use.
- Recognize and manage respiratory arrest promptly.
- Demonstrate effective and safe use of a manual defibrillator.
- Discuss early recognition and management of ACS, including appropriate disposition.
- Identify early signs of stroke and understand appropriate disposition.
- Model effective communication as a member of a high-performance team and recognize the impact of team dynamics on overall performance.
- Recognize cardiac arrest and perform early management until termination of resuscitation or transfer of care.
- Recognize and manage bradyarrhythmias and tachyarrhythmias that may lead to cardiac arrest or complicated resuscitation.
- Perform immediate post-cardiac arrest care.
- Demonstrate team member behaviors according to roles during megacode cases.

Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
Perform Advanced Cardiopulmonary Life Support	07:30	07:30	00.00	00:00	15:00
Total Duration	07:30	07:30	00.00	00:00	15:00

Module Details

Module: Advanced Cardiopulmonary Life Support

Terminal Outcomes:

- To equip healthcare professionals with the knowledge and skills to manage life-threatening cardiovascular conditions effectively.
- Ensure better survival outcomes, increased return of spontaneous circulation (ROSC), improved survival to hospital discharge, and superior neurological outcomes.

Duration: *07:30*	**Duration**: *07:30*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
Systematic Assessment: • Discuss the immediate, primary, and secondary assessment sequence to systematically evaluate adult patients. **Cardiac Arrest Management**: • Discuss the signs of cardiac arrest and importance of performing early management until termination of resuscitation or transfer of care. • Discuss ACPLS algorithms addressing various aspects of peri-cardiac arrest care, including airway management, ventilation, high-quality CPR, defibrillation, and medication administration. • Discuss ACPLS approach to special population ex. Cardiac arrest in pregnant women. **High-Quality CPR Skills**: • Describe the importance and techniques of effective chest compressions, ventilation, and use of automated external defibrillators (AEDs). **Defibrillator Use:** • Discuss steps of effective and safe use of a manual defibrillator. **Respiratory Arrest Management:** • Discuss how to recognize and manage	**High-Quality CPR Skills**: • Demonstrate effective chest compressions, ventilation, and use of automated external defibrillators (AEDs). **Airway Management**: • Demonstrate securing the airway using techniques such as bag-mask ventilation, endotracheal intubation, and supraglottic airway devices. • Demonstrate use of various airway adjuncts. **Cardiac Rhythms Recognition**: • Practice identification and interpretation of common cardiac rhythms on ECG monitors. **Drug Administration**: • Demonstrate administration of ACPLS medications, including epinephrine, amiodarone, and vasopressin in proper dosages, routes, and timing. **Post-Cardiac Arrest Care**: • Demonstrate the critical steps to take after successful resuscitation. **Team Dynamics and Communication**: • Perform role play depicting clear

respiratory arrest promptly.

Airway Management:

- Discuss the techniques for securing the airway such as bag-mask ventilation, endotracheal intubation, and supraglottic airway devices.
- Discuss the various types of airway adjuncts and their use.
- Comprehend the cruciality of Proper airway management during resuscitation efforts.

Drug Administration:

- List ACPLS medications, including epinephrine, amiodarone, and vasopressin.
- Discuss the proper dosages, routes, timing and administration techniques (including Intra-osseous approach) of each ACPLS medication.

Post-Cardiac Arrest Care:

- Discuss the critical steps to take after successful resuscitation.
- Describe the targeted temperature management, hemodynamic support, and addressing potential reversible causes.

Cardiac Arrest Rhythms Recognition:

- Discuss how to identify and interpret common cardiac rhythms on ECG monitors (e.g., ventricular tachycardia, ventricular fibrillation, asystole) to guide appropriate interventions.
- Discuss how to recognize life-threatening arrhythmias and determine appropriate interventions.

Acute Coronary Syndromes (ACS):

- Discuss how to recognize and manage ACS, including ST-segment elevation myocardial infarction (STEMI) and non-STEMI.
- Discuss the early reperfusion strategies (e.g., percutaneous coronary intervention).

Stroke Recognition and Management:

communication, role assignment, and coordination within the resuscitation team.

Acute Coronary Syndromes (ACS):

- Practice recognition and management of ACS, including ST-segment elevation myocardial infarction (STEMI) and non-STEMI.

Stroke Recognition and Management:

- Demonstrate protocols of rapid assessment and intervention during ischemic and hemorrhagic strokes.

Bradycardia and Tachycardia Management:

- Practice identifying and managing bradyarrhythmias (e.g., heart block) and tachyarrhythmias (e.g., atrial fibrillation, ventricular tachycardia).

Megacode Scenarios:

- Practice through simulated cardiac arrest scenarios (megacodes) that involve team dynamics, communication, debriefing sessions and decision-making.
- Practice standardized, algorithmic treatments based on the specific condition like dangerous arrhythmias, acute coronary syndromes (ACS), stroke, and other cardiovascular emergencies

• Describe the signs of stroke and the importance of rapid assessment and intervention. • Discuss about the Stroke mimics. • Differentiate between ischemic and hemorrhagic strokes. **Bradycardia and Tachycardia Management**: • Discuss ways of identifying and managing bradyarrhythmias (e.g., heart block) and tachyarrhythmias (e.g., atrial fibrillation, ventricular tachycardia, SVT, Atrial flutter). • Discuss management approach for Stable & Unstable arrhythmias **Team Dynamics and Communication**: • Describe the importance of coordinated team effort during cardiac emergencies. • Describe the specific roles (leader, CPR performers, airway specialist, etc.) of the resuscitation team. • Discuss the importance of team dynamics, communication, and decision-making during events of megacode scenarios including cardiac arrest, ventricular fibrillation, pulseless ventricular tachycardia.	
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster	
Tools, Equipment and Other Requirements	
Crash cart trolley, CPR Nursing Manikin, Mannequin, Ambu Bag with Mask Adult, Torch, Wheelchair, Stretcher, cot, scoop, endotracheal intubation, and supraglottic airway devices, ACLS medicines, ECG monitors, AED, Rhythm simulators or Defibrillator simulator, Basic Airway adjuncts (OPA, NPA, facemask, facemask with reservoir bag), Manikin disinfection equipments- Gauze piece, steryllium, Roles & Responsibilities ID tags, Time recording or Coding sheets to record the events, Case scenarios, Assessment Checklist for Cardiac arrest with post cardiac arrest care, Brady arrhythmias and Tachyarrhythmias	

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Medical Graduate	(MBBS, BAMS. BHMS, BUMS)	**1**				
B.Sc.	Nursing)/ Post Basic B.Sc. Nursing	**1**		**1**		
GNM	General Nursing Midwifery	**2**		**1**		

Trainer Certification	
Domain Certification	**Platform Certification**
Certified for HSS/MCr-0005 with minimum score of 80%.	Recommended that the Trainer is certified for the Job Role: "Trainer (VET and Skills)", mapped to the Qualification Pack: "MEP/Q2601, v2.0" with minimum score of 80%.

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training/Assessment Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Medical Graduate	(MBBS, BAMS. BHMS, BUMS)	**3**				
B.Sc.	Nursing)/ Post Basic B.Sc. Nursing	**4**		**1**		
GNM	General Nursing Midwifery	**5**		**2**		

Assessor Certification	
Domain Certification	**Platform Certification**
Certified for HSS/MCr-0005 with minimum score of 80%.	Recommended that the Assessor is certified for the Job Role: "Assessor (VET and Skills)", mapped to the Qualification Pack: "MEP/Q2701, v2.0" with minimum score of 80%.

Assessment Strategy

This section includes the processes involved in identifying, gathering and interpreting information to evaluate the learner on the required competencies of the program.