

<ul style="list-style-type: none"><li>Electronic copy is controlled under document control procedure. Hard copy is uncontrolled &amp; under responsibility of beholder.</li><li>It is allowed ONLY to access and keep this document with who issued, who is responsible and to whom it is applicable.</li><li>Information security code: <input checked="" type="checkbox"/> Open <input type="checkbox"/> Shared -Confidential <input type="checkbox"/> Shared-Sensitive <input type="checkbox"/> Shared-Secret</li></ul>	<ul style="list-style-type: none"><li>النسخة الإلكترونية هي النسخة المضبوطة وفق إجراء ضبط الوثائق. النسخ الورقية غير مضبوطة وتقع على مسؤولية حاملها.</li><li>يسمح بالوصول والاحتفاظ بهذه الوثيقة مع مصدرها أو مع المسؤول عن تطبيقها أو مع المطبق عليهم.</li><li>تصنيف امن المعلومات: <input checked="" type="checkbox"/> بيانات مفتوحة <input type="checkbox"/> مشارك -خاص <input type="checkbox"/> مشارك -حساس <input type="checkbox"/> مشارك -سري</li></ul>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

# STANDARDS FOR THE MANAGEMENT OF CRASH CARTS IN HOSPITALS

Version 1.1

Issue date: 27/03/2025

Effective date: 27/05/2025

Health Policies and Standards Department

Health Regulation Sector (2025)

## ACKNOWLEDGMENT

The Health Policy and Standards Department (HPSD) developed this Standard in collaboration with Subject Matter Experts and would like to acknowledge and thank these health professionals for their dedication toward improving quality and safety of healthcare services in the Emirate of Dubai.

### Health Regulation Sector

Dubai Health Authority

***All rights<sup>®</sup> reserved by the Dubai Health Authority @ 2025. The contents of this document shall not be copied or reproduced in any form without prior written permission from the Authority.***

## TABLE OF CONTENTS

<b>ACKNOWLEDGMENT .....</b>	<b>2</b>
<b>INTRODUCTION .....</b>	<b>4</b>
<b>EXECUTIVE SUMMARY .....</b>	<b>5</b>
<b>DEFINITIONS .....</b>	<b>6</b>
<b>ABBREVIATIONS .....</b>	<b>8</b>
<b>1. BACKGROUND .....</b>	<b>10</b>
<b>2. SCOPE .....</b>	<b>10</b>
<b>3. PURPOSE .....</b>	<b>10</b>
<b>4. APPLICABILITY .....</b>	<b>10</b>
<b>5. STANDARD ONE: HOSPITALS RESPONSIBILITIES .....</b>	<b>11</b>
<b>6. STANDARD ONE: HEALTHCARE PROFESSIONALS REQUIREMENTS .....</b>	<b>12</b>
<b>7. STANDARD THREE: ACCESSIBILITY AND LOCATIONS .....</b>	<b>15</b>
<b>8. STANDARD FOUR: EQUIPMENT AND MEDICATIONS .....</b>	<b>16</b>
<b>9. STANDARD FIVE: MAINTENANCE AND INSPECTION .....</b>	<b>18</b>
<b>10. STANDARD SIX: MONITORING AND SECURITY .....</b>	<b>20</b>
<b>11. STANDARD SEVEN: MAINTENANCE OF CRASH CART .....</b>	<b>21</b>
<b>REFERENCES .....</b>	<b>22</b>
<b>APPENDIX .....</b>	<b>23</b>
<b>APPENDIX 1: EXTERNAL AND SIDE ITEMS EXPIRY CHECKLIST .....</b>	<b>23</b>
<b>APPENDIX 2: CRASH CART EQUIPMENT COMPONENT .....</b>	<b>24</b>
<b>APPENDIX 3: INTERNAL CRASH CART ITEMS CHECKLIST FOR ADULTS/PEDIATRIC .....</b>	<b>25</b>
<b>APPENDIX 4: CRASH CART/ OXYGEN CYLINDER CHECKLIST .....</b>	<b>30</b>
<b>APPENDIX 5: PEDIATRIC EMERGENCY KIT .....</b>	<b>31</b>
<b>APPENDIX 6: CRASH CART INTEGRITY RECORD .....</b>	<b>32</b>
<b>APPENDIX 7: PROCEDURE SEQUENCE AND RESPONSIBILITIES .....</b>	<b>33</b>

## INTRODUCTION

The Health Regulation Sector (HRS) plays a key role in regulating the health sector. HRS is mandated by the Dubai Health Authority (DHA) Law No. (6) of the year (2018) with its amendments pertaining to DHA, to undertake several functions including but not limited to:

- Developing regulation, policy, standards, guidelines to improve quality and patient safety and promote the growth and development of the health sector;
- Licensure and inspection of health facilities as well as healthcare professionals and ensuring compliance to best practice;
- Managing patient complaints and assuring patient and physician rights are upheld;
- Governing the use of narcotics, controlled and semi-controlled medications;
- Strengthening health tourism and assuring ongoing growth; and Assuring management of health informatics, e-health and promoting innovation

The Standards for Hospital Crash Carts aims to fulfil the following overarching DHA Strategic Priorities (2026):

- Pioneering Human-centered health system to promote trust, safety, quality and care for patients and their families.
- Make Dubai a lighthouse for healthcare governance, integration and regulation.
- Leading global efforts to combat epidemics and infectious diseases and prepare for disasters.
- Pioneering prevention efforts against non-communicable diseases.

## EXECUTIVE SUMMARY

The purpose of this document is to assure the provision of the highest levels of safety and quality of the Crash Cart. The standards have been developed to align with the evolving healthcare needs and international best practice. The standards for Hospital Crash Cart provide clear insight into the minimum requirements that should be met for the establishment of Crash Cart. And to ensure that all crash carts are properly stocked, maintained, and available for immediate use in the event of a medical emergency. This ensures compliance with clinical, and hospital protocols, improves patient safety, and enhances rapid response times.

This document (Standards for the Management of Crush Carts in Hospitals) emphasizes the standard now being only for hospitals settings and replaces the previous standard (Standards for the Management of Crush Carts). The revised version is now focused on the implementation and regulatory requirements of managing crush cart in hospitals.

Key changes in version 1.1:

- The new version applies only to hospitals, not all health facilities.

## DEFINITIONS

**Advanced Cardiac Life Support:** is a constellation of clinical interventions for the urgent treatment of cardiac arrest, stroke and other life-threatening medical (non-traumatic) emergencies, which are beyond basic life-support skills and knowledge. ACLS entails airway management, accessing veins, interpretation of ECG/EKGs, application of emergency pharmacology and early defibrillation with automated external defibrillators.

**Basic Life Support:** is constellation of emergency procedures needed to ensure a person's immediate survival, including CPR, control of bleeding, treatment of shock and poisoning, stabilization of injuries and/or wounds, and basic first aid.

**Crash Cart:** A cart stocked with emergency medical equipment, supplies, and drugs for use by qualified, licensed and trained staff to resuscitate a patient experiencing cardiac arrest.

**Defibrillator:** A device on the crash cart used to deliver electrical shocks to the heart to treat arrhythmias or cardiac arrest.

**Emergency medications (lifesaving medications):** is any drug that is required to be given within 24 hours for a life-threatening condition.

**Paediatric Advanced Life Support:** is assessment and maintenance of pulmonary and circulatory function in the period before, during and after an instance of cardiopulmonary arrest in a child.

**Restocking:** The process of replacing used or expired items from the crash cart.

**Risk-based Approach:** refers to a method in which healthcare professionals assess and prioritize potential risks based on the likelihood and impact on patient safety and care outcomes. This approach enables proactive identification and mitigation of risks related to crash-cart management

**Urgent care:** medical care for minor non-urgent illnesses or injuries. Urgent Care Centres provides care outside the acute emergency environment; it is easily accessible and opens 10 - 12 hours, minimum 6 days a week. Urgent care centres include basic diagnostic, surgical and pharmacy services, are capable of treating minor symptoms and illnesses such as, and not limited to:

- Muscle pain;
- Mild upper or lower respiratory tract infections;
- Headache;
- Mild pain such as headache/ear ache/abdominal pain
- Mild Bleeding;
- Minor injuries;
- Sprains and joint conditions;
- Cuts that do not involve much blood but might need stitches;
- Breathing difficulties, such as mild to moderate asthma;
- Diagnostic services, including X-rays and laboratory tests;
- Eye irritation and redness;
- Fever or flu;

- Minor broken bones and fractures in fingers or toes;
- Moderate back problems;
- Severe sore throat or cough;
- Skin rashes and infections;
- Urinary tract infections; and
- Vomiting, diarrhoea, or dehydration.

## ABBREVIATIONS

<b>AHA</b>	:	American Heart Association.
<b>ACLS</b>	:	Advanced Cardiac Life Support
<b>ACS</b>	:	Acute Coronary Syndrome
<b>AED</b>	:	Automated External Defibrillator.
<b>ATLS</b>	:	Advanced Trauma Life Support
<b>BLS</b>	:	Basic Life Support
<b>CPR</b>	:	Cardiopulmonary Resuscitation
<b>CCU</b>	:	Cardiac Care Unit.
<b>CV</b>	:	Central Venous.
<b>DHA</b>	:	Dubai Health Authority.
<b>ED</b>	:	Emergency Department.
<b>ECG/EKG</b>	:	Electrocardiogram
<b>ETT</b>	:	Endotracheal Tube
<b>HCU</b>	:	High Care Unit



---

<b>ICU</b>	:	Intensive Care Unit.
<b>LASA</b>	:	Look Alike and Sound Alike Drugs.
<b>NICU</b>	:	Neonatal Intensive Care Unit.
<b>NGT</b>	:	Nasogastric
<b>NRP</b>	:	Neonatal Resuscitation Program.
<b>PACU</b>	:	Post anaesthesia care unit.
<b>PALS</b>	:	Paediatric Advanced Life
<b>PFS</b>	:	Pre-filled Syringe
<b>PPM</b>	:	Periodic Preventive Maintenance.
<b>PSI</b>	:	Pounds per Square Inch.
<b>SCBU</b>	:	Special Care Baby Unit.

## 1. BACKGROUND

Crash carts, also known as emergency carts or code carts, are portable units stocked with medical supplies and equipment necessary to respond to medical emergencies. The contents of crash carts are standardized to ensure rapid access to life-saving interventions in critical situations. This standard outlines the minimum requirements for the contents, organization, maintenance, and accessibility of Hospital crash carts. The standards for Hospital crash carts may vary slightly depending on factors such as the specialty services provided, and regional regulations. However, the overarching goal is to ensure that crash carts are consistently stocked, organized, and maintained.

## 2. SCOPE

- 2.1. This standard applies to all healthcare professionals, and emergency response teams for crash carts in hospitals. It covers the use, maintenance, and restocking of crash carts.

## 3. PURPOSE

- 3.1. To assure availability of life saving medications, equipment, and supplies necessary to initiate advanced life-support measures and assure standardization of Hospital's Crash Carts.

## 4. APPLICABILITY

- 4.1. Hospital's Crash Carts and DHA licensed healthcare professionals working with Crash Carts.

## 5. STANDARD ONE: HOSPITALS RESPONSIBILITIES

- 5.1. Each Hospital shall assign a team to conduct audits on all crash carts.
  - 5.1.1. Each crash cart shall include a quality checklist with a list of all items and date inspected.
  - 5.1.2. The team is responsible for checking that content aligns with what is documented on the checklist at least every 6 months to ensure that the crash carts are correctly stocked and maintained.
  - 5.1.3. Feedback is to be given to the clinical areas, and action plans developed to address deficit is responsible for communicating updates to be auditing team until all deficits are closed.
- 5.2. The hospital is responsible for providing adequate training on the use of the crash carts and the management of medical emergencies.
- 5.3. Hospitals are required to maintain detailed documentation of crash cart contents, maintenance activities, and usage logs.
- 5.4. The Hospital shall ensure that Emergency medications are available as per the DHA policy for Emergency medications, as per their scope of practice.
- 5.5. The Hospital shall refer to the specific service standard to determine if a crash cart is required or not.

## 6. STANDARD ONE: HEALTHCARE PROFESSIONALS REQUIREMENTS

6.1. Health professionals who can use the items of the crash cart shall be DHA licensed healthcare professionals involved in the management and use of emergency medications.

6.2. Healthcare professionals managing crash carts shall be:

6.2.1. For emergency care, professionals must maintain valid training/certification in the following:

- a. Cardiopulmonary Resuscitation (CPR),
- b. Basic Life Support (BLS),
- c. Advanced Cardiac Life Support (ACLS), and
- d. Pediatric Advanced Life Support (PALS).

6.2.2. Competent in the handling and administration of medications.

6.2.3. Appropriately trained to provide basic cardiopulmonary resuscitation in emergency cases and possess up-to-date evidence of capability.

6.2.4. All healthcare professionals managing crash cart shall maintain certification in Basic Life Support (BLS) or an equivalent, depending on the specialty of the hospital/scope/clinical area.

6.3. Hospitals providing services for adult patients shall ensure that the health professionals maintain CPR, BLS, and ACLS certification.

6.4. Hospitals providing pediatric services shall ensure the following:

6.4.1. Health professionals should maintain CPR, BLS, and PALS.

- 6.4.2. If the Hospital is providing NICU services, then health professionals should maintain the Neonatal Resuscitation Program (NRP).
- 6.5. Physicians which are part of a polytrauma team e.g. (Trauma & Orthopedic Surgeons, General Surgeons and ER doctors) should maintain Advanced Trauma Life Support (ATLS).
- 6.6. Healthcare professionals should stay updated with the latest knowledge and skills required for emergency care through ongoing training and education.
- 6.7. Healthcare professionals in hospitals shall implement a risk-based approach to enhance patient safety and care outcomes related to crash-cart management. This includes:
- 6.7.1. Using Separate Crash Carts:
- a. Adult crash carts
  - b. Pediatric crash carts
  - c. Neonatal crash carts
- 6.7.2. If Using a Single Cart:
- a. Organize medications and equipment in separate drawers for:
    - i. Adults
    - ii. Pediatrics
    - iii. Neonates
  - b. Ensure standardized organization throughout the hospital

- 6.8. Healthcare professionals shall ensure that access to emergency medication in the crash carts does not require a specific individual or keys to unlock the emergency carts. A plastic breakable seal may be used.
- 6.9. Health professional should know where and how the cart and/or emergency equipment is stored.
- 6.10. The Nursing Unit head shall be responsible for the overall maintenance of the crash cart by assigning a DHA licensed registered nurse for:
- 6.10.1. Maintaining a fully stocked crash cart at all times in patient care areas.
  - 6.10.2. Notifying the pharmacy about the stock and the pharmacist should restock the medications.
  - 6.10.3. Verifying the contents of the cart as per the inventory list.
  - 6.10.4. Ensuring the co-signing of the crash cart log by a pharmacist for drugs and expiration dates.
  - 6.10.5. Placing a numbered seal on the cart by the nurse and pharmacist.
  - 6.10.6. Verifying the presence and expiration date of all items on the carts.
- 6.11. DHA licensed Pharmacists shall be responsible for:
- 6.11.1. Maintaining the drug drawer on all crash carts.
  - 6.11.2. Restocking the medications
  - 6.11.3. Documenting the earliest expiration date/near expiry date of any medication on the log (**Appendix 1**) in this standard.

## 7. STANDARD THREE: ACCESSIBILITY AND LOCATIONS

7.1. Crash Carts are maintained in these locations within the departments, in all patient care areas:

7.1.1. Radiology

7.1.2. Outpatient

7.1.3. Inpatient

7.1.4. Critical care (ICU, CCU, NICU, PICU, HCU, SCBU).

7.1.5. Emergency room.

7.1.6. Operation Theatre.

7.2. Maintain the cart in a location that is easily accessible to the clinical areas.

7.3. Each hospital shall create a process for managing Code Blue/ emergency situations in non-clinical areas.

7.4. All hospitals shall ensure the availability of the portable AED to meet any emergencies in non-patient care areas.

7.5. Each hospital is responsible to perform an assessment to determine the number of AEDs required for non-clinical areas, purchase and fix these AEDs in the identified nearest non-clinical areas.

7.6. The crash carts shall be located in the designated “Crash Cart Bay”, plugged into the electrical outlet at all times.

7.7. Crash cart should be located on easily accessible secure space and close to patient care area with a nearby phone to call in case of emergency.

- 7.8. In case if it's difficult to cover all areas in the hospital; crash cart can be kept with Code blue team which contain some basic items required till crash cart brought in.
- 7.9. In Paediatric Clinics there should be a paediatric drug dosing chart attached to the Crash cart.

## 8. STANDARD FOUR: EQUIPMENT AND MEDICATIONS

- 8.1. A crash cart should be equipped with essential medical supplies and equipment to handle emergencies, including but not limited to cardiac arrest, respiratory distress, anaphylaxis, and seizures.
- 8.2. The crash cart shall be equipped with essential emergency equipment such as defibrillator, airway management devices, oxygen delivery system, suction apparatus, intravenous access supplies, and basic monitoring equipment.
- 8.2.1. For additional information related to crash cart equipment component; refer to **(Appendix 2)**.
- 8.3. All the hospital departments shall ensure that the contents of their drawers are standardized within the same facility in all their crash carts as per the approved inventory list and according to its scope of services.
- 8.4. Content of crash cart shall be checked and verification documented at least every 24 hours by Registered Nurse. All items which can be used by BLS Provider / primary responder shall be placed external to the crash cart (Top, side and back). The empty resuscitation record shall be placed on the cart for readiness to use during Code Blue.



- 8.4.1. For Internal crash cart items checklist for adults/pediatric; refer to: **(Appendix 3)**.
- 8.5. Ambu Bags should be checked to ensure that they are functioning correctly and not just that they are present on the cart.
- 8.6. Internal Content of crash cart which includes all items needed for advanced cardiac life support /Secondary Responder shall be stored in clearly labelled drawers, which is secured at all times and checked monthly wither in the first or last week of the month and whenever the seal is broken.
- 8.7. If the hospital has different numbers of drawers in the crash cart, they must adjust the contents of items as per the number of the drawers.
- 8.8. The hospital shall ensure the contents of their drawers are standardized in all their crash carts as per an internal list of these contents.
- 8.9. Hospitals should have a written protocol for cardiopulmonary resuscitation (CPR) from the most current international guidelines. The charts and algorithms for BLS/ACLS/PALS, tachycardia, bradycardia to be attached to the crash cart.
- 8.10. Each hospital shall designate a health professional that is responsible for ensuring that the crash carts are labelled accurately.
- 8.11. hospitals should include additional information such as the unit or department to which the crash cart belongs for easy identification and tracking.
- 8.12. Label each shelf and compartment within the crash cart to facilitate organized storage and quick retrieval of items during emergencies.

- 8.13. Regularly inspect and replace items labels as needed to ensure that they remain legible and accurate over time.
- 8.14. Ensure that all medications are clearly labelled in accordance with the policies.  
(Example: High Alert Medication).
- 8.15. The crash cart bay signage is posted in appropriate location.
- 8.16. All drawers of the crash cart are labelled with list of contents as per ACLS/PALS/NRP.
- 8.17. PPM Labels are affixed on equipment's as per policy.

## 9. STANDARD FIVE: MAINTENANCE AND INSPECTION

- 9.1. Crash carts should be checked at least daily to ensure their readiness for emergency use.
- 9.2. Daily Checks
  - 9.2.1. The crash cart seal must be checked daily.
  - 9.2.2. Verify the presence and functionality of all equipment.
  - 9.2.3. Ensure the oxygen tank is full and the regulator is functioning.
  - 9.2.4. Confirm the defibrillator is charged and operational.
- 9.3. Monthly Checks
  - 9.3.1. Conduct a thorough inventory of all supplies.
  - 9.3.2. Check the expiration dates of medications and replace any expired or used items.
  - 9.3.3. Test all electronic equipment to ensure proper functionality.
- 9.4. After Each Use

- 9.4.1. Restock all used supplies immediately.
- 9.4.2. Clean and disinfect the cart and equipment.
- 9.4.3. Perform a complete check to ensure readiness for the next emergency
- 9.5. Each hospital shall utilize a standardized crash cart checklist.
- 9.6. The checklist should cover essential items such as medications, equipment functionality, expiration dates, and organization.
- 9.7. All External contents of crash carts, including the lock shall be checked every night shift (for in-patient department) and in out-patient department shall be checked daily in the beginning of the day shift of the working day.
- 9.8. The defibrillator and cardiac monitor shall be checked for functionality and workability on both battery and electrical at least daily for every operational working day.
  - 9.8.1. The defibrillation pads on the AED or the defibrillator should be checked for expiration date.
  - 9.8.2. The battery charge on the monitor and/or AED should be checked and documented.
  - 9.8.3. Ensure that batteries are charged and equipment is properly labelled for quick identification during emergencies.
- 9.9. The Internal Contents of the crash cart shall be checked once in a month and whenever the seal is broken.
- 9.10. Ensure that all medications stored in the crash cart are securely sealed within their expiration dates.

- 9.10.1. Replace any expired medications with fresh stock promptly.
- 9.10.2. Maintain a record of medication replenishment and expiry dates for documentation purposes.
- 9.11. Ensure that the crash cart is neatly organized and all items are easily accessible in case of emergency.
- 9.12. Ensure that all shelves and compartments are clearly labelled to facilitate quick retrieval of required items during critical situations.
- 9.13. The crash cart and items shall be cleaned and disinfected by the nurse as per the Organization's infection and prevention policy/ Manufacture guidelines.
- 9.14. Ensure that all single-use crash cart devices are regularly checked and monitored. Devices must be replaced immediately if found defective.
- 9.15. Nursing staff shall ensure the availability of at least 2 stock in the crash cart for any of the following devices:
  - 9.15.1. Laryngoscope & blades of appropriate size.
  - 9.15.2. Ambu Bags.
- 9.16. For crash cart/oxygen cylinder checklist; refer to **(Appendix 4)**
- 9.17. For pediatric emergency kit, refer to **(Appendix 5)**.

## 10. STANDARD SIX: MONITORING AND SECURITY

- 10.1. Crash carts must remain locked at all times when not in use.
- 10.2. Store crash carts in designated secure areas.

- 10.3. Surveillance cameras shall be installed in areas where crash carts are stored to monitor their security.
- 10.4. Patient safety event report shall be completed for any unauthorized access, missing supplies, or violations.
- 10.5. Provide comprehensive training to staff on the importance of maintaining the integrity and security of crash carts.

## 11. STANDARD SEVEN: MAINTENANCE OF CRASH CART

- 11.1. The Biomedical Department shall be responsible for the periodic preventive maintenance of the equipment's of the crash cart.
  - 11.1.1. Biomedical department shall ensure that the PPM schedule is regularly monitored and performed in all crash cart locations.
- 11.2. Corrective maintenance shall be done as per the need, and a fully functional equipment / crash cart shall be replaced in case of any repair or maintenance work.
  - 11.2.1. Maintain detailed records of all maintenance activities conducted on crash carts, including dates, findings, and actions taken.
  - 11.2.2. Document any issues identified during maintenance.
- 11.3. For further information about crash cart integrity record, refer to (**Appendix 6**).
- 11.4. For further information about sequence and responsibilities, refer to (**Appendix 7**).

## REFERENCES

1. Advanced Cardiac Life Support (ACLS) Provider Manual. American Heart Association, 2020 Edition. Available at:  
<https://www.heart.org>.
2. American Heart Association (AHA) Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care (2020). Available at:  
<https://www.heart.org>.
3. Acute Care ISMP Medication Safety Alert. Available online on Institute for Safe Medication Practice (ISMP) Website [Volume 29, Issue 1, January 11, 2024](#) Accessed online on March 6, 2025.
4. Dubai Health Authority (DHA). 2022. Emergency Medication Policy available at:  
<https://www.dha.gov.ae/uploads/112021/3f5565de-9eb7-46c9-9480-17190a531903.pdf>
5. Dantrolene Drug Information. Available online on Lexidrug Website [Dantrolene \(Lexi-Drugs Multinational\) - UpToDate® Lexidrug™](#) Accessed online on March 6, 2025.
6. Ministry of Health and Prevention. (2024). Ministerial Decision no. (31) of 2024 concerning Standards for Emergency Cart. Available at:  
<https://www.dha.gov.ae/uploads/032024/Ministerial%20Decision%20no2024315678.pdf>
7. Joint Commission Standards for Emergency Equipment Maintenance and Availability. Available at:  
<https://www.jointcommission.org>
8. World Health Organization (WHO) Guidelines on Basic Emergency Care. Available at:  
<https://www.who.int>

## APPENDIX

### APPENDIX 1: EXTERNAL AND SIDE ITEMS EXPIRY CHECKLIST.

Hospital Name: \_\_\_\_\_ Unit / Department \_\_\_\_\_ Month/Year \_\_\_\_\_

External and Side Items Expiry Checklist			
S.N.	External and Side Items	Manufacturing Date	Expiry Date
1	ECG electrodes (Adult)		
2	ECG electrodes (Pediatric)		
3	ECG electrodes (Neonate)		
4	Multifunction electrodes pads (Adult and children >10 Kg)		
5	Multifunction electrodes pads (Neonate and children < 10 Kg)		
6	Suction catheter sizes 6		
7	Suction catheter sizes 8		
8	Suction catheter sizes 10		
9	Suction catheter sizes 12		
10	Suction catheter sizes 14		
11	Suction catheter sizes 16		
12	Yanker Suction tube Adult and Pediatric		
13	KY jelly sachets for single use		
14	Defibrillating gel		

Checked by: .....

ID number: .....

Signature: .....

**Note: To be checked monthly in the last week of the month and after each use.**

## APPENDIX 2: CRASH CART EQUIPMENT COMPONENT

Crash Cart Component	Uses
<b>Defibrillator/Automated External Defibrillator (AED):</b>	Used for delivering electric shocks to the heart in cases of cardiac arrest.
<b>Cardiac medications:</b>	Including but not limited to epinephrine, atropine, lidocaine, and amiodarone, for treating various cardiac emergencies.
<b>Airway management equipment:</b>	Such as endotracheal tubes, airway adjuncts (oral and nasal airways), laryngeal mask airways (LMAs), and suction devices.
<b>Intravenous (IV) supplies:</b>	IV catheters, saline solution, IV tubing, and medication administration sets for delivering fluids and medications.
<b>Emergency medications:</b>	Including medications required for treating life threatening conditions, such as CV Emergencies and Shock status.
<b>Basic life support (BLS) equipment:</b>	Bag-valve-mask devices, oxygen masks, nasal cannulas, and airway suction devices for manual ventilation and oxygenation.
<b>Advanced cardiac life support (ACLS) equipment:</b>	Such as cardiac monitors, pulse oximeters, defibrillator pads, and transcutaneous pacing pads.
<b>Bandages and dressings:</b>	Sterile gauze, adhesive bandages, elastic wraps, and trauma dressings for wound care and bleeding control.
<b>Miscellaneous supplies</b>	Including gloves, scissors, tape, syringes, alcohol swabs, and emergency contact forms.



### APPENDIX 3: INTERNAL CRASH CART ITEMS CHECKLIST FOR ADULTS/PEDIATRIC

Hospital Name: .....

Unit/Department .....

Month/Year .....

First Drawer: (ACLS/PALS Medication)					
This department scope serves: <input type="radio"/> Adults <input type="radio"/> Pediatric \ Working Hours: <input type="radio"/> Day <input type="radio"/> Night <input type="radio"/> Weekend					
S.N.	Medication	Strength	QTY	Availability	Expiry Date
1	Adenosine Injection	6mg/2ml	5		
2	Amiodarone Injection	150mg/3ml	3		
3	Atropine 0.2mg/ml 5ml Pre-filled Syringe or Atropine 1mg/ml Ampoule if prefilled syringe not available	0.2mg/ml or 1mg/ml	3		
4	Calcium Chloride 10% Injection	1gm/10ml	2		
5	Cisatracurium Injection *	2mg/ml	3		
6	Dextrose 50% Vial	50gm/100ml	2		
7	Diazepam Rectal solution**	5 mg	2		
8	Dopamine Injection	200mg/5ml	2		
9	Dantrolene sodium for injection***	20mg	12		
10	Epinephrine (Adrenaline) 1:10,000 (0.1mg/ml) 10ml Prefilled Syringe or 1:1000 (1mg/ml) 1ml Ampoule if prefilled syringe not available	0.1mg/ml or 1mg/ml	5		
11	Epinephrine (Autoinjector/prefilled Pen) Pediatric	0.15mg (150mcg)	1		
12	Epinephrine (Autoinjector/prefilled Pen) Adult	0.3mg (300mcg)	1		
13	Flumazenil (Anexate) Injection	0.5mg/5ml	1		
14	Glyceryl Trinitrate sublingual Spray	400mcg/Dose	1		
15	Hydrocortisone Injection	100mg/2ml	1		
16	Labetalol Hydrochloride Injection	100mg/20ml	1		
17	Lidocaine Hydrochloride 2% Injection	100mg/5ml	2		
18	Magnesium Sulphate 50% Injection	(0.5g/ml)	2		
19	Midazolam Injection**	15mg/3ml	1		

20	Naloxone Injection	0.4mg /ml	2		
21	Rocuronium bromide Injection*	10mg/ml	3		
22	Suxamethonium chloride Injection *	50mg/ml	2		
23	Sugammadex Injection ****	100mg/ml	1		
24	Sodium Bicarbonate 8.4% 50ml Prefilled Syringe	84mg/ml	2		

\* Keep in fridge

\*\* CD medication can be stored in the Controlled cabinet

\*\*\* Only for Operation Theatre

\*\*\*\* Only for ICU, EU and Operation Theatre

### Second Drawer: (Airway and Breathing Items)

S.N.	Items	QTY	Availability	Expiry Date
1	Oro-pharyngeal airways (size 00)	2		
2	Oro-pharyngeal airways (size 0)	2		
3	Oro-pharyngeal airways (size 1)	2		
4	Oro-pharyngeal airways (size 2)	2		
5	Nasopharyngeal airway 3	2		
6	Nasopharyngeal airway 4	2		
7	Laryngeal Mask Airway size (1)	2		
8	Laryngeal Mask Airway size (1.5)	2		
9	Laryngeal Mask Airway size (2)	2		
10	Laryngeal Mask Airway size (2.5)	2		
11	10 cc syringe	2		.
12	GAUZE 4 X 4	2		
13	KY Sachets	2		
14	Adhesive tape ½ inch	1		
15	Scissors	1		
16	One-inch tape or endotracheal tube securing device	1 roll		

Third Drawer: (Intubation Items)				
S.N.	Items	QTY	Availability	Expiry date
1	ETT size 5.5 mm (pediatric size)	2		
2	ETT size 5 mm (pediatric size)	2		
3	ETT SIZE 4 (Neonatal size)	2		
4	ETT SIZE 3.5 (Neonatal size)	2		
5	ETT SIZE 3 (Neonatal size)	2		
6	ETT holder (pediatric)	2		
7	Stylet sizes pediatric	1		
8	Bougie	1		
9	Magill forceps	1		
10	10 cc syringe	2		
11	5 cc syringe	2		
12	GAUZE 10X10	2		
13	KY Jelly Sachets	2		
Fourth Drawer: (Intubation, Airway and Breathing Items (Neonate))				
S.N.	Items	QTY	Availability	Expiry Date
1	Cannula G 18	3		
2	Cannula G 20	3		
3	Cannula G 22	3		
4	Cannula G 24	3		
5	Cannula G 26	3		
6	Syringe 60 cc	2		
7	Syringe 10 cc	5		
8	Syringe 5 cc	5		
9	Syringe 3 cc	5		
10	Syringe 1 cc	5		
11	Needle G22	5		

12	Needle G23	5		
13	Alcohol swab	10		
14	Band aid	5		
15	Tourniquet	1		
16	IV dressing (Tegaderm pediatric)	3		
17	3-way adaptor	2		
18	Bandage 5cm * 4.5	1		
19	Extension tube	2		
21	Multi adaptor	5		
22	Arm Board if applicable to the scope	2		

#### Fifth Drawer: (IV Tubing and Solutions)

S.N.	Items	QTY	Availability	Expiry Date
1	IV set (macro-dripper)	2		
2	IV set (micro-dripper)	2		
3	IV Burette set	2		
4	SODIUM CHLORIDE 0.9% 500 ml	2		
5	Dextrose 5% (D5W) (250ml)	2		
7	Sodium Chloride 0.9% (NS) Ampoules (10ml)	10		
8	Ringer Lactate 500ml	2		

#### Sixth Drawer: (Procedure Items and Miscellaneous)

S.N.	Items	QTY	Availability	Expiry Date
1	Surgical Gloves size 6	2		
2	Surgical Gloves size 6.5	2		

3	Surgical Gloves size 7	2		
4	Surgical Gloves size 7.5	2		
5	Surgical gown (medium)	1		
6	Suture silk 2-0	2		
7	Suture silk 3-0	2		
8	Scissors	1		
9	Needle holder	1		
10	Tissue forceps	1		
11	CV line set 7	1		
12	NGT Fr. 14	1		
13	NGT Fr. 12	1		
14	NGT Fr. 8	1		
15	NGT Fr. 6	1		
16	Syringe with catheter tip 60ml	1		
17	Pacing Pads (Extra)pediatric	1		
18	Disposable Gloves	1 Box		
19	Surgical Mask	1 Box		

Checked by (Pharmacist):

ID number:

Signature:

Checked by (Nurse):

ID number:

Signature:

Date:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## APPENDIX 4: CRASH CART/ OXYGEN CYLINDER CHECKLIST

**Hospital Name:** \_\_\_\_\_

Perform an “availability and functionality check” to verify that necessary supplies are present and ready for use.

**Unit/Department:** \_\_\_\_\_ **Month/Year** \_\_\_\_\_ **Day:** \_\_\_\_\_

Date:	Oxygen Cylinder #							
	Morning				Night			
	Oxygen regulator with flow meter functioning	Cylinder stored in vertical support bin and chained	Oxygen Level	Checked by:	Oxygen regulator with flow meter functioning	Cylinder stored in vertical support bin and chained	Oxygen Level	Checked by:
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								

**Note:**

1. Oxygen flow meter to be check daily.
2. In case of oxygen level below as per organization policy send for refilling.

## APPENDIX 5: PEDIATRIC EMERGENCY KIT

Pediatric Emergency Kit				
S.N.	Items	QTY	Availability	Expiry Date
1	Oro-pharyngeal airways sizes 0	2		
2	Oro-pharyngeal airways sizes 1	2		
3	Nasopharyngeal airway Ped.	1		
4	Laryngeal Mask Airway size 1	1		
5	Laryngeal Mask Airway size 2	1		
6	ETT 4 Cuffed	1		
7	ETT 4.5 Cuffed	1		
8	ETT 5 Cuffed	1		
9	ETT 5.5 Cuffed	1		
10	ETT 6 Cuffed	1		
11	10 cc Syringe	2		
12	Cannula G22	2		
13	Cannula G24	2		
14	Alcohol swab	2		
15	Band Aid	2		
16	Tourniquet	1		
17	IV Dressing (Tegaderm Ped.)	1		
18	Broselow tape	1		
19	Inter osseous needle	2		

Checked by (Unit In-charge \_\_\_\_\_

Nurse)

ID number: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_





## APPENDIX 7: PROCEDURE SEQUENCE AND RESPONSIBILITIES.

Procedure sequence		Responsibilities
14.1.	<b>CRASH CART</b>	
14.1.1.	Inspect/ audit the External and Internal contents of crash cart.	Unit In-charge/Assigned Nurse
14.1.2.	Furnish crash carts with medication, equipment and supplies as indicated in Crash Cart Checklist, inclusive of adults, pediatric and neonatal sizes.	Pharmacist/Unit In-charge/Assigned Nurse
14.1.3.	Report any problems with equipment, medication and supplies to the Unit In-charge and complete an incident report.	Unit In-charge/Assigned Nurse/Biomedical Engineers
14.1.4.	Clean and disinfect the Crash Cart outer surface daily when not used, and after each use. Laryngoscope – as per organization guidelines Bag and Mask – as per organization guidelines Disposable items – as per organization guidelines	Nurse
14.1.5.	The staff should affix his/her name & signature in the checklist after opening, refilling and locking of the crash cart.	Nurse
14.1.6.	Label items appropriately	Nurse
14.2.	<b>DEFIBRILLATOR</b>	

14.2.1.	Ensure the availability of the Procedure manual closer to the defibrillator location to aid in functional testing.	Maintenance and Biomedical Engineer
14.2.2.	The functionality of the defibrillator and cardiac monitor shall be checked and appropriately documented for performance on both battery and electrical current once every 24 hours /every operational working day (Outpatient department) according to manufacturer guidelines.	Nurse
14.2.3.	The defibrillator will remain plugged into an electrical outlet at all times, except during battery testing. The Biomedical Department will be contacted immediately when a defibrillator problem is detected.	Nurse Biomedical Engineer
14.3.	<b>AED</b>	
14.3.1.	AEDs in non-clinical areas to be checked and maintained according to manufacturer guidelines by Biomedical Department.	Biomedical Engineer
14.4.	<b>LARYNGOSCOPE</b>	
14.4.1.	The laryngoscopes (disposable, reusable and Fiber optic) shall be checked for functionality, - locking of the blades and the light. Only the end that is attached to the handle should be exposed from the packaging during the checking. The blades shall be kept in the package to protect them from dust as they do not need to be sterile but clean.	Nurse
14.5.	<b>OXYGEN Cylinder</b>	

14.5.1.	Check oxygen cylinder level at least every 24 hours. Request for replacement if the level is below as per organization policy, call maintenance department to exchange it.	Nurse
14.5.2.	Notify Maintenance and Biomedical Engineering Department immediately for any problem in using the oxygen cylinder.	Nurse
14.6.	<b>SUPPLIES AND MEDICINES</b>	
14.6.1.	<ul style="list-style-type: none"> <li>Pharmacy will check emergency carts for proper drug storage, availability, quality, quantity, expiry of medications and will replace medications as per the inventory that will expire within the month (last week of the month) &amp; after each use.</li> <li>Pharmacy shall maintain the log for expiry of medications. The same process shall be applied in other areas where emergency medications are stored. High Alert medications shall be dealt as per the related organization policies.</li> <li>Replenish used medications immediately upon receiving information on items used.</li> <li>All emergency medications shall be monitored and the data shall be shared with the concerned unit for improvement.</li> </ul>	Pharmacist/Unit In charge/Assigned Nurse
14.6.2.	Sterile items will be checked for package integrity and expiration date. Items with expiration dates expiring within the month will be replaced.	Unit In-charge/Assigned Nurse

14.6.3.	Once all items have been replaced, the cart will be locked with a new numbered lock. The new lock number will be recorded on the crash cart checklist.	Pharmacist/Unit In-charge/Assigned Nurse
14.6.4.	<p><b>Portable suction machine (check at least every 24 hours for inpatient units and daily in outpatient department during operational days)</b></p> <ul style="list-style-type: none"> <li>• Unplug the machine.</li> <li>• Power on the machine.</li> <li>• Apply pressure to the suction tubing and test the negative pressure gauge.</li> <li>• Turn off the machine.</li> <li>• Plug the machine again and make sure that its charging.</li> <li>• Record in suction machine monitoring sheet. ((included with external checklist))</li> <li>• Notify Maintenance and Biomedical Engineering Department immediately for any problem</li> <li>• Minimum retention period for defibrillation check (test record is a printed paper with battery on and battery off) and digital crash cart checklists is permanent.</li> </ul>	Assigned Nurse