HEALTH HOLDING

HAFER ALBATIN HEALTH CLUSTER
MATERNITY AND CHILDREN HOSPITAL

Department:	Pharmaceutical Care Department		
Document:	Multidisciplinary Policy And Procedure (MPP)		
Title:	Crash Carts Guidelines		
Applies To:	Medical, Nursing And Pharmacy Staff		
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1. PURPOSE:

1.1 To ensure availability of all drugs, equipment, and supplies necessary to initiate advanced life-support measures and insure uniformity of emergency carts throughout the hospital.

2. DEFINITONS:

2.1 A crash cart is a movable collection of emergency medications, equipment and supplies meant to be readily available for resuscitative effort. It includes medication as well as the equipment for defibrillation, intubations, intravenous medications & passage of central lines.

2.2 Crash Cart list: A list of medications that should be stocked in the drawer of each crash cart in the hospital be revised periodically by the head nurse of unit, & contains the name, quantity & administration procedure of the crash cart medications.

2.3 CPR: Cardiopulmonary Resuscitation.

3. GUIDELINES FOR REPLACING AND MAINTAINING :

3.1 Replacing:

3.1.1 After opening the crash cart for blue code, call 1161 and the stock will be replaced and provide new numbered seal from the pharmacy department.

3.1.2 The nurse and the pharmacist ensure that the crash cart log sheet obtain during replacement of stock used/expired and lock number should be stated and signed by both checkers.

3.1.3 The time frame for replacement medication and new sealed in the cart will not exceed one hour from receiving the call about the opened crash cart.

3.1.4 At the time of receiving medicine and new sealed, the nurse from the unit rechecks the content of medication according to the list and the arrangement should be according to the layout

3.1.5 In case of expired medications, the assigned pharmacy staff will inspect and change the expired medications in the crash at each department.

3.1.6 All items replaced are logged on the crash cart log sheet.

3.1.7 Items that will expire within 3 months are replaced unless no items with longer dating are available.

3.2 Maintaining:

3.2.1 At the time of receiving medicine and new sealed, the nurse from the unit rechecks the content of medication according to the list and the arrangement should be according to the layout.

3.3 All crash carts will be checked as per the following

3.3.1 The crash cart medications will be check monthly for dating and honesty by pharmacy Department.

3.3.2 The defibrillator and cardiac monitor shall be checked and appropriately documented for performance on both battery and electrical current once every 8 hours except when the unit is closed.

3.3.3 The defibrillator will remain plugged into an electrical outlet at all times, except during battery testing.

3.3.4 The Biomedical Department will be contacted immediately when a defibrillator problem is detected. A loaner defibrillator shall be obtained from Biomedical Engineering.

3.3.5 All external contents of cart shall be checked and verification documented once every 8 hours except when the unit is closed. Document when unit/department is closed on the crash cart log.

3.4 Crash carts shall be kept locked at all times when not in use. A Variance Report shall be completed after any unauthorized entry into the cart or when routine supplies are missing from the cart.

3.5 Request for change in crash cart contents, shall be reviewed by the CPR Committee.

3.6 Organizing a Crash Cart:

3.6.1 The top of the crash cart include Inventory checklist, Code blue sheets, an electrocardiograph and defibrillator device, a multi-parameter unit can be used instead of individual monitors.

3.6.2 Side of the Crash Cart:

3.6.2.1 Left: Examination gloves, additional syringes, O2 masks and Ambo bags

3.6.2.1.1 Right: disposals and used items during CPR.

3.6.2.2 Behind:O2 cylinders

3.6.2.3 Front of the crash cart: Cardiac board

3.6.2.4 The top drawer: Medications provided by the pharmacy (Appendix 1, 2, 3).

3.6.2.5 The second drawer: Contain intravenous cannulas of various sizes (5 each) and the supplies for placing them (e.g., tape, alcohol swab, and tourniquet), 5 syringes of different sizes (3, 5, 10, 20 ml including the special syringes for diluted medications), and a 5 three-way stopcock.

3.6.2.6 The third drawer: Contain intubation supplies, including endotracheal tubes (at least one of each size), laryngoscope handles, and blades of various sizes, Intubating stylet, Magil forceps, lubricant gel, and tape or something else for tying endotracheal tubes in place, electrodes (adult & pediatric).

3.6.2.7 The fourth drawer: Contain intravenous fluids and administration sets. Three bags of each type of intravenous fluid stocked by the hospital could be kept in the crash cart; suggestions include sodium chloride 0.9%, lactated Ringer solution, and Plasma proteins.

3.6.2.8 The fifth drawer: Contain miscellaneous items to help treat cardiac arrest. All items could be organized in labelled bins to facilitate access. It include suction catheters, Ryle's Tube ,conducting gel, blood warmer, chest tubes, sterile thoracentesis packs, and a 60-mL syringe.

3.7 GUIDELINES FOR USING MEDICATIONS (FIRST-LINE DRUGS):

3.7.1 The main first-line drug used in cardiac arrest is:

3.7.1.1 Epinephrine

Epinephrine may be given 1 mg IV q 3 to 5 min. It has combined alpha-adrenergic and beta-adrenergic effects. The alpha-adrenergic effects may augment coronary diastolic pressure, thereby increasing subendocardial perfusion during chest compressions. Epinephrine also increases the likelihood of successful defibrillation. However, beta-adrenergic effects may be detrimental because they increase oxygen requirements (especially of the heart) and cause vasodilatation. Intracardiac injection of epinephrine is not recommended because, in addition to interrupting precordial compression, pneumothorax, coronary artery laceration, and cardiac tamponade may occur.

3.7.1.2 Amiodarone

Amiodarone 300 mg can be given once if defibrillation is unsuccessful after epinephrine, followed by 1 dose of 150 mg. It is also of potential value if VT or VF recurs after successful defibrillation; a lower dose is given over 10 min

followed by a continuous infusion. There is no persuasive proof that it increases survival to hospital discharge.

3.7.1.3 Vasopressin

A single dose of vasopressin 40 units, which has a duration of activity of 40 min, is an alternative to epinephrine (adults only). However, it is no more effective than epinephrine and is therefore no longer recommended in the American Heart Association's guidelines. However, in the unlikely case of a lack of epinephrine during CPR, vasopressin may be substituted.

3.7.1.4 Atropine sulfate

A vagolytic drug that increases heart rate and conduction through the atrioventricular node. It is given for symptomatic bradyarrhythmias and high-degree atrioventricular nodal block. It is no longer recommended for asystole or pulseless electrical activity.

3.7.1.5 Calcium chloride

Recommended for patients with hyperkalemia, hypomagnesaemia, hypocalcaemia, or calcium channel blocker toxicity. In other patients, because intracellular calcium is already higher than normal, additional calcium is likely to be detrimental. Because cardiac arrest in patients on renal dialysis is often a result of or accompanied by hyperkalemia, these patients may benefit from a trial of calcium if bedside potassium determination is unavailable. Caution is necessary because calcium exacerbates digitalis toxicity and can cause cardiac arrest.

3.7.1.6 Magnesium sulfate

Has not been shown to improve outcome in randomized clinical studies. However, it may be helpful in patients with torsades de pointes or known or suspected magnesium deficiency (ie, alcoholics, patients with protracted diarrhea).

3.7.1.7 Procainamide

Is a 2nd-line drug for treatment of refractory VF or VT. However, Procainamide is not recommended for pulseless arrest in children.

3.7.1.8 Sodium bicarbonate

Is no longer recommended unless cardiac arrest is caused by hyperkalemia, hypomagnesaemia, or tricyclic antidepressant overdose with complex ventricular arrhythmias. In children, sodium bicarbonate may be considered when cardiac arrest is prolonged (> 10 min); it is given only if there is good ventilation. When sodium bicarbonate is used, arterial ph should be monitored before infusion and after each 50-meq dose (1 to 2 meq/kg in children).

3.7.1.9 Lidocaine

Is not recommended for routine use during cardiac arrest. However, it may be helpful as an alternative to amiodarone for vf or vt that is unresponsive to defibrillation (in children) or after rosc due to vf or vt (in adults).

3.7.1.10 Other drugs

A range of additional drugs may be useful in specific settings.

5. MATERIAL AND EQUIPMENT:

5.1 Forms and Records:

5.1.1 Crash cart arrangement.

5.1.2 Crash cart inspection form.

5.1.3 Crash cart medication list - Adults

5.1.4 Crash cart medication list - Pedia

5.1.5 Code blue form

5.1.6 Emergency bag medication list.

5.1.7 OVR form.

5.2 **Materials and Equipment:**

5.2.1 Crash cart

5.2.2 Numbered lock.

6. RESPONSIBILITIES:

6.1 licensed nurse:

6.1.1 Notifying pharmacy after crash cart has been used or lock has been broken.

6.1.2 Verifying contents of new crash cart with pharmacy personnel.

6.1.3 Checking external contents of crash cart.

6.1.4 Verifying the presence and expiration date of all items (other than drugs) on carts at least every 3 months.

6.2 Pharmacist: responsible for maintaining the drug drawer on all crash carts. The earliest expiration date of any medication shall be documented on the front lid of the drawer. Locking of the crash cart in presence of the responsible RN.

7. APPENDICES:

7.1 Crash cart medication list.

8. REFERENCES:

8.1 MOH, General administration of pharmaceutical care, 2014.

9. APPROVALS:

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APPENDIX: 7.1 Crash Cart List for Pedia

NO.	Item description	Concentration	Standard Quantity	Request	Expiry
1	Adenosin	3mg/ml	2 Ampoules		
2	Amiodarone	50mg/ml	3 Vials		
3	Atropine sulphate	0.1mg/ml	5 Ampoules		
4	Calcium chloride	10% /10ml1	2Ampoules		
5	Calcium gluconate	10% 10/ml	2Ampoules		
6	Epinehrine	1:10,000	5 Ampoules		
7	Dextrose 10%	10%/250ml	2 Ampoules		
8	Dextrose 50 %	25% / 250 ml	2 Ampoules		
9	Lidocaine HCL	2%20mg/ml	2vials		
10	Magnesium sulfate	10%(/20ml)	2 vials		
11	Procainamide HCL	100mg/ML	2 Ampoules		
12	Sodium Bicarbonate	4.2% (50ML)	2 Ampules	.....	.....
13	Sodium Bicarbonate	8.4%(50ML)	2 Vials		
14	Naloxone	0.04mg/1ml	2 Vials		

Crash Cart List for Adult

NO.	Item description	Concentration	Standard Quantity	Request	Expiry
1	Amiodarone	50mg/ml	3 Vials		
2	Atropine sulphate	0.1mg/ml	5 Ampoules		
3	Calcium chloride	10% /10ml1	2Ampoules		
4	Calcium gluconate	10% 10/ml	2Ampoules		
5	Dextrose 50 %	25% / 250 ml	2 Ampoules		
6	Dobutamine	250mg/10ml	2 Ampoules		
7	Dopamine	40mg/ml	2 Ampoules		
8	Epinehrine	1:10,000	5 Ampoules		
9	Lidocaine HCL	2%20mg/ml	2vials		
10	Magnesium sulfate	10%(/20ml)	2 vials		
11	Sodium Bicarbonate	4.2% (50ML)	2 Ampules	.....	.....
12	Sodium Bicarbonate	8.4%(50ML)	2 Vials		
13	Naloxone	0.04mg/1ml	2 Vials		