# Cardiac Arrest (Code Blue): Initiating and Responding

## Site Applicability

St. Paul's Hospital & Mount St. Joseph Hospital

## Practice Level

| Profession | Basic Skill |
|---|---|
| **All Health Care Workers** | • Initiation of code blue response<br>• Initiation of basic life support (BLS) including cardio-pulmonary resuscitation (CPR).<br>• Selecting, donning & doffing Personal Protective Equipment (PPE) appropriately. |

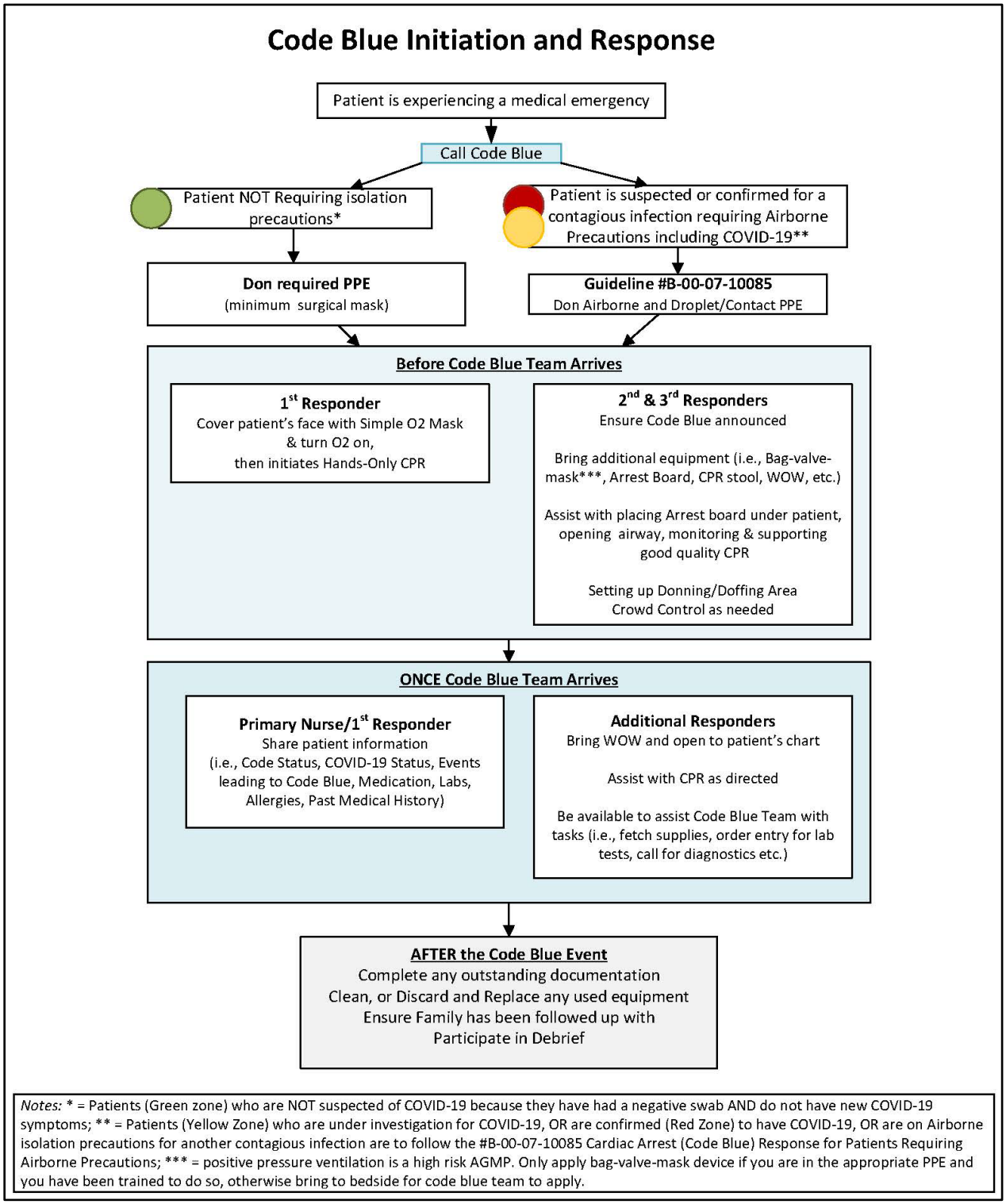
### Clinical Indication

A Code Blue is initiated by any health care worker to provide a fast coordinated response, and summon additional resources for any life-threatening situations such as (but not limited to): cardiac and/or respiratory arrest, acute respiratory distress, choking, anaphylaxis, hemorrhaging, or seizures.

## Requirements

1. Basic Life Support (BLS) certification (i.e. cardiopulmonary resuscitation or CPR) is required for all staff upon hiring. Staff are expected to maintain competency in performing BLS skills by attending education sessions of their choice at least once per year. Resources for CPR education are found on PHC's "Connect" intranet, (found in the "**Quality + Safety + Value**" tab on the "**Nursing**" page under "**Education for Nurses**" tab) and with your unit Nurse Educator.
2. As per the Occupational Health and Safety recommendations, all clinical staff should have an up-to-date fit test for an N95 mask. Information about fit testing can be found on PHC's "Connect" intranet, (found in the "**Quality + Safety + Value**" tab on the "**Occupational Health & Safety**" page under the "**Fit Testing + Respiratory Protection**").
3. Staff members caring for a patient must be aware of their assigned patient's code status, and the patient's own directives such as an advanced care plan, advanced directive or provincial "No CPR" form. Staff members should discuss with the most responsible provider if there is any lack of clarity concerning the patient's code status (e.g. Options for Care or Medical Order for Scope of Treatment also known as MOST)

## Algorithm



## Need to Know

**NOTICE:**

**This guideline ONLY refers to code blue events in patients who are NOT requiring Airborne Precautions.**

Refer to the "Cardiac Arrest (Code Blue) Response For Patients Requiring Airborne Precautions" [#B-00-07-10085] guideline for additional information, if you are caring for a patient with a suspected or confirmed case of a contagious respiratory infection such as (but is not limited to): infectious pulmonary tuberculosis, SARS-CoV2 (COVID-19), Rubeola (Measles), or Varicella (Chickenpox).

1. Be familiar with the location of Code Blue buttons and how to activate a code blue in your clinical area.
2. Health care staff MUST NOT perform mouth-to-mouth ventilation.
3. The majority code blue events do not require CPR.
4. Whether or not a patient requires CPR, at minimum, don a **surgical mask** unless the patient is on additional isolation requirements.
5. Only staff who are trained and maintain their competency on an ongoing basis should attempt to apply Bag-Mask-Valve ventilation in respiratory emergencies. Use of the Bag-Mask-Valve is a specialized skill that can cause harm to patients if done improperly. The minimum training required includes, both theory and Respiratory Therapist-led hands on practice of this clinical skill. Additionally, clinicians need to review their training at least annually to maintain competency with use of the Bag-Valve-Mask.
6. Patients who experience a cardiac arrest AFTER a recent history of sternotomy (i.e., within 2 weeks) have been shown to benefit from modified ACLS.[3 4] For patients in CSICU, 5A or 5B this includes an electricity-first approach where CPR may be delayed for up to (but no more than) 1 minute to:
    a. defibrillate first, if the patient has ventricular fibrillation or ventricular tachycardia;
    b. Attempt emergency pacing first, if the patient has severe bradycardia or asystole.[3 4]

**Activating Code Blue:**

| Code Blue Scenario | Activation Process |
|---|---|
| Adult in the hospital | Press the Nearest **Code Blue Button**<br>If no code blue button nearby, or it fails to generate an overhead code blue announcement **then Call 7111 & State:**<br>**1.** Your Site (i.e., St. Paul's Hospital or MSJ)<br>**2.** Your location,<br>**3.** Your name,<br>**4.** The phone number you are calling from |
| Child (12 years or less) in the hospital | **Call 7111 & state:**<br>**1.** "CODE BLUE PEDIATRIC"<br>**2.** Your Site (i.e., St. Paul's Hospital or MSJ)<br>**3.** Your location, name & phone number you are calling from |
| In OR, PACU, CSICU or ED if additional help from the Code Blue Team is needed | **Call 7111 & state:**<br>**1.** Your Site (i.e., St. Paul's Hospital or MSJ)<br>**2.** Your location, name & phone number you are calling from<br>Code team will remain until the code has been completed or the code team is released by the clinical nurse leader (CNL) or Physician of the critical care unit who called for assistance (OR, PACU, CSICU, or ED). |
| Outside of a hospital building, including parking lots | **Call 911** |

## Equipment and Supplies

| Equipment | Responsibilities |
|---|---|
| Arrest Board<br>Bag-valve-mask (AMBU bag)*<br>PEEP Valve (if readily available)<br>PPE supplies or PPE cart<br>CPR Stool<br>Glucometer | • Is located on each inpatient ward at SPH and at MSJ on the code blue cart.<br>• Be familiar with equipment and its location<br>• In the event of a Code Blue, bring equipment to patient's location. At MSJ, this includes bringing the code blue cart. |
| Medications for medical emergencies (i.e., hypoglycemia, allergic reaction, seizures, etc.) | • Be familiar with location of emergency medications in your unit (i.e., Omnicell, medication cart, locked area in some outpatient clinics, etc.) and how to access it<br>• Bring to the patient as needed |
| Code Blue Cart | • SPH (most units) - Is brought to patient by Code Blue Team<br>• SPH (5AB only) – is brought to patient by 5AB staff<br>• MSJ – is brought to patient by in-patient unit staff (except in ECU) |
| Temporary pacing equipment<br>(5B only) | 5 B (Cardiac Surgery)<br>• Be familiar with and maintain temporary pacing equipment,<br>• In the event of a Code Blue, brings equipment to patient's location |
| *Note:* * = At MSJ, the Code Blue Team is responsible for bringing the bag-valve-mask to the patient's. Also, positive pressure ventilation is considered a high risk aerosol generating medical procedure (AGMP). First responders at SPH are responsible for bringing the Bag-Valve-Mask (i.e., AMBU bag) to the patient's bedside in preparation of the arrival of the Code Blue Team, but **do not** apply it to the patient, or deliver breaths with it unless you are wearing the appropriate PPE and are trained to use the device. | |

## Guideline

**Before the Code Team Arrives**

| Team Member | Actions | Rationale |
|---|---|---|
| First Responder | **1.** Don appropriate PPE | • Protect yourself first |
| | **2.** Check responsiveness (Pinch and Shout)[2] | • Acute decrease in level of consciousness is a good indicator of a medical emergency |
| | **3.** Calls for help (i.e., push code blue button if available & calls for additional staff)[2] | • Mobilizes code team and additional help to the patient |
| | **4.** Check breathing and pulse simultaneously (for no more than 10 seconds)[2] | • Early initiation of CPR and minimized interruptions to CPR is associated with better patient outcomes.[2 5] |
| | **5.** Place patient supine. If the patient is in a chair, gently lower to the floor while protecting the head. | • Best position for good CPR |
| | **6.** If patient is not breathing (or not breathing normally) and has no pulse, start CPR. Agonal breathing is not normal breathing, when in doubt, start CPR:<br>• Cover mouth with simple O2 mask with oxygen turned on (10 L/min). If O2 mask not available, cover face with surgical mask or cloth.[1]<br>• Announce "I am starting CPR"<br>• Start **hands-only CPR**:<br>○ at 100 to 120 beats per minute;<br>○ allow for full chest recoil;<br>○ at a depth of:<br>▪ ADULT: 5 to 6 cm;<br>▪ CHILD: 1/3 of chest diameter (approximately 5 cm)<br>▪ BABY: 1/3 of chest diameter (approximately 4 cm) | • Unnecessary compressions are less harmful than failing to provide compressions when the patient has inadequate circulation. [2]<br>• Delivers oxygen & protects first responders.[1]<br>• Informs others that CPR is started<br>• BLS guideline recommendations for high quality CPR.[5] |

| Team Member | Actions | Rationale |
|---|---|---|
| Second and Additional Responders | **7.** Ensure Code Blue call is announced overhead, and/or initiates code blue call if needed (i.e., call 7111, or 911 if outside hospital building) | - Ensures help is on route |
| | **8.** Don appropriate PPE | - Protect yourself first |
| | **9.** Brings additional equipment to patient (e.g., bag-valve-mask, arrest board, PPE cart, etc.) | - Ensures needed equipment is on hand |
| | **10.** Assist with placing patient in a supine position with arrest board placed underneath the patient's chest and torso. | - Position for good CPR |
| | **11.** Assist first responder to assess & open the airway:<br>• Check oropharynx for secretions, blood, emesis, or foreign objects<br>• Clear airway with Yankauer suction<br>• Open airway (see Appendix A)<br>○ **If NO suspected c-spine injury**, use head-tilt, chin-lift method<br>○ **If suspected c-spine injury**, do not move neck and use jaw thrust method | - Ensures air exchange during CPR<br>- Tongue is the most common cause of airway obstruction, and either method to open the airway pulls the tongue forward to allow air exchange.[6] |
| | **12.** Monitor quality of CPR, switch CPR providers as needed, and minimize interruptions | • CPR is a physically challenging activity and most people can perform high quality CPR for a maximum of 2 minutes. All staff should monitor for the quality of CPR, and switch CPR providers as needed. |
| | **13.** Only use bag- valve- mask or oropharyngeal airway if you have been trained to use them (see Appendix B) and everyone has donned the appropriate PPE. Positive pressure ventilation is classified as a high risk AGMP. | • Using a bag-valve-mask or oropharyngeal airway is a specialized skill and requires training to use safely.[7] |

| Team Member | Actions | Rationale |
|---|---|---|
| | **14.** If needed assist others to don/doff PPE as needed (e.g., act as PPE spotter, set up donning/doffing areas, etc.) | • A PPE observer can improve safe donning/doffing of PPE |
| 5 AB staff only | **1.** Bring code blue cart, defibrillator and temporary pacing cart. As appropriate consider initiating the following protocols:<br>a. (B-00-12-10017) Defibrillation, cardioversion and transcutaneous pacing (Adult)<br>b. (B-00-13-10014) Bradycardia (Cardiac Wards)<br>c. (B-00-13-10083) Epicardial Pacing and Pacing Wire Care on Cardiac Wards<br>d. Code Blue Response for patients with a recent sternotomy (see Appendix C) | • Cardiac and cardiac surgery patients are at higher risk for cardiac arrest due to an electrical dysfunction, and 5AB RNs have advanced training to initiate appropriate interventions in a Code Blue or cardiac emergency |

## When Code Team Arrives

| Team Member | Actions | Rationale |
|---|---|---|
| Patient's Primary Nurse or most responsible nurse | **1.** Provide information to the Code Blue Team, including:<br>• Patient's COVID-19 status (last symptom screening &/or swab results) or other infectious diseases<br>• Events leading up to Code Blue<br>• Medications, allergies, labs<br>• Past medical history | • Effective and timely information sharing will help the code team perform a point-of-care risk assessment, and aid in clinical decision-making. |
| All First Responders (i.e., first, second, and additional responders) | **2.** Continue with CPR until relieved or as directed by the Code Blue Team. | • Minimized interruptions to CPR is associated with better patient outcomes.[5] |
| | **3.** Bring WOW and open patient's chart | • Many tasks need to be done quickly in code blue events; primary care teams can help facilitate this. |

| Team Member | Actions | Rationale |
|---|---|---|
| | **4.** Be available to assist Code Blue Team as directed (e.g. fetch supplies, order entry for lab tests, organize diagnostics tests, aid with PPE donning/doffing station, crowd control if needed etc.) | |

### After the Code Blue Event

| Team Member | Actions | Rationale |
|---|---|---|
| All First Responders and Code Team | **1.** Debrief the Code Blue event.<br>• What went well & why?<br>• Opportunities for improvement?<br>• Any system, equipment, medication and/or process issues to follow up on?<br>• What key lessons learned can we bring forward to improve clinical practice? | • Short, clinically focused debrief gives all team members an opportunity to learn from the experience, communicate any key pieces of information before returning back to their units. |
| Unit Staff | **2.** Clean CPR board, stool and other equipment with disposable cleaning cloth, (e.g., Cavi Wipe) | • Prevents microbial spread due to shared equipment. |
| | **3.** Ensure all used emergency equipment has been restocked and replaced in its appropriate location | • Ensures unit is prepared for the next medical emergency |
| | **4.** Dispose of the used bag-valve-mask (ABMU bag) if it is left on the unit. Page the RRT to replace it with a new one. | • Ensures unit is prepared for the next medical emergency |
| | **5.** Follow-up with patient's family as needed. | • Ensures that family members are updated to acute changes in patient's condition. |

## Documentation

Code Blue documentation is on paper on the Cardiac Arrest Record, and is completed by the code team (or delegate). At the end of the code blue event, unit staff may need to complete documentation in the patient's Powerchart regarding:

- specific events leading up to the Code Blue event, and
- any actions or assessments performed by unit staff prior to the code team's arrival.

### Patient and Family Education

Code Blue events are a traumatic event for both patients and their family members. Update the patient's family as soon as possible after the Code Blue event. If family members are present during the code blue event, when possible, assign a staff member (i.e., social worker, spiritual care, nurse, etc.) to support the family throughout the Code Blue event.

Update the patient about the code blue event as soon as they are able to participate in the conversation. Depending on the patient's outcome, it may not be feasible to happen right away.

## Related Documents

1. B-00-07-10085 – Cardiac Arrest (Code Blue) Response for Patients Requiring Airborne Precautions
2. B-00-13-10080 – Cardiac Arrest (Code Blue) Team Responsibilities and Response to Cardiac Arrest Calls (SPH)
3. B-00-13-10082 – Cardiac Arrest (Code Blue) Team Responsibilities and Response to Cardiac Arrest Calls (MSJ)
4. B-00-07-13080 – Aerosol Generating Medical Procedures (AGMP) in the context of COVID – Infection Prevention and Control
5. B-00-14-13003 – Personal Protective Equipment: Sequence for Donning and Doffing
6. B-00-07-10034 – Tracheostomy Care
7. B-00-13-10014 – Bradycardia (Cardiac Wards)

### Related Policies

1. B-00-11-10116 – Code Status (Options for Care)

## References

1. Heart and Stroke Foundation of Canada. Modification to public hands-only CPR during the COVID-19 pandemic. Secondary Modification to public hands-only CPR during the COVID-19 pandemic. April 6, 2020. https://www.heartandstroke.ca/articles/modification-to-hands-only-cpr-during-the-covid-19-pandemic.
2. Heart and Stroke Foundation of Canada. *Advanced Cardiovascular Life Support: ACLS Provider Manual*. Ottawa ON: Heart and Stroke Foundation of Canada, 2020.
3. Ley SJ. Standards for resuscitation after cardiac surgery. Critical care nurse 2015;**35**(2):30.
4. Resuscitation After Cardiac Surgery (2017). The society of thoracic surgeons expert consensus of the resuscitation of patients who arrest after cardiac surgery. The Annals of Thoracic Surgery, **103**(3):1005-20. https://doi.org./10.1016/j.athoracsur.2016.10.033
5. Nolan et al. (2020). Executive Summary: 2020 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science With Treatment Recommendations. Circulation 142(16 Suppl 1):S2-S27. https://doi.org/10.1161/CIR.0000000000000890

6. Airway Positioning Elsevier Skills (2021). St. Louis, MO. Elsevier. Retrieved July 21, 2022 rom www.elsevierskills.com.
7. Ventilation- Bag Mask. Elsevier Clinical Skills (date). St. Louis, MO. Elsevier. Retrieved Month Day Year from www.elsevierskills.com.

## Definitions

"**Patient**" is defined as any person in the hospital who is experiencing a medical emergency.

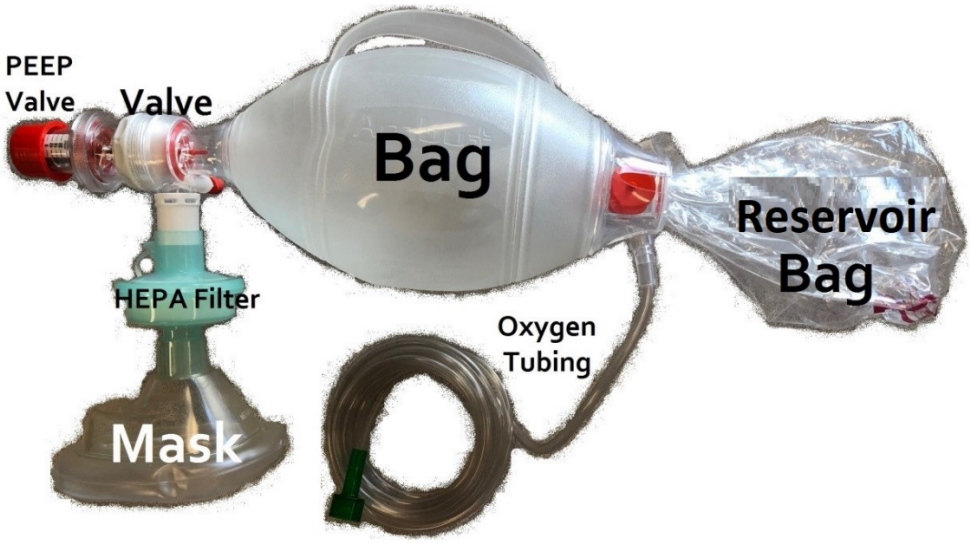
### Appendix A: Opening the Airway with Head-Tilt Chin-Lift and Jaw Thrust Methods

| Head-Tilt Chin-Lift Method | Jaw-Thrust Method |
|---|---|
| Use if C-Spine Injury is **NOT Suspected**. | Use for **SUSPECTED C-Spine Injury** |
| • Place the head in a "sniffing" position by tilting the head slightly back and lifting the chin.<br>  | • Do NOT extend the neck<br>• Prevent movement of the cervical spine by keeping head in-line with the neck and shoulders<br>• To do the jaw-thrust, place the first 2 fingers of each hand behind the angle of the jaw and lift the jaw upwards.<br>  |
| Figure from Sanders, M. J., (2012) Mosby's Paramedic Textbook (4th Ed). St. Louis: Mosby JEMS. | Figure from Emergency Nurses Association (ENA). (2014). Trauma Nursing Core Course: Provider Manual (7th Ed.). Des Plaines, IL:ENA. |
| Refer to:<br>Elsevier Skills : Search "Airway Positioning" for quick sheet and video | |

## Appendix B: Bag-Valve-Mask Ventilation

As per the Aerosol Generating Medical Procedures (AGMP) in the Context of COVID – Infection Prevention and Control Guideline [#B—00-07-13080], delivering ventilation with a bag-mask-valve is categorized as an aerosol-generating medical procedure (AGMP). Given the clinician's proximity to the patient's airway during bag-valve-mask ventilation, Aairborne, Droplet and Contact PPE is required prior to initiating bag-mask-valve ventilation.

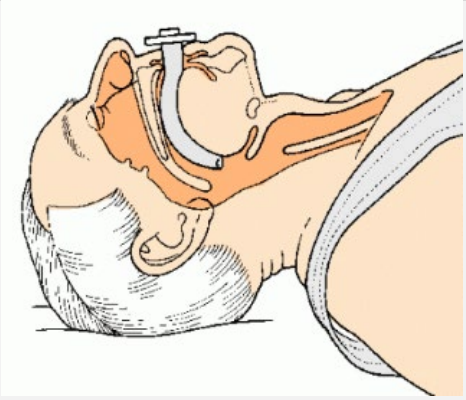
The bag-valve-mask is a device used to provide artificial ventilation to a patient during a respiratory or cardiac arrest. It can be sued with a: mask applied to the patient's face; through an endotracheal tube; or via a tracheostomy tube. The bag-valve-mask consists of:



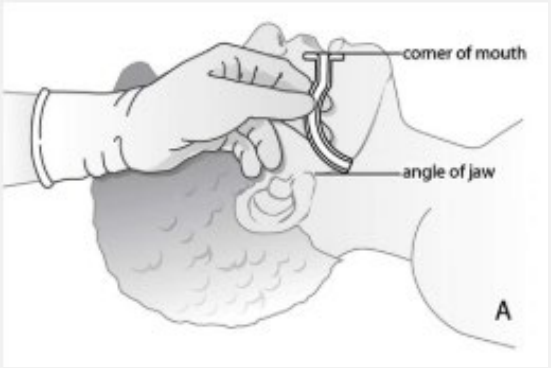

- **Bag** – holds approximately 2 liters of $O_2$ (Adult Size)
- **Valve** – one-way valve which allows $O_2$ to go to the patient when squeezed and prevents exhaled gases from going into the bag. This prevents rebreathing of $CO_2$
- **Mask** – (latex-free) fits over the patient's mouth and nose. A mask will come attached to the unit and will fit most patients. A larger mask is located in the code blue cart which will be brought by the code team when they arrive. The RRT will adjust the mask size if required.
- **Peep Valve**: Positive end expiratory pressure refers to the application of additional pressure at the end of expiration to maintain pressure in the lung slightly above atmospheric pressure, generally used to maintain adequate oxygenation. The adjustable PEEP valve connects directly to the top of the bag-valve-mask and comes attached to the unit. The RRT will manage PEEP and adjust when necessary.
- **Oxygen Tubing** – needs to be connected to the $O_2$ inlet and turned on to 15L/min. If the oxygen tubing is not connected, it can still be used to ventilate a patient but the patient will only receive room air.
- **Reservoir bag** – this is an inflatable bag which connects to the end of a bag-valve-mask. When the unit is connected to flowing oxygen, the reservoir bag should be inflated. If the bag-valve-

mask is not connected to oxygen, the bag will not be inflated but can still be used to ventilate the patient with room air.

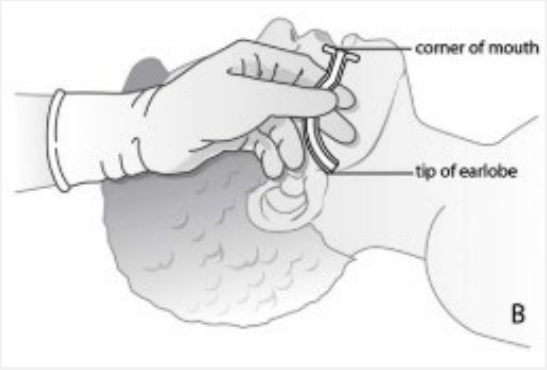
- **HEPA Filter** – A HEPA filter MUST be added to the bag-valve-mask device and act to filter bacteria or viruses out of the exhaled air. There are a variety of HEPA filters available for use.
- **Oropharyngeal Airway** – When using a bag-valve-mask to ventilate a patient, an oropharyngeal airway is inserted to help prevent the tongue from obstructing the airway however it needs to be sized appropriately. **Do not insert an oropharyngeal airway unless you have been trained to size and insert one.** Inappropriately sized oropharyngeal airways can cause trauma to the pharyngeal area, laryngospasm, and further obstruction to the airway.

| Various Sizes of Oropharyngeal Airways | Placement of Oropharnyngeal Airway |
|---|---|
|  |  |

Two Methods for Sizing an Oropharyngeal Airway




A: Measure from the corner of the mouth to tha angle of the jaw




B: Measure from the corner of the mouth to the tip of the earlobe

Figure from Verger, J. T., Lebet, R. M., (Eds.) (2008). AACN Procedure Manual for Pediatric Acute and Critical Care. St. Louis: Sanders.

***Note:*** Bag-valve-mask (Ambu bag) is a disposable device. When the resuscitation is completed, please dispose of this device in clinical waste. Contact the RRT to restock the unit with a new bag-valve mask in acute care areas where bag-valve-mask devices are stocked.

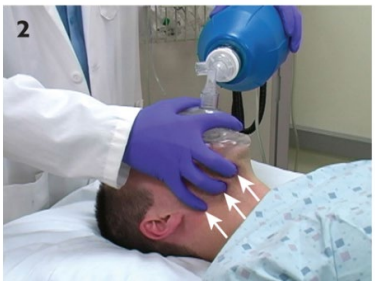
## Using the Bag-Valve-Mask

| Steps | Rationale |
|---|---|
| 1. **Don the appropriate PPE** for AGMP (i.e., Airborne, Droplet and Contact) | - Delivering positive pressure ventilation throughout a bag-mask-valve has the potential of generating aerosols or droplet nuclei in high concentration. Also, it is highly likely the patient will also require intubation which carries a higher risk for opportunistic airborne transmission of pathogens that otherwise are not spread through the airborne route. |
| **2. Ensure good quality CPR is in progress** | - Effective chest compressions should be the focus of any resuscitation attempt is it improves patient outcomes. |
| **3. Open mouth and clear the airway.**<br>Check for any secretions, blood, emesis or foreign objects. Use a Yankauer suction to clear the airway. | - Opens the airway |
| **4. IF TRAINED to do so, size and insert an oral airway.**<br>You can omit this step if you are not trained, or an oropharyngeal airway is not immediately available. | - Inappropriately sized airways can cause trauma and further obstruction. |
| **5. Maintain an open airway** with either the head-tilt chin-lift method (no c-spine injury) or jaw-thrust method (suspected c-spine injury). | |
| **6. Connect the bag-valve-mask device to oxygen**<br>Attach HEPA filter, and ensure oxygen is turned on to 15 L/min so the reservoir bag will inflate. | - The reservoir bag will inflate if the oxygen is flowing adequately. You can still use the bag-valve-mask device to ventilate a patient if oxygen is not available but the patient will only receive room air, and the reservoir bag will not inflate. |
| 7. **Seal face mask over the mouth and nose** with either the one-hand (one-person) or two-hand (two-person) method. | - A tight seal is needed to ensure delivered air will flow into the patient's lungs. |

## One-Handed (One-Person) Method


The "C-E" clamp technique provides the most effective seal.

Use the thumb and index finger to form a letter "C" and provide anterior pressure on the mask.




Use the third, fourth, and fifth fingers to lift the mandible up into the mask. Placing the fifth finger behind the mandible and performing a jaw thrust may be possible.

Figure from Roberts, J. R., and others {Eds) (2019). Roberts & Hedges' Clinical Procedures in Emergency Medicine (7th ed.). Philadelphia: Elsevier.

## Two-Handed (Two-Person) Method


The traditional technique is the "double C-E" method.

Use the thumb and index fingers of both hands to encircle the top of the mask.


Use the third, fourth, and fifth fingers of each hand to lift both sides of the mandible to meet the mask. Doing a good jaw lift with this method is difficult.


A better two-handed method is to hold the mask in place with the thenar eminences of both hands.


Use the long fingers under the mandible to do a jaw lift while also pressing the mask firmly against the face. This allows the rescuer to do a good jaw lift and create a good seal with the strongest muscles of the hand.

Figure from Roberts, J. R., and others (Eds) (2019). Roberts & Hedges' Clinical Procedures in Emergency Medicine (7th ed.). Philadelphia: Elsevier.

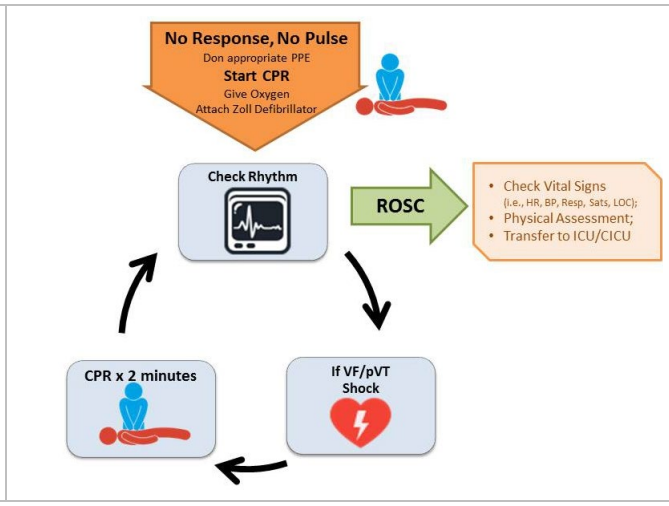
| | |
|---|---|
| **8. If the patient has a tracheostomy:**<br>- Detach the mask from the bag-mask-valve leaving the HEPA filter attached to the bagger and attach the bag-valve to the tracheostomy.<br>- If the tracheostomy has a cuff, **slowly** inflate the cuff with a syringe to a **maximum of 10 mL of air.**<br>- Ensure the bag-valve is connected to 15 L/min $O_2$<br>  | - This device can be fitted to provide direct ventilation via a tracheostomy. Inflating the cuff of a tracheostomy ensures airflow is directed into the patient's lungs. |
| 9. **Squeeze bag in coordination with CPR.** Avoid excessive ventilation, or over-inflation. | - Bag-valve-mask can be challenging to coordinate with CPR. Over-inflation or increased intrathoracic pressure can decrease venous return to the heart. |
| Refer to:<br>Elsevier Skills Search "Ventilation: Bag Mask" for quick sheet and video | |
| ***Note:*** Providing ventilation with a bag-valve-mask is a specialized skill and should not be performed without adequate training which includes theory, hands on practice, and at minimum an annual renewal of the training and clinical skills. | |

### Appendix C – Code Blue Response for Patients with Recent Sternotomy

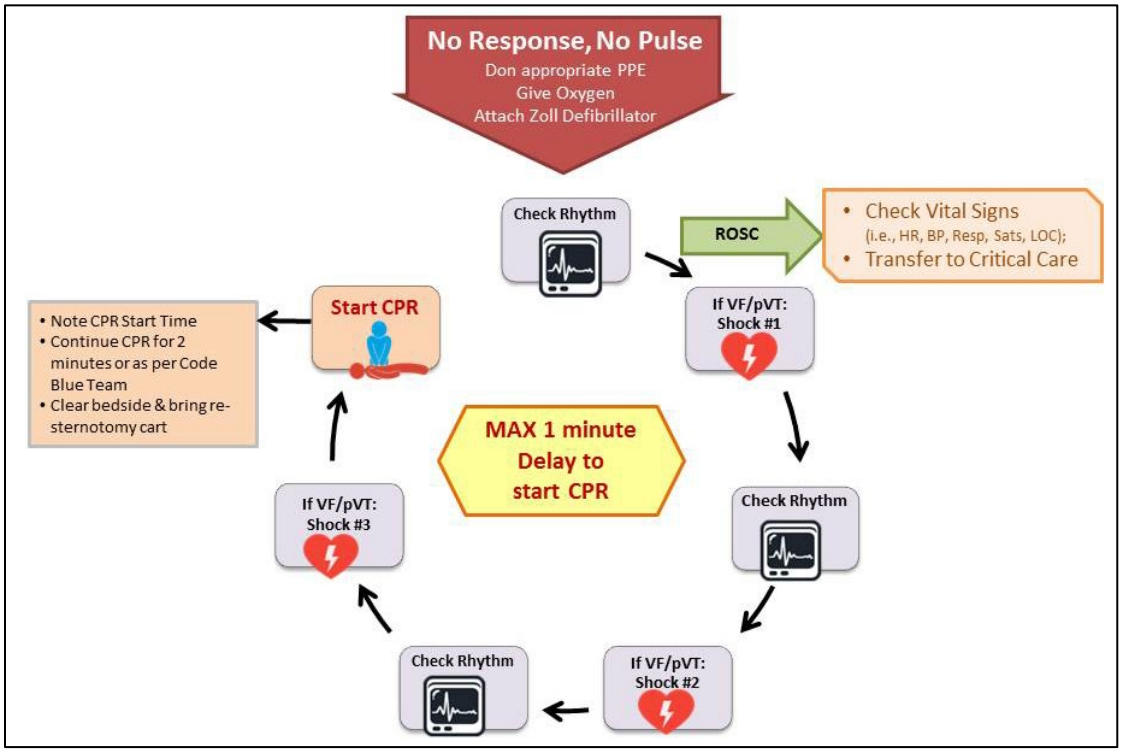
## Standard Code Blue with CPR Response (i.e., No Sternotomy)

This is different than the standard code blue response performed where:

- CPR is initiated first;
- defibrillation occurs after the first rhythm check;
- and CPR resumes immediately after one defibrillation attempt.




## EXCEPTION: Code Blue Response for Patients with Recent Sternotomy (5A/B)

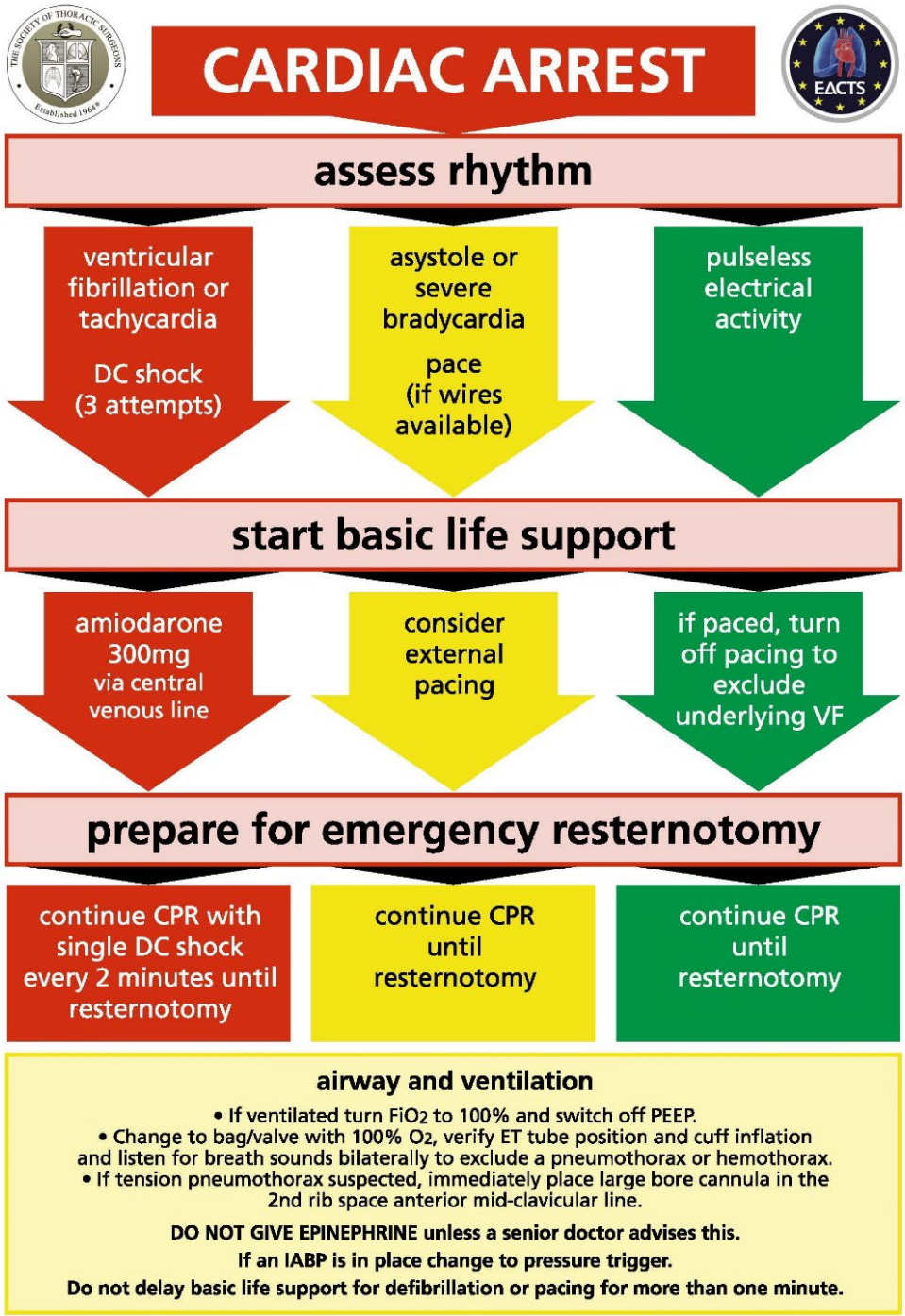



This code blue response is performed ONLY in patients with a recent sternotomy (within 4 weeks while in hospital). CPR may be delayed for a **MAXIMUM of 1 minute** to defibrillate first, for up to 3 attempts. Avoid using the LUCAS device for CPR for up to 4 weeks post sternotomy.

## EXCEPTION: CSICU Modified ACLS in Patients with Recent Sternotomy

Ann Thorac Surg
2017;103:1005–20






### Persons/Groups Consulted:

Clinical Coordinator Respiratory Therapy

CNS Cardiology

Nurse Educators Cardiac Program

PHC Cardiac Arrest Committee

Nurse Educators ICU SPH

Nurse Educator HAU MSJ

Infection Control Practitioner, IPAC

ICU Physician

**Developed By**

CNS Critical Care

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| | Cardiac Arrest Committee<br>Professional Practice Standards |
| **Owners:** | PHC |
| | PHC Cardiac Arrest Committee |