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**EMS SKILL**

**AIRWAY EMERGENCY: INFANT AIRWAY OBSTRUCTION**

**PERFORMANCE OBJECTIVES**

Demonstrate competency in recognizing and managing an airway obstruction in an infant who is choking.

**CONDITION**

Recognize and manage an airway obstruction in an infant who is found choking. Necessary equipment will be adjacent to the manikin or brought to the field setting.

**EQUIPMENT**

Infant manikin, infant bag-mask-ventilation device, O2 connecting tubing, oxygen source with flow regulator, suction pediatric resuscitation tape, goggles, various masks, gown, gloves, timing device, airway bag.

**PERFORMANCE CRITERIA**

• Items designated by a diamond (⧫) must be performed successfully to demonstrate skill competency.

• Items identified by double asterisks (\*\*) indicate actions required, if indicated.

• Items identified by the symbol (§) should be practiced.

• Ventilations and compressions must be performed at the minimum rate required.

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| **PREPARATION** | |
| **Skill Component** | **Key Concepts** |
| ⧫ Establish body substance isolation precautions | • Mandatory (minimal) personal protective equipment – gloves |
| ⧫ Assess scene safety/scene size-up |  |
| ⧫ Evaluate need for additional BSI precautions | • Situational - goggles, mask, gown |
| ⧫ Approach the infant and introduce yourself to the infant, family or caregiver – *if circumstance, time and resources allow* | • The caregiver should hold the infant during the assessment if the infant is in no distress and responsive. |
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| **RESPONSIVE INFANT** | |
| **PROCEDURE** | |
| **Skill Component** | **Key Concepts** |
| ⧫ Establish that the infant is choking:    ***\*\*Call for additional resources – if needed***  ***\*\*Mild obstruction – Do not interfere with infant’s attempt to relieve the obstruction (coughing)*** | *•* **DO NOT** interfere if the infant has an effective cough.  Mild Obstruction:  - adequate air exchange  - coughing  - gagging  - wheezing (May wheeze in between coughs).  Severe Obstruction:  - poor or no air exchange  - increased work of breathing  - weak, ineffective cough or no cough  - stridor (high-pitched upper airway noise while inhaling) –  Unable to make noise (cry)  - cyanosis  - decreasing level of consciousness |

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| **Skill Component** | **Key Concepts** |
| ⧫Attempt to remove foreign body obstruction – if severe obstruction  Kneel or sit with the infant in your lap    ***\*\*Position the patient by placing the infant prone on the rescuer’s forearm***  ***\*\*Keep head lower than the body***  ***\*\*Support the jaw and face***  ***\*\*Perform five (5) back slaps, using the heel of the hand,***  ***between the shoulder blades***  ***\*\*Use enough force to remove the obstruction*** | • Only attempt to remove an obstruction caused by a foreign body.   * Fever, congestion, hoarseness, or drooling are signs of infection. If present, immediate transport to an Emergency Department Approved for Pediatrics (EDAP) must occur as foreign body airway maneuvers will not resolve this type of condition.   **• DO NOT PERFORM** blind finger sweeps. This may force object further down the distal airway structures.  • Use the heel of the hand to deliver slaps to the back between the shoulder blades.  • You must deliver each slap with enough force to attempt to  dislodge the object. |
| ⧫ Sandwiches the infant by placing the opposite arm on top of the infant.  ***\*\*Rotate the infant onto the opposite arm***  ***\*\*Maintain support of the head and neck at all times***  ***\*\*Rotate the infant by:***  ***- placing the free hand on the occiput and back, cradling the infant between both hands and arms***  ***- turning the body as one (1) unit***  ***- maintain control of head and neck at all times***  ***- keep the head slightly lower than the body throughout the procedure*** | * Placing the infant on your forearm, with their head lower than the chest while supporting their head, allows gravity to assist with moving the foreign body up into the mouth. Hold the jaw and face with fingers extended. **DO NOT** cover the mouth or compress the soft tissue of the neck. * Use caution to avoid compressing the soft tissues of the infant’s neck. |
| ⧫ Perform up to five (5) chest thrusts  ***\*\* Support the infant’s head with your hand.***   * Places the infant’s head slightly lower than the chest while resting on the forearm * Find lower 1/2 of sternum (1 finger width below nipple line) * Use two (2) finger pads * Compress at a depth of at least 1/3rd of chest diameter (about 1 ½ inches * Rate one (1) thrust per second | * Use caution to avoid compressing the soft tissues of the infant’s neck. * The technique for chest thrusts is the same as for chest compressions when performing CPR. * Each thrust must be delivered as a separate and distinct movement with sufficient force to relieve the obstruction. |
| * Call for ALS *-* if obstruction is not relieved after two (2) minutes or infant becomes unresponsive | * The most common cause of cardiac arrest in infants is an inadequate airway. Attempt removal of obstruction for two (2) minutes before leaving the infant to call for other resources. |
| * Repeat a series of up to five (5) back slaps followed by five (5) chest thrusts until the obstruction is relieved or the infant becomes unresponsive | * The obstruction may have been relieved when the patient becomes unresponsive due to muscle relaxation. |
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| **UNRESPONSIVE INFANT** | |
| **PROCEDURE** | |
| **Skill Component** | **Key Concepts** |
| ⧫Place the infant gently on a firm flat surface in a supine position. | * A firm surface allows compression of the chest and heart to create blood flow. Too soft of a surface will push the infant into the soft surface. |

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| **Skill Component** | **Key Concepts** |
| ⧫ Initiate compressions:   * Delivers at a rate of 100-120/min. * Compress at a least one-third the depth of the chest   about 1 ½ inches | * **DO** **NOT CHECK FOR A PULSE** * Place the infant on a firm surface if possible. A firm surface allows compression of the chest and heart to create blood flow. * Five (5) cycles of CPR takes approximately two (2) minutes |
| ⧫ Open the airway by performing a head tilt/chin lift maneuver  ***\*\* Check the mouth for an object in the back of the throat. If the object is seen and can be easily removed, remove it*** | • The tongue is the most common cause of airway obstruction due to decreased muscle tone.  • The tongue and epiglottis may obstruct the entrance of the trachea due to inspiratory efforts creating negative pressure in the airway.   * It is important to maintain a neutral position in pediatric patients to prevent hyper-flexion of the neck which may inhibit ventilations or occlude the airway (head is relatively large for size of the body). |
| ⧫ Attempt to ventilate the infant:   * Administer two (2) breaths, one (1) second each | * Making a ventilation attempt may facilitate the foreign body into a position where air may be able to be passed around the foreign body and into the lungs. |
| ⧫ Resume compressions until:   * the object is removed * ALS assumes care | * Complete 5 cycles or approximately two (2) minutes of CPR at 30:2. * Open the airway before delivering breaths. If the object is seen, remove it if possible |
| ⧫ Re-assess patient if obstruction is relieved and check for:  - **R**esponsiveness to stimuli  - **P**ulse  - **B**reathing  ***\*\* Provide rescue breathing, one (1) breath every 3-5 seconds – if indicated***  ***\*\* Administer oxygen per Los Angeles County Reference No. 1304*** | • Responsive infants should be held by the parents or caregivers.  • A breathing non-responsive patient should be placed in a position to reduce the chance of the airway occlusion by the tongue, and aspiration of mucus or vomit. |
| **RE-ASSESSMENT**  **(Ongoing Assessment)** | |
| **Skill Component** | **Key Concepts** |
| § Reassess the infant **at least every** five (5) minutes or sooner once the obstruction is relieved  • Respirations and circulation continuously  • Initial assessment  • Relevant portion of the secondary assessment  • Vital signs  ***\*\* Manage the infant’s condition as indicated.*** | • Choking infants that required resuscitation are priority patients and must be re-evaluated at least every five (5) minutes or sooner.   * Evaluating and comparing results from the previous assessment assists with recognizing if the patient is improving, responding to treatment, or if their condition is deteriorating. * The need for additional treatment is based upon information gained during reassessment. |

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| **Skill Component** | **Key Concepts** |
| § Explain the care being delivered and the transport destination to the infant’s family orcaregiver | • Communication is important when dealing with the infant, family, or caregiver. This is a very critical and frightening time for all involved and providing information helps in decreasing the stress they are experiencing. |
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| **PATIENT REPORT AND DOCUMENTATION** | |
| **Skill Component** | **Key Concepts** |
| § Give patient report to equal or higher level of care personnel | • Report should consist of all pertinent information regarding the assessment finding, treatment rendered and infant’s response to care provided. |
| § Verbalize/Document:  • Event leading up to the obstruction  • Cause of obstruction – type of obstruction/foreign body  • Observed or reported signs of obstruction:  - skin signs  - absent or inadequate respirations  • Response to obstruction maneuver  • Reassessment of airway  • Additional treatment provided | • Documentation must be on either the Los Angeles County EMS Report, departmental Patient Care Record form or ePCR. |

Developed: 10/01 Revises: 10/2018



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**Supplemental Information**

**INDICATIONS:**

• Infants who show signs of mild or severe airway obstruction

**CONTRAINDICATIONS:**

• None when the above condition applies.

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| **COMPONENTS OF AN AIRWAY BAG:** | |
| **BMV devices – adult, child, infant** | **Portable suction** |
| **OP/NP airways – all sizes** | **Suction equipment– various sizes** |
| **Nasal cannula** | **Portable oxygen cylinder and oxygen regulator** |
| **Simple face mask – adult, child, and infants** | **Pulse Oximeter** |
| **Non-rebreather – adult, child, and infants** | **Water soluble lubricant** |

**NOTES:**

• An infant is defined as < 12 months of age.

• Some signs of inadequate breathing are: respiratory distress, fast/slow respirations, bradycardia, stridor, cyanosis, poor perfusion, and altered LOC.

• **DO NOT** perform a blind finger sweep. This may force object further down trachea. If the object is seen and can easily be

removed, remove it.

• An infant who is altered should be placed in a position to protect the airway to reduce the chance of the airway being occluded

by the tongue and protected from aspiration of mucus or vomit.

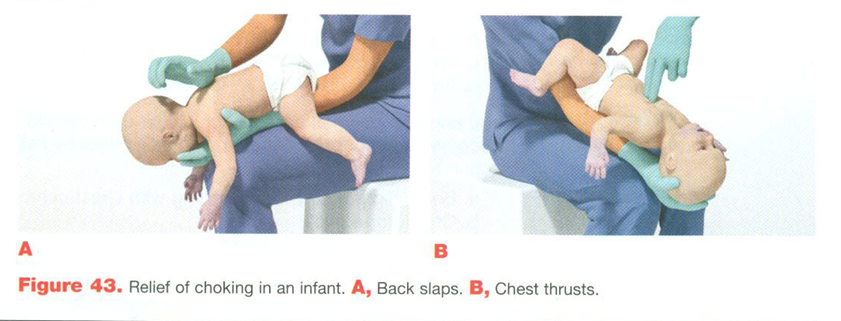
• The tongue and epiglottis may obstruct the entrance of the trachea due to inspiratory efforts creating negative pressure in the airway.

• Any infant who received chest thrusts should be medical evaluated to ensure there are no complications, injuries, or retained foreign body fragments.

• **DO NOT** hyper-ventilate the patient. Hyperventilation reduces the success of survival due to cerebral vasoconstriction resulting in decreased cerebral perfusion. In addition, hyperventilation increases intrathoracic pressure and decreases venous return to the heart resulting in diminished cardiac output. ***Rescuers have a tendency to ventilate too rapidly*.**

• Unstable patients are patients who have abnormal vital signs, signs/symptoms of poor perfusion, or if there is a suspicion that the patient’s condition may deteriorate.

* To make compressions as effective as possible, place the infant on a firm surface if possible. Soft surface make compressions less effective due to pushing the infant down into the soft surface.

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**AHA Guideline ECC 2015**