

# Monterey County EMS System Policy



Policy Number: 4504  
Effective Date: 2/1/2009  
Review Date: 12/31/2016

## **DROWNING AND NEAR DROWNING**

### **I. PURPOSE**

- A. Drowning is defined as death that is the result of asphyxia due to airway obstruction secondary to laryngospasm and/or aspiration of liquid into the lungs after submersion and occurs within twenty-four (24) hours after submersion. Near-Drowning is defined as a submersion episode that results in survival (full or partial recovery) or temporary survival that ultimately leads to death after a period of twenty-four (24) hours.
- B. Drowning begins with accidental or intentional submersion in any liquid; however, fresh and salt water drowning are the most common. Fresh-water drowning/near-drowning and salt-water drowning/near drowning has different physiologic mechanisms leading to asphyxia. However, out of hospital management of these patients is the same: treatment must be directed toward correcting severe hypoxia.
- C. Factors affecting survival include the patient's age, length of time of submersion, general health of the victim, type and cleanliness of liquid medium and water temperature that may contribute to the effectiveness of the mammalian diving reflex (decreased respirations, decreased heart rate and vasoconstriction with maintenance of blood flow to the brain, heart and kidneys).

### **II. SPECIAL CONSIDERATIONS:**

- A. The cold-water drowning/near-drowning victim is not dead until he/she is warm and dead, unless the patient has been submerged greater than one (1) hour. Near-drowning victims may exhibit delayed pulmonary complications up to 24-36 hours after the submersion incident. This is especially true concerning salt-water exposure. Patients who have had a true near-drowning exposure should seek/receive medical attention and be informed as to the potential delayed complications.
- B. All drowning/near-drowning victims with suspected barotraumas/decompression sickness should be transported in the left lateral Trendelenburg position to prevent any emboli in the ventricles from migrating to the arterial system. These patients should also be candidates for hyperbaric chamber therapy.

### **III. ASSESSMENT/TREATMENT PRIORITIES**

- A. Ensure scene and rescuer safety. Call appropriate public safety agencies: fire, rescue, or police teams, including scuba teams to properly stabilize the scene and safely rescue the victim(s) from the source of submersion. Consider need for additional EMS unit(s) for rescuer rehabilitation and/or treatment.
- B. Maintain appropriate body substance isolation precautions.

- C. Maintain an open airway immediately upon obtaining access to patient. Ensure spinal stabilization and immobilization if indicated (i.e., un-witnessed event, unconscious patient, or mechanism of injury). Assist ventilations as needed.
- D. Once the patient is rescued and is placed in a safe environment, rescuers may administer specific emergency care such as: suctioning the airway and use of airway adjuncts and assisted ventilations, or the administration of Administer oxygen using appropriate oxygen delivery device, as clinically indicated.
- E. Determine patient's hemodynamic stability and symptoms. Continually assess Level of Consciousness, ABCs and Vital Signs. Treat all life threatening conditions as they become identified. Initiate CPR when appropriate.
- F. Obtain appropriate S-A-M-P-L-E history related to event (length of exposure, temperature of liquid medium, potential for injury).
- G. Monitor and record vital signs and ECG.
- H. If near drowning incident involves a scuba diver, suggesting barotraumas, consider utilization of hyperbaric treatment facility.
- I. If the scene time and/or transport time will be prolonged, and a landing site is available, consider transport by air ambulance from the scene to an appropriate Trauma Center. See Air Ambulance protocol, #500-59.
- J. Initiate transport as soon as possible, with ALS. Do not allow patients to exert themselves and properly secure to cot in position of comfort, or appropriate to treatment(s) required.

#### **IV. TREATMENT - BASIC PROCEDURES**

- A. Maintain appropriate body substance isolation precautions.
- B. Maintain an open airway and assist ventilations as needed, immediately upon obtaining access to patient. Ensure spinal stabilization and immobilization if indicated (i.e., un-witnessed event, unconscious patient, or mechanism of injury).
- C. Once the patient is rescued and is placed in a safe environment, rescuers may administer specific emergency care such as suctioning the airway and use of airway adjuncts as indicated.
- D. Administer oxygen using appropriate oxygen delivery device, as clinically indicated.
- E. Determine patient's hemodynamic stability and symptoms. Continually assess Level of Consciousness, ABCs and Vital Signs. Treat all life threatening conditions as they become identified. Initiate CPR when appropriate and follow AED protocol, #500-16.
- F. Obtain appropriate S-A-M-P-L-E history related to event (length of exposure, temperature of liquid medium, potential for injury).
- G. Monitor and record vital signs every 5 minutes at a minimum if unstable, or every 15 minutes if stable.

**Note: If near drowning incident involves a scuba diver, suggesting barotraumas, consider utilization of hyperbaric treatment facility.**

## V. TREATMENT - PARAMEDIC PROCEDURES

- A. Initiate transport as soon as possible.
- B. Provide advanced airway management if indicated.
- C. Relieve gastric distension ONLY if it interferes with artificial ventilations.
- D. Secure pulseless patient on cot in supine position. Secure patient with pulse in left lateral Trendelenburg position. Cover to prevent heat loss and treat for shock.
- E. Initiate IV Normal Saline (TKO) enroute to the hospital in non-traumatic drowning/near drowning.
- F. If patient's BLOOD PRESSURE drops below 100 systolic: Administer a 250 cc bolus of IV Normal Saline, or titrate IV to patient's hemodynamic status.
- G. Cardiac Monitor: ECG-dysrhythmia recognition: manage per protocols.
- H. Obtain appropriate history related to event (length of exposure, temperature of liquid medium, potential for injury), including Past Medical History, Medications, Drug Allergies, and Substance abuse.
- I. Contact MEDICAL CONTROL. Medical Control may order: Additional 250 cc-500 cc fluid bolus(es), wide open or titrate to patient's hemodynamic status.
- J. Monitor and record vital signs every 5 minutes at a minimum if unstable, or every 15 minutes if stable.
- K. Notify receiving hospital.

**Note: If near drowning incident involves a scuba diver, suggesting barotraumas, consider utilization of hyperbaric treatment facility.**

**END OF POLICY**