



Notes/Definitions

- Hypoxia is the primary cause of injury in drowning; prioritize airway management and oxygenation.
- If drowning occurred after a dive, consider arterial gas embolism or decompression illness and treat per OCEMS Treatment Guideline E-010.

Base Hospital Contact Required

BLS Interventions

- Refer to OCEMS General BLS Standing Orders SO-BLS.
- Spinal motion restriction if diving or shore-break accident suspected.
- Prevent and treat hypothermia by removing wet clothing and initiating rewarming.

ALS Interventions

- Cardiac monitoring if applicable.
- 12-lead ECG if applicable.
- Obtain IV / IO access if applicable.
- Consider advanced airway management and/or high flow O₂ by either mask or nasal cannula if applicable.
- Treat for respiratory distress, wheezing, or bronchospasms:
 - ▶ **Albuterol 6 mL (5 mg)** – continuous nebulization
- Conscious and continued respiratory distress after airway clearance:
 - Apply CPAP as tolerated per OCEMS PR-120; monitor closely due to risk of vomiting.
- Unconscious or unable to protect airway:
 - Place an advanced airway and confirm placement with EtCO₂.
- Treat for hypotension (SBP < 90) or signs of shock:
 - ▶ **Normal Saline 250 mL IV / IO bolus** - may repeat up to 1 liter to maintain adequate perfusion
 - ▶ **Push Dose Epinephrine 1.0 mL (10 mcg) IV / IO** - every 3 minutes, titrate to SBP > 90
- Treat for nausea and vomiting if not suspected or known to be pregnant:
 - ▶ **Ondansetron (Zofran) 8 mg ODT** - once
 - ▶ **Ondansetron (Zofran) 4 mg IV** – may repeat once after 3 minutes
- Treat for seizure activity:
 - ▶ **Midazolam 10 mg IM** - once (preferred route)
 - ▶ **Midazolam 5 mg IV / IN / IO** - if unable to deliver IM; may repeat once after 3 minutes

Transport Consideration

- **Contact Base Hospital** and ALS escort to destination as directed by the Base Hospital.

Approved:

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ORANGE COUNTY EMERGENCY MEDICAL SERVICES

Prehospital Standing Orders / Treatment Guidelines

NON-FATAL DROWNING - Adult / Adolescent

#: E-015

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Additional Considerations

- Obtain submersion history if available:
 - Submersion time / downtime
 - Witnessed event
 - Resuscitation prior to arrival
 - What the patient was doing prior to the submersion
- Aspiration and pulmonary edema may develop after rescue; monitor closely for worsening respiratory distress
- All unwitnessed drownings in any body of water suspect spinal cord injury from diving injury.
- A shore break injury occurs when a breaking wave picks up a person in shallow water and forcefully drives them head-first or neck-first into the sand or ocean bottom. This typically happens where waves break very close to the shoreline. Also known as “over the falls”.

Base Hospital

- Airway and ventilation should take priority as drownings are primarily respiratory in nature. Place EtCO₂ early.
- Transport to a Trauma Center if any of the following are present, otherwise transport to the nearest open ERC:
 - Shore break, diving, or watercraft-related incident
 - External evidence of trauma
 - Unwitnessed drowning
 - Meets mechanism or traumatic injury criteria per OCEMS Policy #310.30 (Trauma Triage).

Cross References:

SO-BLS General BLS Standing Orders

SO-M-035 Respiratory Distress

SO-M-060 Nausea / Vomiting

E-010 Decompression Sickness / Air Embolism

PR-030 Endotracheal Intubation (including EtCO₂)

PR-135 Supraglottic Airway Device Placement – Adult/Adolescent

Policy 310.30 or 310.31 Trauma Triage

PR-230 Preparation and Dosing of Push Dose Epinephrine - Adult / Adolescent

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Shankh MD

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