DROWNING

ADULT	PEDIATRIC (≤34 KG)
BLS	
Consider scene safety and additional resources for victims requiring active rescue from aquatic environment • **In-Water Resuscitation:** Trained rescuers may initiate rescue breaths during extrication/rescue process, only if safe and effective, without delaying rapid removal from environment. (No chest compressions) • Obtain accurate time last known well/downtime - Universal Protocol #601 - O2 administration per Airway Management protocol #602 - **Prioritize the immediate reversal of hypoxia** • **ALS Assessment required** for persistent signs and symptoms of cough, abnormal lung sounds, altered mental status, hypoxia, hypotension, or dyspnea • **Apnea or cardiac arrest** - **5 initial rescue breaths prior to ventilation or compressions** - **Minimize interruptions in oxygenation and ventilation.** - PEEP valve with BVM when available - Expect vomiting, have suction ready - May ventilate through “foam” surfactant. • Consider hypothermia and warming measures • For an alert patient with SOB, apply CPAP Procedure #703	**Same as Adult**
ALS	
• **Persistent symptoms: cough, abnormal lung sounds, altered mental status, hypoxia, hypotension, dyspnea**	**Same as Adult**

- CPAP Procedure #703 as indicated - Monitor ETCO2 - Encourage transport and continued monitoring • **Apnea, or Cardiac Arrest** - Team to emphasize early high-quality ventilation, mask seal, and oxygenation techniques on scene - Cardiac Arrest Protocol #641 as indicated - **Early initiation** of ETI Procedure #717 or SGA Procedure #718 as indicated. - If non-shockable rhythms, may forego vector change (minimize ventilation interruptions) • **If high suspicion of trauma,** SMR Procedure #702. Avoid interruptions or delay in ventilation oxygenation during procedure and patient movement.	
Base Hospital Orders Only	
• Consult appropriate base station per EMS Base Station Report policy #121 as needed for patient presentation, downtime, trauma, airway concerns, prolonged resuscitation with PEA and Asystole, cold water immersion.	**Same as Adult**

Notes

- **Definition of drowning:** Respiratory impairment from submersion or immersion in a liquid.
- **Duration of submersion is the most important predictor of outcome.**
- **Hypoxia is the primary reversible cause of morbidity and mortality in drowning.**
- **Signs and symptoms include: cough, abnormal lung sounds, altered mental status, hypoxia, hypotension, dyspnea**
- Encourage transport of all symptomatic patients due to potential worsening over the next 6 hours.
- Early, effective ventilation and initiation of CPR are the most critical for improving survivability and neurologic outcomes.
- Surfactant is fluid from the lungs, usually “foam-like” and may be copious, DO NOT waste time attempting to suction. Ventilate with BVM through foam (suction water and vomit only when present.) Use judgement for need to suction copious fluids versus interrupting ventilation/oxygenation.
- PEA and Asystole Cardiac Arrest may benefit from prolonged resuscitation and/or transport in the presence of drowning/hypoxia. Use provider judgement and consult base as needed.
- Utilize bystanders, lifeguards, or other witnesses for accurate scene report and downtime.
- C-Spine immobilization not recommended except with strong evidence/report of traumatic mechanism.
- AHA guidelines 2024 show in-water rescue breaths leading to increased survival. Rescue phase

breaths should NOT be performed if the rescue agency does not train and/or practice this technique. Should not delay extrication to a controlled and safe working environment.

- Regardless of water temperature – resuscitate all patients with known submersion time of ≤ 25 minutes.
- SCUBA Diving emergencies, collect dive plan/dive computer data if available. Consider pertinent info for hospital or operational hyperbaric chamber.
- Drowning is a global issue with poor documentation and data, documentation should reflect current definitions and guidelines based on patient presentation and terminology.
- Document: witness statements, submersion time, type of water/temperature, initial presentation and neurological status, bystander interventions.
- DO NOT use terminology: “near drowning,” “dry drowning,” “delayed drowning,” “secondary drowning,” “wet drowning” with patients or with documentation as it is not physiologically relevant.