

SCUBA DIVING EMERGENCIES	
ADULT	PEDIATRIC (≤34 KG)
BLS	
• Universal Protocol #601 • 100% O2 administration via NRB mask, regardless of signs, symptoms, or SpO2, unless oxygen toxicity is the suspected etiology (see notes) • Airway Management Protocol #602 - Pulse Oximetry • Procedure #701: Capnography End Tidal CO2 Monitoring • Additional skills as approved by SLOEMSA (e.g., SGA placement) • Always treat and transport the patient supine unless actively vomiting or the patient does not tolerate the supine position • For freediving or if applicable, Protocol #663: Drowning • If applicable, Protocol #620: Seizure • Address hypothermia and warming measures • Obtain and transport the patient with their dive computer. Do not delay transport. - Obtain maximum dive depth, time spent at depth, rate of ascent, number of dives, surface interval, gas(es) used (e.g., standard air, Nitrox, Trimix, Heliox, Hyperoxic Mix (100%) O2) • Consider Policy #155: EMS Helicopter Operations for direct transport out of the county to a hyperbaric chamber. • Frequent neurologic exams	Same as Adult

ALS	
- Consider Normal Saline up to 500mL IV/IO for possible dehydration - If barotrauma is suspected, with symptoms of tension pneumothorax– Needle Thoracostomy Procedure #705	- Consider Normal Saline up to 20mL/kg IV/IO, not to exceed 500 mL for possible dehydration - If barotrauma is suspected, with symptoms of tension pneumothorax– Needle Thoracostomy Procedure #705
Base Hospital Orders Only	
As needed	As needed
Notes	
Divers Alert Network: 919-684-9111 is an additional resource that may be helpful, either for EMS crews or for receiving hospitals, to discuss possibilities for hyperbaric chamber therapy. - Ascertain when symptoms began, e.g., during descent, at depth, ascent, or at surface. - The number one cause of diving fatalities is drowning. - Due to the possibility of barotrauma, CPAP is generally contraindicated for patients with a dive emergency. - C-Spine immobilization is not recommended except with strong evidence/report of traumatic mechanism. - Seizures can occur during diving emergencies and are most often caused by oxygen toxicity, hypoxia, hypercapnia, or arterial gas embolism Pneumothorax (Dive-Related): Rapid pressure changes during ascent may cause alveolar rupture resulting in pneumothorax; assess for acute dyspnea, chest pain, unilateral breath sounds, hypoxia, or hemodynamic instability, provide high-flow oxygen and ventilatory support, and if tension pneumothorax is suspected, perform immediate needle thoracostomy, as this is the only definitive prehospital intervention. Swimming-Induced Pulmonary Edema (SIPE) happens when immersion in cold water and exertion increases central blood volume and pulmonary capillary pressure, causing fluid to leak into the alveoli without aspiration or drowning. The result is pulmonary edema despite the absence of water inhalation. - If SIPE is suspected and the patient has moderate/severe SOB, call base hospital for orders (e.g., CPAP) Decompression sickness (DCS) or the bends happen when dissolved inert gases (mainly nitrogen) come out of solution and form bubbles in the bloodstream and tissues during ascent. These bubbles can cause blockages, inflammation, and tissue damage throughout the body. Arterial Gas Embolism (AGE) is one of the most serious diving-related medical emergencies. It occurs when air bubbles enter the arterial bloodstream, usually due to lung overexpansion injury during ascent. Holding a single breath while ascending can cause this condition, with symptoms often appearing within seconds to minutes of surfacing. Oxygen toxicity occurs when a diver breathes oxygen at a high partial pressure (PPO₂) for too long, causing toxic effects on the brain and lungs. While rare to encounter in the field, it is primarily a concern when diving deep on enriched air (Nitrox) or pure oxygen in technical or rebreather diving. Carbon monoxide (CO) poisoning occurs when compressed breathing gas inside a scuba tank becomes contaminated with carbon monoxide, usually due to a faulty compressor intake or malfunctioning filtration system. Even very low levels of CO in a dive tank can be lethal under	

pressure, because the gas's partial pressure increases with depth, worsening its toxic effects.

- **Nitrogen narcosis:** A reversible condition in divers caused by the increased partial pressure of nitrogen at depth, leading to euphoria, confusion, poor judgment, and impaired coordination. Nitrogen narcosis is often described as the “rapture of the deep” and relieved by ascending to a shallower depth.