Protocol
5-4

SECTION: Environmental Emergencies

PROTOCOL TITLE: Injury – Diving Emergencies
Injury – Drowning/Near Drowning

REVISED: 06/2017

DROWNING / NEAR DROWNING

OVERVIEW:
Drowning is a leading cause of accidental death. Drowning, like other causes of death, often strikes young or otherwise healthy people. Prevention of drowning and near drowning is the most effective way to reduce the number of deaths. The outcome of a patient following near drowning is dependent upon rapid recognition, rescue and resuscitation. Treatment of near drowning begins at the scene with rapid, cautious removal of the victim from the water. Spinal precautions should be observed if there is suspicion of a significant mechanism of injury, such as: high velocity impact, diving, or surfing. The concern of saltwater vs. freshwater aspiration is not of immediate importance in the pre-hospital environment. Factors that increase survivability include: younger age, cold water, and less time submerged.

HPI	Signs and Symptoms	Considerations

• Submersion in water, regardless of depth
• Possible history of trauma (i.e., diving board)
• Duration of submersion
• Temperature of the water
• Type of water
	• Unresponsive
	• Mental status changes
	• Decreased or absent vital signs
	• Vomiting
	• Coughing
		• Trauma
		• Pre-existing medical problem
		• Pressure injury (diving)
		  ○ Barotraumas
		  ○ Decompression sickness

	EMR	EMT	A	I	P
1. Perform general patient management.	•	•	•	•	•
2. Support life-threatening problems associated with airway, breathing, and circulation. Assess mechanism or injury and C-spine precautions.	•	•	•	•	•
3. Administer oxygen to maintain *SPO_2* 94 - 99%. Consider supporting respirations with a BVM.	•	•	•	•	•
4. If the patient is in critical respiratory distress, consider placement of **orotracheal** intubation.				•	•
5. Remove wet clothing and prevent heat loss. If suspected, refer to *Hypothermia protocol*.	•	•	•	•	•
6. Monitor *capnography*.			•	•	•
7. Place patient on cardiac monitor and obtain / interpret *12 lead ECG.*		•	•	•	•
8. Establish an IV of normal saline at KVO.			•	•	•
9. Transport and perform ongoing assessment as indicated.		•	•	•	•

Protocol
5-4
Continued

DROWNING / NEAR DROWNING

PEARLS:

1. Near drowning patients are at high risk for experiencing secondary drowning several hours after the initial event. Secondary drowning occurs when delayed flash pulmonary edema occurs. All patients suspected of submersion should be transported for further evaluation.
2. Adult Respiratory Distress Syndrome (ARDS) and pneumonia can both occur following the inhalation of water into lungs, causing damage to the alveoli. Make every effort to transport these patients to the hospital for further evaluation.
3. For cold water submersion, attempt resuscitation on all patients unless the patient presents with injuries incompatible with life.
4. Drowning is a leading cause of death among would-be rescuers.