

Bayfield-Ashland Counties EMS TOXINS / ENVIRONMENTAL Environmental	EE-4 DROWNING
--------------------------------------------------------------------------	------------------

**SYMPTOMS:**

Patient experiencing respiratory impairment from submersion or immersion in liquid.

**COLD WATER DROWNING – See page 2.**

**ASSESSMENT and TREATMENT**

**ALL LEVELS**

1. Ensure scene safety of patient and rescuers.
  - a. Practice safest water rescue technique possible given circumstances on scene.
  - b. Evacuate to land or watercraft as soon as possible.
  - c. If there is delay in accessing shore or a rescue boat, initiate in-water basic life support consisting of ventilation only.
2. Follow [Cardiac Arrest guideline \[R-1\]](#) if indicated.
  - a. ABC strategy for drowning victims
  - b. Initiate 5 rescue breaths followed by 30 chest compressions.
  - c. After the initial 5 breaths, use 2 breaths to 30 compression ratio.
3. Conduct primary assessment.

**EMR-O; EMT-R**

4. Manage the airway per [Airway Management guideline \[R-1\]](#).
  - a. Perform advanced airway management as indicated
  - b. Administer oxygen as appropriate for dyspnea or distress with a target of achieving greater than 93% saturation for most acutely ill patients.
  - c. Consider non-invasive positive pressure ventilation.
5. Obtain patient history.
  - a. Mechanism of injury may suggest spinal cord injury – diving, water skiing, surfing, or watercraft accidents.
  - b. Manage C-spine per [Spinal Care guideline \[T-9\]](#) as indicated.
6. Consider hypothermia; treat per [Hypothermia/Cold Exposure guideline \[EE-7\]](#)
7. Obtain and monitor vital signs (pulse, respirations and blood pressure) including SpO<sub>2</sub>.
8. Apply ECG monitor.
9. If victim was involved in underwater diving refer to [Dive injury guideline \[EE-3\]](#).

**AEMT-R**

10. Establish IV access
11. Consider administering isotonic IV/IO fluid bolus 20ml/kg normal saline

**AEMT-O**

12. Consider administering lactated Ringer's as appropriate.

**INT-R**

13. Interpret ECG.

## COLD WATER DROWNING

- If water temperature is less than 43°F (6°C) and the patient is submerged with evidence of cardiac arrest:
  - Survival is possible for submersion time less than 90 minutes and resuscitative efforts should be initiated.
  - Survival is not likely for submersion time greater than 90 minutes and providers may consider not initiating resuscitation or termination of resuscitation on scene.
- If water temperature is greater than 43°F (6°C) and the patient is submerged with evidence of cardiac arrest:
  - Survival is possible for submersion time less than 30 minutes and resuscitative efforts should be initiated.
  - Survival is not likely for submersion time greater than 30 minutes and providers may consider not initiating resuscitation or termination of resuscitation on scene.