STATE OF OHIO
DROWNING / NEAR DROWNING PROTOCOL

Universal Patient Protocol

Airway Protocol
Initiate ventilation while patient is still in water if not breathing.
Provide high flow oxygen ASAP

SPINAL IMOBILIZATION PROCEDURE
Place backboard while still in water if able.

Apply Cardiac Monitor

Treat Per Appropriate Protocol
Consider only treating with one round of cardiac anti-arrhythmia medications if patient is hypothermic if local medical control will allow

If patient is hypothermic and in cardiac arrest or post cardiac arrest KEEP PATIENT COOL. Do Not Start warming procedures till patient is at an appropriate medical facility.

IV / IO PROCEDURE
Normal Saline TKO

IF DECOMPRESSION SICKNESS
Breathing: provide 100% oxygen via NRB mask at 15 LPM - no positive pressure ventilation unless NOT breathing.

Monitor and Reassess

CONTACT MEDICAL CONTROL

TRANSPORT
To Trauma Center where available

<table>
<thead>
<tr>
<th>HISTORY</th>
<th>SIGNS AND SYMPTOMS</th>
<th>DIFFERENTIAL DIAGNOSIS</th>
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</thead>
<tbody>
<tr>
<td>Submersion in water regardless of depth</td>
<td>Period of unconsciousness</td>
<td>Trauma</td>
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<tr>
<td>Possible trauma i.e.; fall, diving board</td>
<td>Unresponsive</td>
<td>Pre-existing medical conditions?</td>
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<tr>
<td>Duration of immersion</td>
<td>Mental Status change</td>
<td>Barotraumas (diving)</td>
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<tr>
<td>Temperature of water</td>
<td>Decreased or absent vital signs</td>
<td>Decompression sickness</td>
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<tr>
<td>Contaminated water?</td>
<td>Vomiting</td>
<td>Duration of dives(s)</td>
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<td></td>
<td>Coughing</td>
<td>Out of air rapid ascent?</td>
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<tr>
<td></td>
<td>Aspiration?</td>
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Key Points

- Cold water drowning is submersion in water less than 70 degrees Fahrenheit.
- Almost every open body of water in Ohio is considered cold water year round.
- Exam: Trauma Survey, Head, Neck, Chest, Abdomen, Pelvis, Back, Extremities, Skin, Neuro
- Drowning is defined as suffocation from submersion in water
- Two causes- “Dry drowning” is aspiration that leads to laryngospasm that closes the glottis. “Wet drowning” is submersion with aspiration and flooding of the lungs.
- Both causes lead to profound hypoxia and death.
- Pulmonary edema can develop within 24-48 hours after submersion.
- All victims should be transported for evaluation due to potential for worsening over the next several hours. Do not delay transport to appropriate Trauma receiving facility.
- Drowning is a leading cause of death among would-be rescuers – consider Risk/Benefit of the rescue.
- Allow appropriately trained and certified rescuers to remove victims from areas of danger
- With pressure injuries (decompression/ barotraumas), consider transport to appropriate hyperbaric chamber facility.
- All hypothermic / hypothermic / near drowning patients should have resuscitation performed until care is transferred, or if there are other signs of obvious death, purification, traumatic injury incompatible with life.
- A drowning patient is in cardiac arrest after the submersion.
- Consider a c-spine injury in all drowning cases. Always immobilize a drowning patient.
- Patients with low core temperatures will not respond to ALS drug interventions.
- DO NOT perform the Heimlich maneuver to remove water from the lungs prior to resuscitation.