Care Guideline

5. Monitor vital signs (pulse, blood pressure, respiratory rate, neurologic status assessment) including oxygen saturations
6. If O_2 saturations are less than 92%, administer oxygen as appropriate with a target of achieving 94–98% saturation. Consider positive pressure ventilation in patients with signs or symptoms of respiratory difficulty
7. Consider hypothermia, treat per Hypothermia/Cold Exposure Guideline
8. If the victim was involved in underwater diving and uncertainty exists regarding the most appropriate therapy, consider contacting medical direction and discussing need for hyperbaric treatment. Include discussion regarding:
   a. Submersion time
   b. Greatest depth achieved
   c. Ascent rate
   d. Gas mix
9. Establish IV access
10. Fluid bolus as indicated
11. Advanced airway management as indicated. Consider CPAP in awake patients with respiratory distress
12. Cardiac monitor

Patient Safety Considerations

1. Avoidance of hyperoxygenation of the drowning victim
2. Rescuer safety considerations

Notes/Educational Pearls

Key Considerations

1. The World Health Organization definition of drowning is " the process of experiencing respiratory impairment from submersion/immersion in liquid"
2. Drowning is further defined in the following categories:
   a. Non-fatal drowning: patients rescued from drowning
   b. Fatal drowning: any death, acutely or subacutely, resulting from drowning
3. Submersion refers to situations in which the patient's airway is underwater. Immersion refers to situations in which the patient's body is in water, but the patient's airway remains out of the water
4. **Pediatric Considerations:**
   a. Drowning is a common cause of death in children
   b. Risk factors for drowning include male gender, age less than 14 years old, alcohol use, lack of supervision, and risky behavior
5. Rescue efforts should be coordinated between all responding agencies to ensure patient is rapidly accessed and removed from the water
6. Initiation of in-water ventilations may increase survival. In-water chest compressions are futile
7. The European Resuscitation Council recommends five initial breaths be provided to the drowning victim
   a. The initial ventilations may be more difficult to achieve as water in the airways may impede alveolar expansion
   b. If cardiac arrest after 5 rescue breaths, refer to Cardiac Arrest Guideline.