Hypothermia

Begins when the core body temperature drops below 95°F. Submersion hypothermia is a combination of both hypothermia and hypoxia (deficiency of oxygen). Many studies have shown remarkable results in resuscitating cold water drowning patients. Successful resuscitation without neurological impairment has been documented in cases of cold water submersion up to sixty-six minutes. The "Mammalian Diving Reflex", which involves instinctive breath holding, vital function slow down, and blood shunting to the body's core is credited with enabling these patients to survive. Cold water is also thought to protect the central nervous system from the otherwise damaging effects of cerebral hypoxia.

*In 1986 in Salt Lake City, Utah, a 2-½ year old girl fell into a creek that had a water temperature of 41°F. The little girl was submerged between 62 and 70 minutes before she was found. By the time she was pulled from the creek, her core body temperature had fallen to 62.3°F. The child made a full neurological recovery with only a slight learning deficit that cannot be contributed to the accident.* ***(JAMA, July 15, 1988 Vol. 260 No.3)***

Research indicates that several factors may influence the outcome of a cold water submersion patient, including the following:

*a. Age*
- The younger, the better. It is believed that the smaller mass of a child's body cools faster than an adult's.

*b. Submersion Time*
- The shorter, the better. There is less chance for cellular damage due to hypoxia.

*c. Water Temperature*
- The colder, the better. The quicker the body is chilled, the less chance there is for cellular hypoxia.

*d. Struggle*
- The less, the better. Less struggle means less muscular activity, which translates to less heat production, which speeds cooling. (Individuals intoxicated by either drugs or alcohol usually struggle less and have a better chance at recovery once revived.)

*e. Cleanliness of Water*
- The cleaner, the better. Patients usually do better after resuscitation if they were submerged in clean water, rather than muddy or contaminated water.

*f. Quality of CPR*
- The more aggressive, the better. Immediate, aggressive CPR is the key for submersion hypothermia patients.

*g. Associated Trauma*
- The less, the better. Obviously, patients with existing trauma will not fare as well as otherwise healthy patients.