

Drowning: initial treatment

First a definition. Drowning is “The process of experiencing respiratory impairment from submersion or immersion in liquid” which means it can be fatal or non-fatal. Other terms in the lay press including near-drowning and dry-drowning should not be used.

Although a cardiac cause such as an arrhythmia can certainly be the precipitating event in a drowning incident, frequently hypoxia is the proximate cause of respiratory and cardiac arrest if they occur. This means initial treatment for drowning will be different than standard ACLS: respiratory support should take priority. The initial treatment in a pulseless drowning victim is **rescue breaths and then CPR**. Additionally, **CPR must incorporate rescue breaths as opposed to the hands-only CPR** being disseminated to lay-persons. However, hands-only CPR is still better than nothing if the rescuer is unable/unwilling to perform rescue breaths. These initial rescue breaths should occur in the water if possible and if doing so would not delay the ultimate rescue. Maneuvers thought to empty the lungs of water such as lateral positioning and the Heimlich are of no proven benefit. Standard ACLS care should also be administered including AED use and particular care regarding C-spine protection and hypothermia avoidance.

Although the above is my interpretation of “initial treatment” a brief word on drowning victims who make it to the hospital. Patients should get a chest x-ray, full lab set including liver enzymes, electrolytes, ECG, and serum ethanol. Standard care for respiratory and hemodynamic support should continue including, if indicated, supplemental oxygenation, mechanical ventilation, and possible ECMO. There is no good data to support the routine use of steroid, surfactant, or barbituates.

Further reading: Wyckoff MH, Singletary EM, Soar J, Olasveengen TM, et al.; COVID-19 Working Group. 2021 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science With Treatment Recommendations: Summary From the Basic Life Support; Advanced Life Support; Neonatal Life Support; Education, Implementation, and Teams; First Aid Task Forces; and the COVID-19 Working Group. Resuscitation. 2021 Dec;169:229-311. doi: 10.1016/j.resuscitation.2021.10.040. Epub 2021 Nov 11. PMID: 34933747; PMCID: PMC8581280.