



**American  
Red Cross**

## **Hypoxic Blackout In Aquatic Activities Is Deadly Serious**

The practices of hyperventilation preceding underwater swimming and extended breath-holding in the water are dangerous and potentially deadly activities. These activities can put the body in a state of hypoxia—a condition in which the body is deprived of adequate oxygen supply. It is our goal to educate those that we teach about the risks of hypoxia in the water and help ensure that they do not engage in behavior that could result in loss of consciousness and death. This includes lifeguards, Water Safety instructors and swim coaches, participants in our learn to swim programs and their parents as well as the general public who engage in aquatic activities.

The result of these activities is referred to by some as “shallow water blackout.” The use of this terminology in these cases is misleading since water depth is not a factor in the body’s response to hyperventilation and extended breath-holding. Shallow water blackout is the medical condition that can result as a deep water diver returns to surface and blacks out in water that is typically less than 5’ deep. There are specific precautions and prevention strategies for this condition.

In an effort to be more clear and accurate, the American Red Cross does not use the term shallow water blackout. In our training programs and public education, we use terminology that describes the dangerous behaviors that should be prevented—voluntary hyperventilation preceding underwater swimming and extended breath-holding. For simplicity, we refer to this condition as hypoxic blackout.

Lifeguards, instructors and coaches are trained to be alert and prevent swimmers attempting to hyperventilate and engage in extended breath-holding activities. Lifeguards are taught to respond quickly to any individual who is motionless in the water for any reason, including loss of consciousness. Water Safety instructors are also taught to limit participants to a single inhalation whenever they ask participants to hold their breath and submerge, and to set safety limits whenever setting up activities that involve underwater swimming. Being confident and comfortable underwater is an essential aquatic skill. Knowing what breath holding techniques are unsafe is important in exercising good judgment for safe skill practice and supervision of underwater aquatic activities.

For the Red Cross Scientific Advisory Council Scientific Review on this topic, visit [instructorcorner.org](http://instructorcorner.org) under the “About the Science” tab.