Shallow Water Blackout (Breath Holding) - A Silent Problem

Breath-holding activities such as prolonged static underwater breath-holding, underwater swimming for distance and competitive hypoxic (breath-hold) training have been popular, even considered an enviable practice for decades but have serious medical dangers. Significant dangers associated with these activities include unconsciousness, cardiac arrhythmia, cardiac arrest, seizure and sudden death. All these conditions are more serious in water due to suffocation by drowning.

Breath-holding activities have contributed to a number of aquatic incidents and deaths over the past few years with most victims being males between the ages of 16 to 20 years old. This silent problem will continue as long as Lifeguards do not discourage hyperventilation and do not watch for and prevent breath-holding activities.

Hyperventilation is the process of taking a series of repetitive deep breaths with forced exhalation. The myth is that hyperventilation increases oxygen in the blood stream thus allowing for greater and longer breath-holding capacity and improved stamina. The reality is that hyperventilation purges the blood stream of carbon dioxide. Carbon dioxide levels create the stimulus to breathe. If the carbon dioxide levels in the blood have been purged, oxygen levels during breath-holding activities can deplete with no warning, resulting in unconsciousness and subsequent drowning. USA Swimming added strong recommendations against hypoxic training to its “Safety Training for Swim Coaches” manual in 2008.

The YMCA of the USA Medical Advisory Committee has issued a statement about breath-holding activities that suggests YMCAs strongly discourage these dangerous practices. YMCAs and other aquatic facilities should post signage disallowing hyperventilation and breath-holding activities. Lifeguards must scan and prevent all hyperventilating activities. Guards must look for and stop any breath-holding activities as these activities are hard to differentiate from a drowning. Shallow water blackout starts and ends underwater with no telltale surface struggle