Shallow Water Drowning

-- WITH EXTREME CAUTION! --

Written by Coach George Young - 03/17/2012

Participating in some small talk with some of my fellow swim coaches during a swim meet lead to me to rethink the importance of knowing about swallow water drowning. Sharing these stories got very scary and the flag of caution has been waved. One of the big shots in the field of water safety is DR Tom Griffiths and since the early 1980's he has shared a few stories and a lot of concern pertaining to the same topic---shallow water blackouts.

As a youngsters, I did push my body to the limit and luckily never exceeded my limit which could of easily of lead to shallow water blackout. To start with let's define what happens in a shallow water blackout and also highlights a few terms that will help connect the dots. So, this is the ins & outs of breath holding: A person planning a prolong underwater breath-holding attempt will first over breath or hyper-ventilation which will artificial lower the carbon dioxide levels in one's body. When the breath-holding begins, oxygen is metabolized and carbon dioxide levels increases. As one continues to hold their breath the body becomes starved of oxygen. At one point (this is the scary part) the increased carbon dioxide will trigger inhalation. But because the co2 levels were low due to the hyperventilation, there is not enough to trigger the need to come up for a breath and the swimmer loses consciousness. Once a swimmer loses consciousness, the body resets and forces a breath. Sadly the lungs fill up with water and drowning will take place. Without fast assistance a drowning death is happening. Most of the times this could take place in a 4 minutes time frame. Starting with the hyper-ventilation to unconsciousness.

The two most common practices coaches and individuals use that can involve hyperventilation are:
(Using the definitions so nicely written Kendra Kozen)

Static apace: Practioners attempt to hold their breath as long as possible, remaining underwater in a still position. Sometimes it's a game, but it is also used as training.
Hypoxic training: A variety of hypoxic, or low oxygen, training techniques exist. Some swimmers simply limit breathing frequency. Others swim for distance under water.

So in a nutshell, extreme caution should be used any time hypoxic training or static apace is practiced. For swim coaches limited hypoxic training in means of breathing every 5th stroke on the freestyle can be very beneficial but only with the general knowledge and following the safe guidelines established by both the ARC and USA Swimming. For public pools a strict and in-depth guidelines should to established and followed for users of the pool. Any type of hyper-ventilation use should be banned and is banned in the new ARC Lifeguarding class and the ARC Coaches Safety training for swim coaches supplement 2008. Hyper-ventilation is different than limited hypoxic training. That is the key concept no hyper-ventilation before swimming and limited and hypoxic training should be used only for the elite experienced swimmers while one is training. Below is a few do's and don'ts:

- ✓ Do follow the recommendations set forth by the ARC lifeguarding class 2012- great stuff and valuable information.
- ✓ Don't USE hypoxic training as a challenge training method! Kids are kids and challenges are challenges.
- ✓ Do know the facility's rules concerning breath holding practicing. If the facility does not have such guidelines in their handbooks encourage them to review and educate them the importance of establishing such guidelines.
- ✓ Don't ever award individuals on holding their breath. Some people approach this game as an all in win or lose mind set.
- ✓ Do use baby steps when applying hypoxic training method with experience age group swimmers.
- ✓ Do beware that swallow water drowning is very hard to detect and even a trained lifeguard may have a difficult time determine whether someone is drowning or just playing a round and holding their breath.

- ✓ Don't just start a hypoxic training program----educate the participants, follow all guidelines established and think and rethink before using.

On a fun and interesting note, while researching data for this article I came across two world associations AIDA & CMAS that actually govern the sport of underwater distance swimming. Astonishing info! In 2007 world records were established in both the women and men contests. For the women the record is 8 minutes holding one's breath and for the men 9 minutes and 8 seconds is the record. WOW!