LIFESAVING SOCIETY
The Lifeguarding Experts

SHALLOW WATER BLACKOUT

INFORMATION BULLETIN

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Here is one more hazard a lifeguard needs to take into account and one more reason why lifeguard vigilance can never take a break.

A 19 year old triathlete, lifeguard and experienced scuba diver drowns in his university pool. He is found the next day in just over 1 metre deep water with swim goggles still in place. The cause is determined to be shallow water blackout.

According to Dr. Tom Griffiths of Penn State University, “Shallow water blackout (SWB) results from an insufficient amount of carbon dioxide to activate the body’s natural impulse to breathe. Swimmers who practice prolonged underwater breath-holding are particularly at risk of SWB. By rapidly breathing deeply prior to submersion (hyperventilation), swimmers blow off an excessive amount of carbon dioxide. When the oxygen level in the blood runs low before the carbon dioxide level rises to the point that triggers the breathing reflex, the swimmer loses consciousness.

The swimmer never actually feels as though a breath is needed. Once submerged underwater, the swimmer is hidden from the view of lifeguards by surface glare and ripple/waves on the surface. A series of events is then triggered, including the inhalation of water, possible convulsions and ultimately cardiac arrest and death.”

Typical SWB victims do not fit the profile of an at-risk swimmer and therefore may not receive the attention that a non-swimmer or ‘gutter-grabber’ might. The causes of SWB make it a potential hazard for competitive swimmers, underwater hockey players, naive fitness swimmers and young children playing breath-holding games.

Tips for lifeguards and pool managers include:

- Do not allow hyperventilation or breath-holding activity in your pool
- Be aware that victims of SWB are not your typical at-risk swimmer
- Post signs warning against hyperventilation or breath-holding activity
- Be on the lookout for swimmers taking several large forced breaths or a series of short, fast breaths
- Include SWB as a topic in your next inservice training session

Although the Lifesaving Society does not recommend breath holding activity, *lifeguards must consult and comply with their employer’s policies and procedures* on this issue.

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