



USA Swimming, Inc.
Operational Risk Committee
Hypoxic Training Recommendations
Wednesday, September 21, 2016

If hypoxic training is utilized by coaches in the development of advanced competitive swimmers, it must be conducted only when following appropriate principles and under the direct supervision of an experienced coach. These principles are:

1. Coaches should stress to athletes that they should never ignore the urge to breathe.
2. Hypoxic training should involve progressive overload, in line with the athlete's physical and skill development – for example, beginning with efforts over 5m, 10m, then 15m etc. - as the swimmer develops the appropriate skills and physiological capacity.
3. Coaches should ensure adequate rest between hypoxic efforts to ensure full recovery.
4. Athletes should not hyperventilate (take multiple, deep breaths) prior to any underwater or other hypoxic efforts.
5. Hypoxic training should not involve competitive efforts of maximum duration, or distance covered.

Hypoxic Training – On the Surface and/or Underwater

Drills may be conducted as part of on top of the water training or under water training. Extreme care must be undertaken by the coach when under water training is being conducted. The risk of a swimmer losing consciousness when on the surface is lower than during underwater swimming drills. While on the surface, swimmers are more likely to take a breath when needed whereas underwater they may resist the urge to breathe. In addition, any loss of consciousness while swimming on the surface is more likely to be noticed by coaches or aquatic supervisors, allowing for a faster rescue response. If a swimmer loses consciousness underwater, that swimmer may go unnoticed for a period of time thereby increasing the likelihood of injury.

Common risk reduction strategies include:

- Hypoxic training should involve progressive overload, in-line with the swimmer's physical and skill development – for example, beginning with efforts over 5m, 10m, then 15m etc. - as the swimmer develops the appropriate skills and physiological capacity.
- Adequate aquatic supervision is provided. Swimmers should never swim alone.