What's Your H2O (Safety) IQ?

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The following 20 questions were the basis of a key address to the First International Boating and Water Safety Summit, April 18-25, 1997 in San Diego, California. The Summit was sponsored by the National Water Safety Council and The National Safe Boating Council. This article is taken from the proceedings of the Summit.

(For more information about NWSC/NSBC or the annual Summit Conferences, please contact: Mr. Virgil Chambers, Executive Director, NSBC, phone: (770)-666-3009/e-mail: vhchambers@aol.com.)

How well can you answer these twenty boating and water safety questions:

1. [a] How many drowning deaths occur in North America annually?
   Ans. About 5000.

   [b] What is the comparison of men to women drowning victims?
   Ans. four or five to one, males versus females.

   [c] Why? Ans. Two reasons: 1. Women have a greater layer of subcutaneous fat making them more buoyant than men. 2. Women do not have to demonstrate machismo. Actually, ladies when relaxed in the water, almost always float horizontally due to their distributed subcutaneous fat. Relaxed men float vertically. [Sexists might say it has to do with a concentration of fat in male skulls.)

2. What three primary factors are shared by most drowning deaths?
   Ans. Inability to swim, relatively or absolutely cold water, alcohol or drug impairment.

3. What percentage of drownings involve boats?
   Ans. Historically, about one fifth of all water related deaths are due to boating. Recently this has apparently been reduced to one seventh. Remember [especially in July] this catchy saying: Is killing a fifth on the third the best way to start the Fourth?

4. Most boating related deaths are due to _____?
   Ans. Drowning.

5. [a] How long does it take a child to drown? How long for an

adult? Ans. 20 seconds average for a child, 60 seconds for an adult.

[b] What percentage of drownings are children age four or less? Ans. 10%. The **primary** form of accidental death for children under one is drowning.

6. How far from safety are most drownings?
Ans. 10 feet or less.

7. How many drownings are: [a.] observed by relatively near witnesses? [b.] initially reported to a lifeguard in a supervised setting (lifeguard does not detect)?
Ans. a. Estimated 60%, b. Estimated 70% (per American Red Cross survey, 1984.)

8. What are the four main types of drowning?
Ans. **Primary** -dying at the scene of submersion. **Secondary** -dying within 72 hours of ingesting water and/or chemicals, pollutants, or biological matter into the lungs [there may be more of these than primary drownings -no one knows exactly]. **Wet** -displacing air with water in the lungs and sinking to the bottom. **Dry** -suffering a non-released spasm of the larynx/epiglottis, not ingesting water into the lungs, remaining positively buoyant but unable to breathe [about 10-15% of all drownings].

9. [a] What are the four signs of drowning?
Ans. A. Victim is vertical in water with no supporting kick; B. Victim has head back and mouth open to breathe in -They cannot and do not cry out (drowning is silent.); C. They have their arms extended out from their shoulders, pressing palms downward into water; D. They bob up and down.

[b] What is usually not a sign of drowning?
Ans. Crying out.

[c] What is the longest survival of submersion with total recovery in North America?
Ans. 66 minutes, **summer** of 1986.

10. What happens to a person wearing heavy clothing, such as fire fighter turn out gear, if they fall into the water
Ans. Nothing, besides getting wet **if** they know what to do and have practiced fully clothed, relaxed back floating. [Where is their PFD?] And -fire fighters' PFD's work best when worn **under** turn out coats.

11. [a] How fast does an immersed body lose heat to water?
Ans. Up to 25 times as fast as to air of the same temperature.

[b] How fast does a submerged body lose heat?

Ans. The area above the collar bone loses about 40% of the body's heat. If the head is submerged, heat loss rates increase to at least 25 times that of similar air temperatures and higher.

[c] What is the difference in heat loss rate between still and moving water?

Ans. 10 times as fast in moving water.

12. What are your primary heat loss areas and how should you protect them?

Ans. Head and neck, armpits and sides, groin. Do H.E.L.P. if alone, Huddle if with others. *

[b] What temperature of water is cold?

Ans. Depending on a number of variables having to do with size, fitness, nutrition, clothing, sobriety, will to live, general health level, etc. -water less than body temperature may be lethal.

13. If an unconscious person wearing heavy clothing and a Type I or II PFD falls face forward into water, will the PFD turn them to an upright, head out of the water position?

Ans. Probably not. Air trapped in multiple clothing layers and boots may counter PFD turning moment. Moral: Try your PFD in the water in types of situations where you would be likely to use it. **On the job training while drowning is a very poor form of education!**

14. What is torso reflex?

Ans. Torso reflex or inhalation response occurs when an unsuspecting, untrained person is suddenly plunged into [relatively] cold water. Immediate exposure to cold environments automatically results in lung inflation in order to increase metabolism. If a person's head/mouth is submerged when uncontrollably gasping they will drown. Basic protection: conditioning yourself and others to always breathe before water entry and covering your mouth on the way in.

15. What operational characteristic of Personal Water Craft frequently confuses inexperienced operators, thereby leading to potentially serious collision situations?

Ans. You must maintain throttle to turn the craft. Releasing the throttle and then turning causes a PWC to continue in its original direction.

16. [a] At higher levels of intoxication, approaching 0.2 BAL at night, which two primary colors are difficult to discern?

Ans. Red and green.

[b] What color is the stop light in your car?

Ans. See one of the two colors in 16 [a] immediately above.

[c] What percent of fatal auto accident victims, and presumably boating victims too, have a BAL approaching 0.2?
Ans. Possibly as high as 25%.

17. What percent of serious boating accidents happen on sea coasts or the great lakes?
Ans. 10%.

18. [a] What is the average size of boats involved in fatal accidents?
Ans. Under 16 feet.

[b] How fast is the average boating victim's craft moving at the time of the fatal accident?
Ans. **It's sitting still or drifting**. Remember: most boating deaths are due to drowning when a non PFD wearing, frequently alcohol affected, poor or non swimmer falls out of, capsizes or swamps a small craft! **

[c] What is the primary accidental cause of deaths to hunters?
Ans. Drowning and/or immersion hypothermia.

19. What are the four behavioral effects of imbibing intoxicants ranked from those whose effects first appear at the lowest levels?
Ans. **Balance** is degraded at relatively low dosages, one or two beers per hour in an average adult male. Next is **vision**; then **sensory integration** -going from simultaneous to sequential; then **judgement**. For more details please request the article: "Alcohol and Water Don't Mix."

20. The basic number of persons required for safe water skiing is two, an operator and a skier.
Ans. Wrong. For the best possible safety situation, three persons should be involved: driver, skier and a specifically designated observer. (The observer is not required in some states if the driver has a wide angle, rear-view mirror.)

*For more extensive explanations, please consult Water Rescue, by Dr. Dave Smith, publisher: Mosby-Lifeline 1-(800) 426-4545.