

the AKWĀ letter

Vol. 2, No. 3

The Official Publication of the Aquatic Exercise Association

September 1988

Water Myths

by Alison Osinski, PhD

True or false?

- 1) *It's dangerous to swim immediately after eating. You should wait at least thirty minutes before swimming to avoid stomach cramps.*
- 2) *If you fall out of a boat into cold water, you should start swimming as quickly as possible to stay warm.*
- 3) *Excessive amounts of chlorine in pool water cause your eyes to burn.*
- 4) *There is a risk of contracting AIDS from pool or spa water.*
- 5) *A drowning person will come up for air three times before submerging.*
- 6) *First aid for drowning includes inverting the victim to remove water from his lungs.*
- 7) *Some people are "sinkers" and can't learn to swim.*
- 8) *A swimming pool or spa that looks clean is probably safe to swim in.*
- 9) *Undertow, the outward flowing river of water which travels below the waves, is responsible for numerous drownings yearly.*
- 10) *Frequent swimming in chlorinated pool water causes the hair of blond, gray or white haired swimmers to turn green.*
- 11) *A swimmer floats better in salt water than in fresh water.*
- 12) *Millions of small silvery fish purposely jump out of the ocean during high tide onto beaches on the days following the full moon.*

Numbers one through ten on the preceding questionnaire are all myths - false beliefs even those of us who work in the aquatic industry believe and pass on as truths to participants enrolled in our water programs and classes. Surprised? How did you fare in comparison to AEA conference participants who were asked to complete the same quiz? Although all or most participants knew that AIDS is

not transmitted through pool water, that a drowning person doesn't come up for air three times and sink, and that swimmers float better in salt water than fresh water; participants scored an average of only seventy-three percent. Most frequently missed questions were numbers twelve, nine, one and three, in that order.

help in explaining why these widely held beliefs are really myths. The next time one of your water exercise participants asks for clarification on one of these issues, or voices an unfounded concern, you'll be able to give them an accurate answer.

The following information will be of *Continued on page 3*

AKWĀ - Root word for water

Water Myths

Continued from page 1

MYTH 1: You should wait at least thirty minutes after eating to swim in order to avoid stomach cramps.

No one has ever drowned as a result of experiencing stomach cramps while swimming. This "old wives" tale is perpetuated generation after generation by concerned parents. Although consumption of low fat, high carbohydrate diets can be nutritionally beneficial to elite competitive swimmers in enhancing swimming ability, not eating at all, or eating of particular foods will neither benefit nor harm the typical recreational swimmer. The best advice is just to use common sense. You wouldn't run a marathon immediately after sitting down to Thanksgiving dinner, and neither should you compete in a long distance endurance swim. You would probably get nauseous. Heavy exercise immediately after eating is not beneficial to proper digestion, since oxygen needed to digest the meal is being used by working muscles. However, it wouldn't hurt to go for a walk around the block after a moderate meal, and neither would it be dangerous to swim a few laps.

Of real concern to swimmers and water exercisers, is the common occurrence of leg cramps, particularly to the gastrocnemius. Leg muscle cramps are usually due to: improper warm-up or cool down, dehydration, potassium deficiency, or hyperextension of the muscle. If minor leg cramps are experienced, use a different muscle group, and change the stroke or movement being employed. For severe and incapacitating cramping, perform a survival float, extend and massage the cramping muscle, relax, and most importantly, don't try to swim to the pool wall or safety until the cramping has subsided.

MYTH 2: You should swim to stay warm in cold water.

Body heat is lost through four proc-

esses: radiation (still air surrounding the body), conduction (contact with a cold object), evaporation (sweating), and convection (air or water movement around the body). Swimming in an attempt to stay warm will actually increase the rate at which heat is lost through convection, and will speed up the onset of hypothermia. Immersion hypothermia is a lowering of the body core temperature which occurs when cold temperatures cause the body to lose heat faster than it can be produced. The onset of hypothermia is also affected by: wind velocity; air temperature as well as water temperature; length of exposure to the cold; the person's age, body size, build, level of mental and physical fitness; and, the amount and type of protective clothing worn.

Initial symptoms of hypothermia include shivering, rapid and involuntary muscle contractions, and bluish coloring. Reduced blood flow to the extremities also occurs due to the "mammalian diving reflex", a series of bodily functions that reduce circulation to most parts of the body except vital organs, and which is triggered by sudden face contact with cold water (less than seventy degrees F). Hypothermia will progress toward sleepiness, unconsciousness and eventual death. The proper response to unexpectedly finding oneself in cold water is to stay where you are, use clothing for flotation, and use the heat escape lessening posture (knees tucked up, arms close to the body, head tucked down) or huddle together if there is a group. Do not attempt to survival float or swim to safety.

To avoid the possibility of afterdrop which might trigger ventricular fibrillation, first aid for mild hypothermia involves gradual rewarming by showering, covering up, getting out of wet clothes, and drinking warm liquids. Alcohol should not be consumed because it causes blood vessels to dilate and increase heat loss. Also, hypothermic victims should not smoke since nicotine reduces circulation to the skin.

MYTH 3: Too much chlorine in the

water causes your eyes to burn.

Sometimes too little, but never too much measurable free available chlorine causes eye irritation. Another possibility of irritation to swimmers are wind and sun reflection. Eye burn can result when ultraviolet light exposure leads to inflammation of the cornea. Often overlooked are water and debris friction, excessive debris or turbidity present in water from: Media or filter elements which have become disrupted or not cleaned often enough, diatomaceous earth (D.E.) not adhering to the septum, hair and lint trap and skimmers not emptied often enough, settled debris not vacuumed out, total dissolved solids levels which are too high, filters not sized properly for the bather load, or inadequate turnover. Unbalanced water, or water with a saturation index greater than plus or minus .3, as well as the individual components of balanced water - pH, total alkalinity, calcium hardness, and temperature may also be irritating to swimmers.

However, the big irritator is chloramines. Chloramines, or combined available chlorine, are formed when some of the residual chlorine combines with other chemicals or substances in the water, particularly ammonia. Although present in the water as a residual, they are not freely available. They will still kill bacteria but at a rate one hundred times slower than free available chlorine, are a major source of eye and mucus membrane irritation, and impart that unpleasant odor often attributed to chlorine.

For more information on pool chemistry, maintenance and operation, call the National Swimming Pool Foundation at (512) 525-1227, and ask where you can enroll in a CPO (Certified Pool Operator) course. Information is also available on chloramines by calling Olin Chemical's "Pool Hot Line" at (800) 222-2348.

MYTH 4: The AIDS virus can be transmitted through pool and spa water.

Continued on page 5

Water Myths

Continued from page 3

You can't catch AIDS (acquired immune deficiency syndrome) in a swimming pool or spa unless you're having sex, or engaging in some other high risk behavior in the water with an AIDS infected person. The virus is too dilute to transmit through water even in the absence of a germicide or bactericide. There is no need to restrict access to public pools by those with AIDS or any other sexually transmitted disease.

For the most up to date information on AIDS, disease transmission through water, and to request two free booklets; #99-960 "Suggested Health and Safety Guidelines for Public Spas and Hot Tubs", and, #83-8319 "Swimming Pools: Safety and Disease Control Through Proper Design and Operation", contact the Centers for Disease Control, in Atlanta, at (404) 329-3311.

Concern is warranted over the possibility of disease transmission by lifeguards and other rescue personnel who might be called upon to perform artificial respiration or CPR. To add a protective physical barrier and prevent the exchange of saliva, vomit or other bodily fluids, Laerdal Medical Corporation has developed individually packaged "Resusci Face Shields" which are sealed in wallet size aluminum foil packets. They sell for about \$1.10 and can be purchased by calling (213) 546-7869.

Aquatic professionals should also be concerned over the spread of pseudomonas aeruginosa through the water at our facilities. Transmission of this disease is so common at aquatic facilities that it has become known as "spa rash". Pseudomonas aeruginosa is a gram negative bacterium present in the environment, which passes into water from the human skin and gastrointestinal tract. It is particularly prolific in warm, turbulent and aerated environments, growing rapidly under these favorable conditions. It causes folliculitis, skin rashes, urinary tract infections, and inner ear infections. To prevent the spread of pseudomonas infections, encourage bathers to take hot soapy showers after leaving the water, and maintain good bacteriological quality and balanced pool/spa water.

MYTH 5: Victims surface three times before submerging and drowning, and, drowned victims should be inverted to remove water from the lungs.

With the exception of passive drownings which occur as a result of unconsciousness, trauma to the head or spine, heart attack, or some forms of epilepsy in which persons are unable to display drowning behaviors, a person who is drowning or in distress in the water behaves in certain instinctive and easily identifiable ways. A victim in distress, who has some ability to swim or support himself may call or wave for help. He is able to breathe, diagonal in the water, alternating between positive and neutral

buoyancy, and is making ineffective swimming motions. He looks like he's using a lot of effort but not getting anywhere. On the other hand, an actively drowning victim cannot call out for help because his primary concern is breathing. He is vertical in the water, alternates between negative and neutral buoyancy, usually facing shore or safety, can't see, hear or react to instructions, his mouth is open with head tilted backwards, and arms are extended out to the sides pushing up and down on the water. This struggle generally occurs for twenty to sixty seconds. After the struggle on the surface, the victim is last seen clawing toward the surface, submerges, holds his breath, resigns himself to drowning, and begins to lose consciousness from asphyxia. Ten to fifteen percent of drownings are dry drownings as a result of suffocation. These victims are often found floating on the surface in a "dead man's float" position, as are most passive drowning victims. Eighty-five to ninety percent of drownings are wet drownings. The reflex closure of the glottis is overcome, regurgitation of swallowed water occurs, and water is aspirated (inhaled).

Death from drowning occurs differently in fresh and salt water. This is how TV investigators such as "Quincy" can determine that a body found floating in the ocean really met his doom in a bathtub. In salt water drownings, the lungs flood. In fresh water, pulmonary edema occurs,

Continued on page 6

PRO SHOP ITEMS



Swim Goggles

Swim Caps

Nose Clips

Ear Plugs

Kickboards • Hand Paddles

Aquatic Athletic Bags

Call for **FREE** 16 Page Catalog

(800) 235-2156 - California (800) 445-8456

Rothhammer
International Inc. 

POST OFFICE BOX 2959 • LANCASTER, CALIFORNIA 93539