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EDITORIAL

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Does Learning to Swim Prevent Drowning?

I grew up in the beautiful Finger Lakes region of western New York State with its plentiful ponds, lakes, streams, and rivers. Partially because of all these water sources and because our large family absolutely loved the water, my mother annually enrolled my siblings and me in swimming lessons every summer at Champlin Beach on the southern end of Keuka Lake (known by the early native Americans as Crooked Lake because it is the only Finger Lake that forms a “Y” instead of the long, narrow “I” or “finger” shape that gives the parallel glacially formed lakes their collective name). I must have been a slow learner because, despite the many lessons, I didn’t earn my Red Cross Beginner card until I was 10 years old, and then only after I received a series of private lessons.

In contrast, my father, who grew up in the same rustic Finger Lakes locale several decades earlier during the Great Depression years, used to entertain us kids with stories of his childhood, especially about being a “self-taught” swimmer. After enduring many summers of swim lessons with somewhat limited results, we kids were amazed with his story of how he “learned to swim” by himself. As he told the story, he regularly was allowed to go over to the river (the Cohocton River, a tributary of the mighty Susquehanna River system) with a bunch of older boys. The group of boys (no mention of girls being involved was ever included in his story) would hike over to one of those proverbial swimming holes replete with a rope swing tied to a big old willow tree that would carry them far out over the river. Dad claimed that at first he couldn’t swim, but he still would swing out, clinging to the rope, and plunge into the water. Then, one or another of the older boys would tow him back to the safety of the riverbank. According to his oft-repeated story, one day the other boys left early, but he still swung out over the river on the rope, dropped into the water, and . . . “It was either swim or drown, so I figured out how to swim back to the riverbank.”

If my father’s story about how he learned to swim without lessons is even close to accurate (especially in contrast to my own experience of taking years of lessons to finally just become a “beginner”), it poses the question of what role organized swim lessons play in learning to swim and their necessity for preventing drowning. If someone like my Dad can just hang around the water long enough until he suddenly can swim to save himself, how essential are swim lessons? Is their prominent role in contemporary Western society as necessary as we presume? For me, my father’s story raises one of the many unexamined questions in aquatics: To what degree are swim lessons responsible for producing swimming skill? Furthermore, what evidence do we have that swim lessons and swimming skill are related to reduced risk and rates of drowning? If swimming skill is critical to preventing drowning, what level or degree of swimming skill is sufficient or necessary? Which specific skills can be demonstrated to be the most critical for novices to learn to prevent drowning?

In raising these questions, I appreciate that some readers may be horrified at my apparent “aquatic blasphemy.” I can hear such readers exclaiming, “Who is this crazy guy? Of course, swim lessons improve swimming skills! Certainly they are both the primary and best way to reduce the risk of drowning among the populace!” I imagine the condemnations being composed even now. But, please hear me out and read on before dashing to your word processor to send off those letters to the editor (which, of course, are always welcome to *IJARE*).

My point in questioning the degree to which lessons are responsible for learning to swim, as well as preventing drowning, is to reiterate one of my favorite themes: the need for more valid and reliable research to support our aquatic beliefs and our practices. It might surprise some readers how little research has been done that directly examined questions about the degree to which swim lessons have been demonstrated to improve swimming skill and whether either lessons or swimming skill can be attributed to preventing or reducing drowning. My hunch is that the connections between being able to swim and not drowning seem so obvious to most people that no one has felt a compelling need to conduct what actually will be a difficult series of studies. As regular readers already know from my previous editorials, I am a strong advocate of well-designed empirical research to substantiate even widely held and reasonably obvious beliefs. How we learn to swim and whether swim lessons prevent drowning certainly fall within the category of things we need to research!

In fairness, we should ask what evidence there is that learning to swim prevents drowning. In the United States, we do have historical evidence that drowning rates have continued to decline from over 10,000 per year in 1900 when the U.S. population was 78 million to approximately 3,400 in 2000 with the U.S. population exceeding 280 million (Hobbs & Stoops, 2002). During this same 100-year period, numerous national agencies such as the American Red Cross, the YMCA of the USA, and the Boy Scouts and Girl Scouts of America all instituted and expanded learn-to-swim programs (American Red Cross, 2004). Of course, these same agencies and many others have instituted lifesaving and lifeguarding programs, and all states instituted regulations and statutes requiring lifeguards at public swimming venues. Scientifically, we realize that one confuses *correlation* with *causation* at great peril. One legitimately should ask whether either enhanced learn-to-swim opportunities or increased quantity and quality of lifeguarding over the past century has made the critical difference associated with the dramatic decrease in drowning rates (from 11.4/100,000 in 1902 to 1.2/100,000 in 2003; Centers for Disease Control and Prevention, 2007) or whether some other as-yet-unidentified factors provided the critical cause. Because these factors and multitudinous others occurred simultaneously, it is impossible to “prove” that the latter two “caused” the former. In fact, it is actually more reasonable to conclude that higher drowning rates “caused” the development of swim-lesson and lifeguard programs, based on the historical evidence, than the reverse.

With respect to confusing correlation with causation, one of my favorite stories is the fable of Chanticleer, the rooster. Chanticleer proudly crowed each and every morning as the sun came up. Over time, he began to believe that his crowing was causing the sun to rise. One day when he was unable to crow (do roosters suffer from laryngitis?), the sun came up anyway. According to the story, poor Chanticleer died of a broken heart. I have often related that story to water safety instructors who

seem too confident that their personal teaching methods are absolutely responsible for their students' learning to swim. Perhaps the students learned to swim *in spite of* the instructor's efforts? How do we know without better scientific evidence?

Is there any additional evidence aside from the weak correlational evidence from the past century? There does appear to be some movement on this front. Over the past few years, members of the National Institute of Child Health and Human Development have been conducting research focused on drowning, swim lessons, and swimming skill level. One of the authors presented a small portion of their data at the recent 2007 World Aquatic Health Conference in Cincinnati, OH (Haynie et al., 2007; *Note:* Interested readers can access and view the actual presentation by subscribing to the drowning-prevention and lifeguarding conference seminar on the National Swimming Pool Foundation Web site, http://www.nspf.com/WAHC_2007.html, or by purchasing the *Science Now, Healthier Future 2007* conference proceedings). I am hopeful that these authors will submit their manuscript for publication in a subsequent *IJARE* issue, so I will not elaborate on the results of their report other than to say that the study does support the expected positive connections between lessons and swimming skill and reduced drowning among preschool children. In a similar vein, a number of other excellent research studies were reported at the 2007 World Water Safety Conference and Exhibition that the International Life Saving Federation sponsored in Porto, Portugal, including at least one that reported on the impact of swim lessons in Bangladesh on reducing that country's drowning rate (*Note:* Interested readers can find more information about WWS 2007 and the scientific program at <http://www.worldwatersafety.org/PageGen.aspx>. Other information about the International Life Saving Federation and the bids for the planned 2011 World Water Safety Conference can be located at <http://www.ilsf.org/>. Alert readers may recall that the 2007 World Drowning Report was published in the previous *IJARE* issue; International Life Saving Federation, 2007).

Once these and other recent studies reach the literature after receiving peer-review scrutiny, we might begin to have the scientific foundation for beginning to unravel what now is much more belief and faith than evidence-based knowledge. Who knows, we may even need to convene an international group equivalent to the U.S. Lifeguarding Standards Coalition to examine the crucial evidence-based literature surrounding drowning prevention, swimming lessons, and swimming skill levels.

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In Volume 2, Issue 1

In this first issue of *IJARE*'s second volume, readers will find a nice balance of research, educational, and invited review articles with authors from four different nations, giving a truly international flavor. Although not a purposefully selected theme, most of the issue's articles focus on water safety, lifesaving, and lifeguarding. The first article was authored by Judith McCool, Kevin Moran, Shanthi Ameratunga, and Elizabeth Robinson from New Zealand. Their study involved a survey of swimmers at New Zealand beaches and identifies the behaviors and perceptions of those swimmers in relation to their risk of drowning. Julie Gilchrist and Karin Mack from the U.S. Centers for Disease Control and Prevention provide the results of ICARIS, a wide-ranging survey study examining a variety of injury mechanisms. They summarize the reported prevalence of fencing around residential swimming pools in the United States and reemphasize the critical importance of such fencing in reducing and preventing drowning. *IJARE*'s favorite author, Lee Yarger, from Ball State University in Indiana, provides the data from another survey that explores possible factors and mechanisms related to injuries, accidents, and deaths reported by aquatic administrators from a variety of aquatic facilities around the United States. The final research-related article was authored by Tomas Leclerc, Juan Canabal, and Heather Leclerc. These authors provide us an impassioned review of the literature related to the use of in-water rescue breathing by lifeguards trained by various aquatic agencies. Their article undoubtedly will encourage further discussion and debate about when to begin rescue breathing: begin immediately or delay until a victim is brought to poolside or shore.

As has been typical for issues of *IJARE*, the educational articles cover both diverse and interesting topics. Stathis Avramidis from the European Lifeguard Academy describes his firsthand experiences with the lifeguard operations at the 2004 Athens Olympic Games and offers suggestions for managers of future Olympics and other multinational swimming competitions. Dean Witman from Wisconsin provides an economic-cost analysis of the impact that drownings in lakes, rivers, and other outdoor aquatic venues likely have. His projected results suggest that we should pay much closer attention to drowning prevention at these aquatic areas.

Issue 2 culminates with three invited contributions. John Hunsucker and Scott Davison from the National Aquatic Safety Company (NASCO) have authored their article based on a presentation John made at the 2007 World Aquatic Health Conference in Cincinnati that deals with the role that visual perception and scanning play in lifeguarding. Tom Griffiths from Penn State University, a frequent presenter and expert on lifeguard scanning, was invited to provide a reaction paper to the original and give some insights, pro and con, from his perspective. The final contribution comes to us from Norway. Based on his presentation at the 2007 World Water Safety Conference, Bob Stallman and his co-author Per-Ludvik Kjendlie, from the Norwegian School of Sport Science–Human Performance and the Norwegian Life Saving Association, describe their proposed framework for conducting a wide-ranging variety of heretofore-unexplored multidisciplinary research and water-safety studies. I strongly encourage researchers and practitioners to consider Bob's suggestions and to begin formulating them into actual studies.

Read, contemplate, consider, and react to the variety of ideas, outcomes, and issues in this Volume 2, Issue 1, of the *International Journal of Aquatic Research*

and Education. Thanks for your continued support of *IJARE* through your subscriptions, your submissions, your peer reviews, and especially your reading of our collective endeavor.

Steve Langendorfer, Editor

In Memoriam

The aquatic world undoubtedly took little note in July 2007 of the passing of Everett A. Kiff, a retired high school swim coach. Although I had heard he was ailing, I only learned of the death of “Coach Kiff” from my mother, who is always vigilant to keep her Ohio-residing son up to date on comings, goings, and passings of acquaintances and significant people from my formative New York years. Until reading his newspaper obituary, I knew little about Ev’s background other than that he had graduated from Ithaca College; that he had been a college gymnast, not a swimmer; and, of course, that he had played a significant role in my personal aquatic interests and endeavors. I had not realized that he was a hometown boy, graduating from our local high school, Haverling Central Schools in Bath, NY, where he eventually taught and coached, or that he had served in the U.S. Navy during the Korean Conflict aboard the heavy cruiser the U.S.S. Baltimore. Of course, I knew that he had selected me as a freshman to be on the very first Haverling High School swim team in 1964. When I saw his 14-year swim-coaching record of 215 wins, 22 losses, and 1 tie, I realized that most of those miniscule few 22 dual-meet losses were suffered during the first 4 years, while I was a team member.

I always will recall fondly that Coach Kiff allowed me to train with the high school teams during the 4 years when I was home from college for vacations and tolerated my college “know-it-all” comments about swimming. He had several philosophically based coaching practices that should be recollected and emulated, especially today. Because he understood the impact of adolescent growth and development, he refused to cut any freshman or sophomore swimmer, allowing them time to grow into their rapidly changing bodies or to self-select more appropriate sports or activities (as he allowed to happen for my younger brother, Pete, who realized as a junior that his lean, muscled body and less-than-exemplary swimming skills made him a much better candidate for wrestling than swimming). In the days when each team was allowed only two swimmers per event, Ev’s appreciation for the benefits of competitive meet experience caused him to negotiate with opposing coaches and meet officials to allow “exhibition swimmers” in any empty lanes. He even allowed those usually younger exhibition swimmers to accrue points toward their varsity letter if they beat any opposing swimmers in their event. Both of these coaching practices, among many other innovations that he employed, undoubtedly contributed to the development of the powerhouse swim teams for which he was so well known in the Southern Tier of New York State.

Coach Kiff had a genuine but understated sense of humor that he employed with effect to motivate swimmers. I still recall the day in practice when I allowed one of my teammates to pass me instead of keeping my normal lead during our zigzag conditioning laps called “snakes.” “Are you going to let that ‘pork chop’ beat you?” said with a little sparkle in his eye was all I needed to hear to know I had better get back in the lead and stay there. On the rare occasions when he was

angry, his ire was expressed with almost the same quiet tone, except that the steel tone in his voice was much worse than if he had yelled and screamed. I remember another occasion when several unwanted persons wandered into the pool area during practice and were simply told, “Would you fellows make sure you close that door on your way out?” which they did almost immediately.

Since he had moved to South Carolina for retirement, I hadn’t seen Ev Kiff for quite a few years. The last time I had encountered him was when he “came out of retirement” to pilot a pontoon boat that accompanied four of us (two of my brothers, a female high school swimmer, and me) who decided to swim the 20-mile length of Keuka Lake. I’ll always remember the familiar wry smile and twinkling eye as he quipped to me, “You’re getting a bit old to do something like this, aren’t you?!” I was 40 years old at the time, and I am sure that he knew all too well that such a comment would only serve to steel my resolve to finish that marathon swim, which we did in 12 hours exactly. He was a master of motivation to the end. I am sorry that I was not able to tell Coach Kiff in person, but he made a great difference in the direction of my life and, I am certain, in the lives of many other young men who swam for him over the years. On behalf of myself and all of those 14 years of Haverling swimmers, thank you, Coach Ev Kiff!

Steve Langendorfer, Haverling, Class of 1968