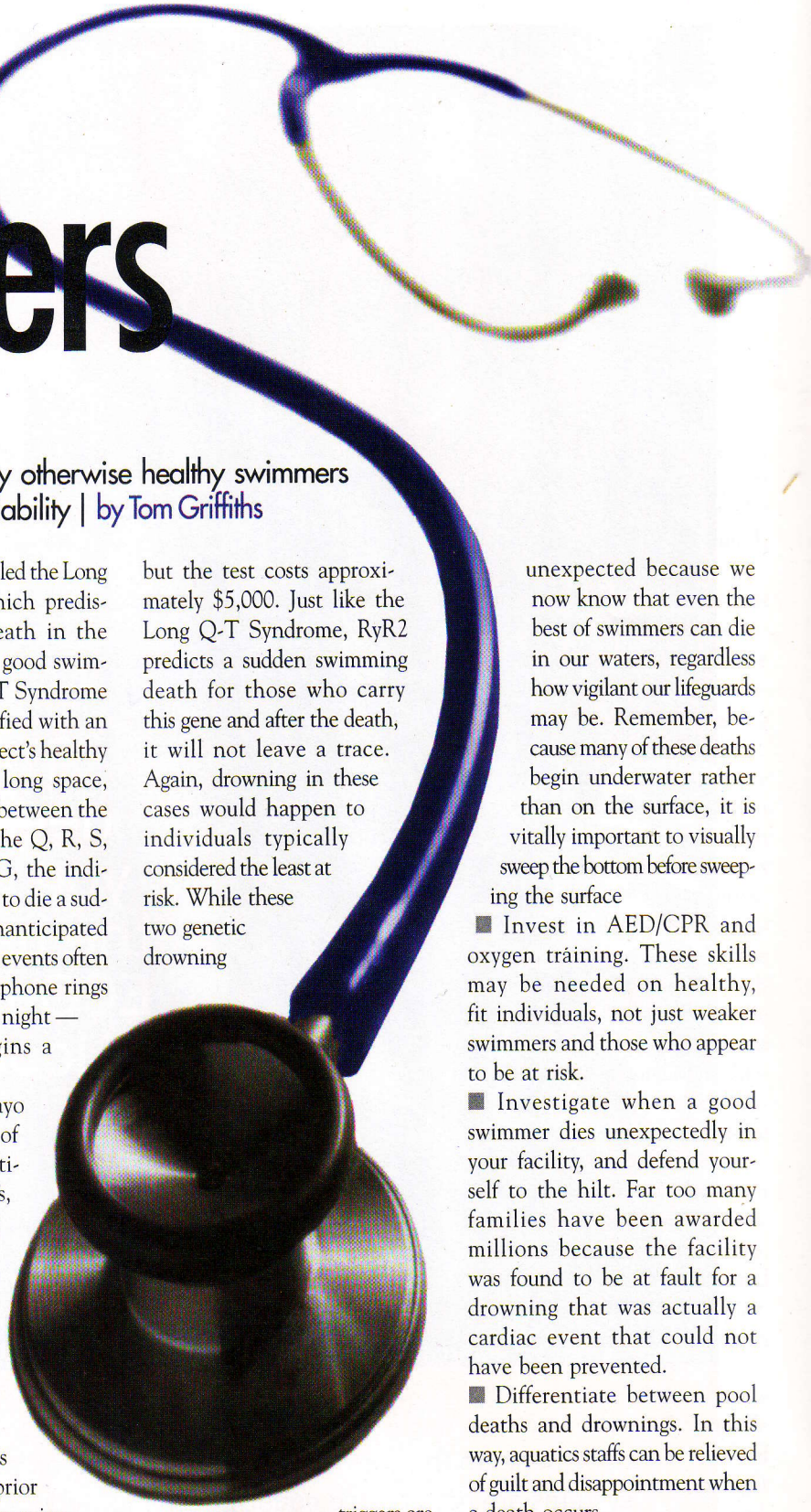
Deadly Triggers



Genetic drowning triggers may explain why otherwise healthy swimmers drown — and help insulate facilities from liability | by Tom Griffiths

When perfectly healthy swimmers who are good athletes drown, it is often a mystery. Family and friends typically respond to these tragedies in disbelief, exclaiming, "How could this happen? He loved the water! He was such a good swimmer!"

Have you ever experienced or heard about a "drowning" to a good, healthy and fit swimmer? It happens more frequently than you might think.

But now overwhelming medical evidence indicates that good swimmers don't really drown — they die of other specific causes, known as "drowning triggers," that predispose them to death in the water.

Yet in far too many of these cases, coroners still have a habit of simply stating that their autopsy findings ".... are consistent with drowning."

Perhaps it is time to stop referring to all aquatic deaths as drownings and start understanding these drowning triggers. Wrongly identifying a healthy swimmer as a drowning victim definitely and permanently places a shroud of guilt over the aquatics facility, its management and lifeguards. At the same time, too many swimmers may not know they possess these deadly drowning triggers, which leave no trace in an autopsy.

For years, cardiologists have recognized one of these drowning triggers. It stems from an EKG abnormality called the Long Q-T Syndrome, which predisposes people to death in the water, even to very good swimmers. The Long Q-T Syndrome is quite easily identified with an EKG during the subject's healthy state: If there is a long space, distance or synapse between the Q and T peaks in the Q, R, S, T points on an EKG, the individual is more likely to die a sudden death to an unanticipated cardiac event. These events often happen when a telephone rings in the middle of the night — or a swimmer begins a workout.

In fact, the Mayo Clinic found that of its 34 patients identified with Long Q-Ts, six had drowning episodes. Unfortunately, when a good swimmer dies in an aquatics facility, the only way to diagnose whether the victim suffered from a Long Q-T is by an EKG taken prior to the supposed drowning event. This is one reason many medical professionals believe that all people should have EKGs taken shortly after birth.

But Long Q-T isn't the only genetic drowning trigger. Through DNA analysis, researchers also have identified a rogue gene that predicts drowning, even for very good swimmers. It is called RyR2, but the test costs approximately $5,000. Just like the Long Q-T Syndrome, RyR2 predicts a sudden swimming death for those who carry this gene and after the death, it will not leave a trace. Again, drowning in these cases would happen to individuals typically considered the least at risk. While these two genetic drowning triggers are very unusual and somewhat rare, they explain why people who do not fit the profile of a potential drownee may end up dying in our aquatics facilities. While you can't force patrons to take EKGs or DNA tests, you can use this information to your benefit. Here's how:

- Train lifeguards to expect the unexpected because we now know that even the best of swimmers can die in our waters, regardless how vigilant our lifeguards may be. Remember, because many of these deaths begin underwater rather than on the surface, it is vitally important to visually sweep the bottom before sweeping the surface
- Invest in AED/CPR and oxygen training. These skills may be needed on healthy, fit individuals, not just weaker swimmers and those who appear to be at risk.
- Investigate when a good swimmer dies unexpectedly in your facility, and defend yourself to the hilt. Far too many families have been awarded millions because the facility was found to be at fault for a drowning that was actually a cardiac event that could not have been prevented.
- Differentiate between pool deaths and drownings. In this way, aquatics staffs can be relieved of guilt and disappointment when a death occurs.
- Consider installing a drowning-detection system. While this technology will not prevent Long Q-Ts and RyR2s from dying in our facilities, the real-time video will conclusively show that the victim did not drown, provided, of course, the lifeguards responded in an appropriate and timely fashion. AI