

DRY DROWNING ... HOW CONCERNED SHOULD I BE?

Written by Dr Peter Jung – July 4th 2008

On June 1, 2008 10-year old Johnny Jackson got water in his lungs while swimming in the pool. He walked home, took a bath, and went to bed; he died in his sleep during a nap an hour later. The county coroner reported water in the boy's lungs.

On June 5, 2008 todayshow.com reported the following:

"According to the Centers for Disease Control, some 3,600 people drowned in 2005, the most recent year for which there are statistics. Some 10 to 15 percent of those deaths were classified as "dry drowning," which can occur up to 24 hours after a small amount of water gets into the lungs. In children, that can happen during a bath."

While the 3,600 number is fairly accurate (3,582 to be exact), the 10-15% statistic is erroneous and the CDC enterprise communication officer Sandy Bonzo has since issued a statement as such. There are no statistics on the percentage of "dry drownings."

Soon after Johnny's unfortunate drowning, there was a full-on media blitz with the Today Show spearheading the charge. The media did what the media does best: it struck the "Moms you had better take note for your child's sake or else suffer the consequences" nerve. What followed was a slew of stories on multiple websites, newspapers and local news channels on "dry drowning" . . . *the story at 10 and you had better not miss it if you care about your child.* . . .

Although the phrase "dry drowning" is an ideal term for a newscaster hoping to invoke fear in the heart of the average mother, it is a somewhat misleading phrase. In fact, there are so many different phrases used to describe drowning (such as wet drowning, dry drowning, near drowning, secondary drowning, passive drowning) that it leads to ambiguity in what physiologically has actually occurred in each individual case. In an attempt to simplify matters, the 2002 World Congress on Drowning held in Amsterdam defined drowning as the process of experiencing respiratory impairment from submersion/immersion in liquid.

So what do people mean by "dry drowning" then?

It's hard to pinpoint exactly as there is no set definition, but it seems to be any situation where a person cannot breathe and water does NOT enter the lungs. In this sense "dry drowning" could conceivably apply to laryngospasms (spasms of your windpipe) and such external causes such as a lung puncture or a heavier-than-air gas filling the lungs. Even in an underwater drowning, it is conceivable that a person could suffer laryngospasms and die from oxygen deprivation without water entering the lungs, and hence be classified as a dry drowning when in fact the person was fully submerged underwater. You can see how there is ambiguity and confusion in using these terms, which is why the 2002 Congress uses one universal definition.

So exactly what happened in Johnny's case then?

Most likely Johnny did swallow some water while he played in the pool and some of the water made it into his lungs (which then technically is not a "dry drowning" even though the death occurred out-of-water). This water then led to a loss of pulmonary function after the "loss or inactivation of surfactant" of the alveoli in the lungs. Surfactant is an amphiphilic compound, which reduces the surface tension of your lungs allowing you to breathe. Basically, it helps your lungs to expand easily allowing oxygen to enter. The water that made it into Johnny's lung disrupted the ability of his natural surfactant and therefore as he napped, he was unable to breathe properly leading to his unfortunate demise.

This type of situation is uncommon, although there are no exact statistics on it. And although it is scary to every mother whose child goes swimming during the summertime and then on occasion takes a nap (which is every mother), things must be put into perspective.

First, most drownings do not occur this insidiously. Rather, the majority of drownings happen where it is clear that the child has been submerged under water. In this sense, things can be done to avoid the obvious drowning: close supervision, fences/covers/alarms around unused pools, CPR training, etc.

Second, even in a case such as Johnny's, there will be some warning signs: accidental ingestion of water, forceful coughing 1 minute right after coming out of the water, difficulty breathing, extreme fatigue and changes in behavior. And while any one of these symptoms by itself may be normal, if your child clearly is having an excessive amount of coughing and difficulty breathing right after swimming, it would be obvious to the observant mother. I never underestimate maternal instinct.

Finally, there is more risk in driving your child to the local movie theater than there is in monitored water play. And I know you've seen either Kung Fu Panda or WALL*E!

The bottom line is that like many other risks that the media has over-hyped, "dry drowning" is a real risk but a very unlikely one if you follow safe water practices. One good thing about this media blitz has been an increased awareness about general water safety, which only benefits summer activities. In this sense, hopefully Johnny's life will serve as a beacon to every mother and child swimming this summer.

BIO for Dr Jung:

Current Chair of Pediatrics at Memorial City Memorial Hermann Hospital in Houston, Texas. Here is a modified bio from my website: Dr. Jung was born in Passaic, New Jersey. His family is originally from South Korea. He graduated from Rice University in 1995, where he majored in Biology. He then earned his medical degree from Baylor College of Medicine in 1999 and completed his pediatric residency training at Baylor College of Medicine-affiliated hospitals (including Ben Taub General Hospital and Texas Children's Hospital) in 2002. Dr. Jung has been recognized as one of America's Top Pediatricians in the book Guide to America's Top Pediatricians by the Consumers' Research Council of America. He has been listed by H Texas Magazine as "One of the Best Doctors in Houston". He has recently been interviewed on the radio show The Takeaway, by Parents Magazine, and several local magazines regarding a potpourri of pediatric issues.