



### E106 Drowning: The Silent Death

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**Learning Overview:** After attending this presentation, attendees will be aware of correlations between age and drowning locations within Harris County, TX, to help bring awareness to the issue and open a discussion about drowning prevention.

**Impact on the Forensic Science Community:** This presentation will inform the forensic science community by demonstrating the prevalence of drowning, specifically pool drowning, of children aged 12 years and under. Additionally, this presentation will address how misconceptions about drowning can play a contributory role and will provide information to combat these misconceptions.

The Harris County Institute of Forensic Sciences in Houston, TX, averaged approximately 4,559 medicolegal cases each year between 2013 and 2018. Approximately 1,500 medicolegal cases each year from 2013 to 2018 had a manner of death classified as accident. Approximately 4.3% of the accidental deaths each year were drowning, which is a total of 334 drownings classified as an accident between 2013 and 2018.

To focus on the data, the 334 drownings were separated by location: bathtub, open water, and pool. Once the cases were separated by location, trends were noticed in the age of the decedents. Through further analysis, the data revealed correlations in age range and location of the drownings. When examining the age variable in pool locations, a sharp peak was noted in children aged 12 years and under. A large broad peak in open water drownings of individuals in their early 20s into their mid 30s was also observed. Last, bathtub drownings revealed a peak of individuals in their mid-50s to mid-70s. After comparing the number of drownings in each location to the ages of decedents, a pattern was noted among child drownings and location. Approximately 9% of the total 76 bathtub drownings were children and approximately 12% of the total 128 open water drownings were children. In contrast, approximately 51% of the total 130 pool drownings were children.

The data collected revealed that in Harris County, children aged 12 and under are more likely to drown in pools than in any other location, such as bathtubs or open water (i.e., bayous, rivers, ponds, or lakes). Analysis of the 469 cases classified as drownings between the years of 2013 and 2018 revealed that 130 drownings occurred in pools. Of the 130 pool drownings, 66 (approximately 51%) were children age 12 years and under. Upon further analysis of the 66 child drownings, it was noted that 48 (approximately 73%) were children age 3 years and under. The initial 51% of child drownings, age 12 years and under, is three times greater than the number of child drownings observed in bathtubs and open water combined, which was 22 (approximately 11%). Not only do the majority of child drownings occur in pools, but approximately 76% of the 66 child drownings occurred at private residences. It was also noted that of the 15 open water child drownings, 6 were in ponds or man-made bodies of water located on the property of the family.

Child drownings are more likely to occur in pools at private residences than at any other location in Harris County. To combat this, it is imperative that adults be more alert and aware of their child's location, especially when they have a pool or other body of water in their backyard. Some ways to provide protection include fencing around pools or door alarms in the house to alert someone when a door has been opened. Children are very resourceful, even at young ages, so taking extra measures goes a long way toward ensuring their safety.

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#### Drowning, Children, Accident