



## Pathology Biology Section – 2010

### G7 Morbidity and Mortalities Related to TV Tip Over

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The goals of this presentation is to increase awareness of incidence of injuries from TV tip over, provide guidelines for distinguishing these injuries from abusive head trauma, and emphasize risk factors and need for prevention.

This presentation will impact the forensic science community by demonstrating how the incidence of injuries related to TV tip over is increasing.

This presentation will emphasize how the incidence of injuries related to TV tip over is increasing. It will present the scene investigation and autopsy findings from three fatal cases and demonstrate how a forensic pathologist can distinguish them from abusive head injury. Recent literature of this phenomenon will also be presented.

The San Diego County Medical Examiner's Office investigated three fatal cases within a nine month interval from December 2007 to September 2008. Rady Children's Hospital in San Diego treated an additional twenty-six children with non fatal injuries from the same mechanism in the two years prior to September 2008. The workup of each case will illustrate how it was distinguished from abusive head trauma (AHT).

In the first case a 3-year-old girl attempted to reach for items on a TV and/or the dresser on which the TV was positioned. The dresser and TV tipped over impacting her face. She had a fractured orbit and subarachnoid hemorrhage as a result of a probable vertebral artery injury when her neck was hyperextended. She had a brief period of consciousness prior to transport to a hospital where she was diagnosed with nonsurvivable head injuries. The second case involved the death of a 21-month-old child in which a TV on a shelf held up by three unsecured wooden dowels in an entertainment cabinet was dislodged by

a sibling playing in the room. The TV fell on the decedent and caused multiple fractures of the calvarium and base of the skull. One posterior fracture intersected with the foramen magnum and caused atlanto-occipital hemorrhage and cerebral injuries resulting in rapid death. In the third case an 11-month-old infant was struck by a falling TV when her older siblings tried to climb a dresser serving as a TV stand. She sustained massive skull fractures, destruction of her right frontal lobe and basal ganglia, and impaired perfusion of her left cerebrum. These cases were distinguished from AHT by comparing the data obtained from the scene investigation and interviewing the parties at the scene and matching the patterns of injury with the characteristics of the TV sets and their stands and positions, and noting the absence of any prior injuries at the postmortem examination and on x-rays.

A review of the literature for the past ten years indicated that crushing head injuries and fatalities from falling TV's and standup appliances are increasing while the manufacture of larger TV's with inadequate support appliances is also increasing. However, there is a need to critically examine the reporting methods of these cases since the data may not be complete or accurate. There is also a need for better public education about this problem and for the development of standards so as to prevent these injuries. One may consider requiring manufacturers to give notice to purchasers of the dangers of TV-stand tip-over by placing warning notices on the products, developing more stable TV support appliances, and consider better ways to anchor TV's on their stands.

**Television Injuries, Head Injuries, Children**