



## Pathology Biology Section – 2003

### **G4 A Five Year Retrospective Study of Unnatural Deaths in Children 12 Years and Younger in Singapore From 1997-2001**

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The goals of this presentation are to identify the recent 5 year trend of unnatural deaths in children aged 12 years and below, in Singapore, so that greater awareness can be directed at preventing such deaths. The outcome is the identification of significant characteristics in the major subgroups of unnatural deaths.

The Death Investigation system in Singapore is a Coroner's system where all sudden unnatural and violent deaths are reportable to the Coroner. Annually, some 3300 Coroner's cases are reported and of which 2000-2200 cases are autopsied. All unnatural deaths are autopsied. The Centre of Forensic Medicine of the Health Sciences Authority carries out all forensic autopsies centrally for all of Singapore.

A previous study of accidents and poisoning in children in Singapore from 1979-1984 by the late Professor T.C. Chao revealed the three leading causes as road-traffic accidents (28.3%), drowning (26.75%), and falls/falls from height (25.10%). Since then, Singapore has undergone tremendous social and technological change. Economic development has seen Singapore moving into the ranks of developed countries. The population has also increased to 4 million with the influx of foreign talent.

Over the 5-year period of 1997-2001 under study, there were a total of 139 unnatural deaths in children aged 12 and below (average of 27.8 cases per year, or an incidence of 3.17 per 10,000 population). This marks a substantial fall in the absolute number of fatalities even when compared against the narrower scope of the previous study which covered only accidental deaths. Presently, the 4 leading manners of death are: Fall from Height (25.9%), Drowning (18.7%), Road Traffic Accidents (17.3%), and Homicide/Non-accidental Injuries (NAI) (13.7%). The age distribution is 40.3% (birth to 3 year olds), 20.1% (4 to 6 year olds), 13.7% (7 to 9 year olds), 25.9% (10 to 12 year olds). Overall gender Ratio is M: F 2.2 to 1.

Some Interesting Findings:

1. The vast majority of fall from Height took place at high-rise residential buildings. Of particular interest is the appearance of childhood suicides in this group.
2. The pattern of drownings has shifted from the younger age group to the older age group. Drowning is in the majority now occurring outdoors.
3. As for Road Traffic Accidents, childhood fatalities now accounted for 2.27% all RTA fatalities over the same period, the group being almost evenly divided between pedestrians and vehicular passengers.
4. The appearance of Homicides/NAI within the top 4 leading causes of unnatural deaths.
5. Asphyxia due to Foreign Body has largely disappeared.

The presentation will provide further study of the leading causes and compare the results of the previous study and the present one. It will also offer possible reasons to explain the differences.

**Unnatural Childhood Deaths, Childhood Suicides, Accidental Deaths**