



## Pathology Biology Section – 2006

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### G96 Sudden Death in the Young in Australia

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After attending this presentation, attendees will have a good understanding of the range of causes of sudden death in young persons, and be able to implement recommendations made from this analysis.

This presentation will impact the forensic community and/or humanity by providing a greater understanding of the range of diseases causing sudden death in the age range 5 to 35 years.

**Objective:** To determine the causes of sudden natural death in persons aged 5-35 years.

**Method:** A review of all autopsies conducted at a forensic medicine facility for the years 1995-2004 (inclusive). This facility serves over 2.5 million people in the eastern part of Sydney, Australia. Data collected included the subjects' age, height, weight, gender, circumstances of death and pathologic findings at autopsy. Deaths caused by trauma, accidental causes, drowning and drug toxicity were excluded from the analysis.

**Results:** There were 427 non-traumatic, sudden deaths in the 10-year period (70.7% male). Cardiac causes accounted for 56.4%, non-cardiac causes for 39.3% and the cause was not determined in 4.3%. The most common cardiac cause for sudden death was presumed arrhythmia in those with no or minimal structural heart disease (29.0%). Other causes were acute myocardial infarction (24.5%), myocarditis (11.6%), hypertrophic cardiomyopathy (5.8%), aortic dissection and dilated cardiomyopathy (5.4% each). Over two-thirds of deaths caused by acute myocardial infarction occurred in the 30-35 year age group. Sudden cardiac death occurred during physical activity in 10.8% of cases. Sudden cardiac death had been reported in a first-degree relative in 4.5% of decedents. The most common non-cardiac causes for sudden death were epilepsy (23.8%), intracerebral hemorrhage (23.8%), asthma (16.1%), and pulmonary embolism (12.5%).

**Conclusion:** Presumed cardiac arrhythmia is the most common cause of sudden natural death in the young. There was no reported history of sudden death among the relatives of most decedents.

**Sudden Death, Arrhythmia, Autopsy**