



D34 Caffeine Related Deaths in Young Adults

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After attending this presentation, attendees will understand the possible detrimental effects of periodic fluctuations of blood pressure, caused by the intake of caffeinated drinks, substances containing caffeine, or caffeine supplements, can have on the heart, potentially leading to death.

This presentation will impact the forensic science community by provoking thoughts and questions as to the relationship between death and the intake of caffeine, regardless of the presence of postmortem toxic levels. It will also discuss caffeine's effects on otherwise minor, undiagnosed conditions, in young adults.

This presentation will address the levels of caffeine found in coffee, tea, caffeine drinks, caffeine supplements, and some over-the-counter medications containing caffeine. These levels will then help the audience understand the effects caffeine has on the normal physiology; specifically caffeine's effect on the cardiovascular system and blood pressure.

The different cultural and psychological influences in which caffeine is incorporated into the lives of young adults will also be discussed. For instance, some manufacturers of caffeine products use cars, sporting events, athletes and music events to promote their product. Some exploit the alcohol use of young adults by combining their caffeine drinks with alcoholic beverages. Others align their products with the images of nature and the environment.

The motivation to consume products containing caffeine and the timing of consumption will also be addressed. Some caffeinated products promote their use prior to physical activity. This is believed to improve physical endurance or athletic ability. For examples, some of these products specifically target the drinks to those who participate in extreme sports; resulting in the combination of high levels of stress to the body and high levels of caffeine. Others market their products to maintain mental sharpness. For example, some of these products specifically target the drinks to 'gamers'; resulting in the combination of no physical stress to the body and high levels of caffeine.

Young adults may not be aware their diagnosed or yet to be diagnosed medical conditions may be exacerbated by the intake of caffeine. Others willingly accept the potential complications or deny the personal applicability. Diabetes mellitus, stomach ulcers, kidney disease and seizures are conditions that may be exacerbated by the ingestion of caffeine.

The amount of caffeine in the body at the time of death may be at non-toxic levels but the periodic use of substances containing high levels of caffeine may harm the cardiovascular system or other organ systems. Deaths potentially attributable to caffeine may be similar to deaths

involving alcohol. Deaths from the effects of long-term alcohol use are seen frequently but an overdose of alcohol is less frequent.

Education of young adults as to the effects the caffeinated products is imperative, especially when taking into account the increased numbers of caffeinated products being marketed and the decrease of physical activity and fitness in youth.

Four case studies will be presented, of the deaths of young adults who were known to have ingested caffeinated drinks, substances containing caffeine or caffeine supplements for a period of time prior to death.

Caffeine, Death, Heart