



G64 Variations on a Theme: Inhalant Abuse Related Fatalities in Central New York — An 11 Year Review

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After attending this presentation, the attendees will be made aware of the epidemiology of the inhalant abuse related fatalities evaluated by the Onondaga County Medical Examiner's Office from 1998 to 2008.

This presentation will impact the forensic community by examining the variations in inhalant abuse related fatalities, and dispute the notion that it is usually a juvenile behavioral problem.

Inhalant abuse is the intentional or deliberate inhalation of chemical vapors, often a household product, to achieve intoxication. The commonly used chemicals are volatile solvents, aerosols, glues, paints, and lighter fluids. In inhalant abuse there is a progression from "Sniffing" - inhalation of vapors from an open container, to "Huffing" - inhalation of vapors holding a piece of cloth that has been soaked in volatile substance against the nose and mouth, to "Bagging" - inhalation from a plastic bag containing the desired substance. The prototypical inhalant abuser is a young male, between 10 and 15 years of age, indulging in inhalant abuse during school vacation times.

A study was conducted examining the inhalant related fatalities evaluated by the Onondaga County Medical Examiner's Office from 1998 to 2008, to obtain data about demographic characteristics; circumstances of the deaths; major autopsy findings; toxicology test results; and cause and manner of death (COD & MOD) formulations of these cases.

There were nine possible cases identified by the initial searches, of which two cases were deleted as not suitable for this study. Of the remaining seven cases (three female; four male) the mean age was 32.0 years and the median age was 21. There were three cases in 2002, two in 2007, and one each in 2005 and 2008. There was one case each in the months of January, February, April, June, and August and two cases in July.

Of the seven cases only one was the so-called prototypical inhalant abuser a 13-year-old male found with evidence of direct inhalation. The three female victims were aged between 18 & 21, while the remaining male victims were in the 4th and 5th decade of life. Besides the one case of direct inhalation, three cases had spray paint residue on the face, two cases had strong circumstantial evidence of inhalant abuse and in one case there was a past history of inhalant abuse. All cases below the median age had issues with scholastic performance and/or depression. The cases above the median age had histories of illicit drug and alcohol abuse or psychiatric issues.

Toxicology was confirmatory in five (71%) of the seven cases. In one case the testing was limited by decomposition of the victim and in another case specimens were not submitted for an inhalant abuse test panel. The inhalant panel tests revealed 1-2 aromatic or halogenated hydrocarbons and/or ketones including the following compounds with the following frequency noted in parenthesis: benzene (1), toluene (3), difluoroethane (1), and methyl ethyl ketone (2). Illicit drugs of abuse were identified in one case, lead was identified in the gasoline direct inhalation case and multiple medications (predominantly psychiatric) were identified in four (57%) of the seven cases.

In one case each the listed COD was: complications of solvent abuse; inhalation of toxic products of combustion and thermal injury; multiple drug intoxication; and laceration like incised wounds to the neck due to circular saw. In three cases the COD was: asphyxia due to

(1) inhalant abuse, (2) spray paint, and (3) drowning as the cause of death. Inhalant abuse was listed in the contributory conditions of the drowning and neck trauma victims. The MOD in six cases (85.7%) was accident and one was suicide. A further review of the autopsy report determined that inhalant abuse (or variant terms) was mentioned in the summary of diagnostic finding. The cases in which the inhalant abuse was not mentioned included the victims of fire, drowning, and multiple drug intoxication.

Education and preventive efforts focused not just on teenagers, but targeted to older at risk adults, are required if inhalant abuse related fatalities are to be eliminated. Furthermore, clinical services should consider these findings to identify the at risk individuals.

Inhalant Abuse, Huffing, Bagging