K38 Driving Under the Influence of Methamphetamine in the City & County of San Francisco, California

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After attending this presentation, attendees will have a better understanding of the signs and symptoms often observed in drivers driving under the influence of methamphetamine, the measured concentrations of the drug in the drivers' blood specimens, and the incidence of methamphetamine in alleged DUID drivers in San Francisco, California.

This presentation will significantly impact the forensic community by providing reference epidemiological and toxicological data drawn from actual driving cases which can serve as tools in the investigation of alleged DUID cases involving methamphetamine in the United States and abroad.

In San Francisco, California, suspected DUID drivers are charged with violating Vehicle Code Section 23152(a) which relates to driving while a person's physical or mental faculties are impaired by alcohol (or drugs) to the extent that they are "unable to drive their car with the same caution characteristic of a sober person, of ordinary prudence, under the same or similar circumstances." A separate charge, 23152(b), relates to driving with BAC equal or greater to 0.08% (w/v). In this study we present the drivers' demographic profiles are presented together with the concentrations of methamphetamine, amphetamine, and related compounds in biological specimens submitted to the toxicology laboratory of the Forensic Laboratory Division of the SF OCME.

A computerized database (NIKTOX) and a manual search of reports were used to identify DUID cases in which methamphetamine and/or related compounds were detected and confirmed/quantified in biological specimens during a 3-year period (2005-2007).

In 2005, there were 209 cases of drivers suspected of driving in violation of 23152(a). Their age ranged from 17 to 82 years (median: 33 years). 171 of these drivers were male (82%). Methamphetamine was found in 17 cases and the age of those drivers ranged from 20 to 63 years (median: 37 years). 88% of the methamphetamine positive cases involved male drivers (n=15). Blood was collected in only 3 of the 17 cases. In the three blood cases, the methamphetamine and amphetamine concentrations were 0.6, 1.5, and 0.3 mg/L and 0.1, <0.1, and <0.1 mg/L, respectively.

In 2006, there were 183 cases of drivers suspected of driving in violation of 23152(a). This represented a decrease of 12% from the previous year. Their age ranged from 19 to 73 years (median: 33 years). Of these drivers, 157 were male (86%). Methamphetamine was found in 21 of the 183 cases. This represented an increase of 3.4% in methamphetamine incidence as compared to the previous year. The age of these 21 drivers ranged from 19 to 51 years (median: 28 years). Male drivers represented 71% of the methamphetamine positive cases (n=15) and 29% involved female drivers (n=6). The percentage of female drivers involved in methamphetamine DUID cases in 2006 represented more than a two-fold increase from the previous year. Blood was collected in 10 of the 21 cases and the median methamphetamine and amphetamine concentrations measured were 0.4 mg/L (range: <0.1 to 0.8 mg/L) and 0.1 mg/L (<0.1 to 0.1 mg/L), respectively.

In 2007, there were 170 cases of drivers suspected of driving in violation of 23152(a). This represented a further decrease of 7% in submissions as compared to the previous year. The drivers' age ranged from 17 to 82 years (median: 33 years). Of these drivers, 135 were male (79%). Twenty-five of the 170 cases were found to contain methamphetamine, a further increase of 3.2% in methamphetamine incidence from the previous year. The age of these 25 drivers ranged from 19 to 51 years (median: 33 years). Of these cases, 84% involved male drivers (n=21). Blood was collected in 12 of the 25 cases and the median methamphetamine and amphetamine concentrations measured were 0.3 mg/L (range: <0.05 to 0.7 mg/L) and 0.1 mg/L (range: <0.05 to 0.1 mg/L), respectively.

Methamphetamine incidence in driving under the influence cases almost doubled between 2005 and 2007 (from 8.1% to 14.7%) but in the same period the total number of DUID laboratory submissions by law enforcement agencies decreased by almost 19%. This suggests that driving under the influence of methamphetamine in San Francisco is on the rise but law enforcement agents in this jurisdiction may not be adequately resourced or adequately trained in the recognition and interception of drivers driving under the influence of substances other than ethanol. Additionally, women and younger drivers appear to be increasingly involved in methamphetamine DUID cases. It may be that greater efforts should be made in further educating our population of the risks associated with methamphetamine use and abuse instead of exclusively relying on the deterrent effects of fines and other penalties.

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