K51 Driving Under the Influence of Drugs (DUID) Testing Protocol in the Commonwealth of Virginia

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After attending this presentation of the review of the driving under the influence of drugs protocol in Virginia, attendees will learn the system and see the stop analysis limits used in the state, which is related to the trial testimony.

This presentation will impact the forensic community and/or humanity by aiding toxicologists in reviewing testing protocol.

If law enforcement stops any driver suspected of DUID in the Commonwealth of Virginia, that driver is typically first administered a breath test for ethanol. If the ethanol result is too low to explain the police officer's observations, or if the suspect is unable to perform the breath test, the suspect is taken to a medical facility where two tubes of blood are collected. The blood samples are controlled under chain-of- custody until they arrive at the Department of Forensic Science Central Laboratory, usually via mail. One of the blood specimens is stored under chain-of-custody, and the other undergoes a graded tier testing scheme, developed to save resources and time and still assure the appropriate DUID analysis (i.e., full-spectrum drug analysis is not performed on each submission). The testing protocol will occur in at least one but up to five phases, as outlined below, and is referred to as:

Level I Testing For Ethanol Level II Screen
Level II Confirmation Level III Screen
Level III Confirmation

All specimens receive Level I Testing for ethanol. When ethanol is ³ 0.09% no testing beyond Level I is required, unless circumstances dictate that further testing be performed (e.g., involuntary manslaughter). When ethanol is < 0.09%, proceed to Level II Screening which includes immunoassay for barbiturates, cocaine/benzoylecgonine, benzodiazepines, cannabinoids, phencyclidine, and opiates. Any presumptive positive Level II Screen will automatically require a Level II confirmation and quantitation. If any value reaches the "Stop Analysis Limit" testing is concluded. Some examples of the stop analysis limits for Level II drugs are butalbital 10 mg/L, alprazolam .06 mg/L, tetrahydrocannabinol 0.002 mg/L and codeine 0.5 mg/L. Negative results in Level II require Level III Screening, which includes a screen for alkaline extractable drugs. Any presumptive positive Level III Screen will automatically require a Level III confirmation/quantitation by gas chromatography/mass spectrometry.

The tier system was designed so that once a drug, or group of drugs, was found at a concentration high enough for probable conviction of driving under the influence of drugs or alcohol, no other testing was done to detect other drugs. Thus, there is a potential for all drugs other than ethanol to be under represented. This tier system presents a potential retrospective problem if there is a necessity to determine "total drug usage by drivers" because the number of drugs found is clearly less than the "true or actual" number of drugs that were present in an individual at the time of the traffic stop. Underestimation is not a problem for ethanol because all blood samples were tested for ethanol. Using the tier system testing protocol causes Level II and Level III drugs to be under represented, but due to the design of the tier system, Level III drugs will be more severely under represented than the Level II drugs. Nevertheless, the tier system has proven quite successful in Virginia with regard to driver impaired convictions and enables more efficient utilization of resources and personnel in the Department of Forensic Science. Reporting limits and stop analysis limits are enumerated in this report.

DUID, Testing Protocol, Statistics Underestimation

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