K51 Synthetic Cannabinoids in Operating While Intoxicated (OWI) Casework: Field Observations and Outsourced Testing

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After attending this presentation, attendees will better understand how synthetic cannabinoid impairment presents at roadside. This presentation will also enhance existing case evaluation skills which are used in pursuing initial negative results that might be augmented by additional testing.

This presentation will impact the forensic science community by providing insight into the prevalence of synthetic cannabinoids in recent Wisconsin OWI casework and will include some cases utilizing Drug Recognition Experts (DREs). Casework examples will demonstrate the utility of targeted external analyses for potentially impairing substances not included in a laboratory's routine scope of testing.

Synthetic cannabinoids usage has been increasing at a rate faster than most forensic laboratories can develop and validate analytical procedures. In cooperation with the Wisconsin Bureau of Traffic Safety, select casework including 16 DRE cases listing potential synthetic cannabinoids use were forwarded to NMS Labs for synthetic cannabinoids testing since March 2012, based on information provided by law enforcement agencies. This work encompasses a total of 48 cases (n=43 males, n=5 females) at least two of which involve a motor vehicle death. Where narratives or DRE evaluations were available, subjects often self-reported cannabis or synthetic cannabinoids use, including brand and frequency. The results of routine ethanol and drug testing were fairly unremarkable. Twenty–six of 48 cases (54%) were negative for synthetic cannabinoids. Twenty-two of 48 cases (46%) had at least one synthetic cannabinoid compound detected and five of 48 cases (10%) had between three and seven synthetic cannabinoids detected. The synthetic cannabinoids compounds identified and their prevalence include: JWH-018 5-chloropentyl (n=1); JWH-018 (n=4); JWH-022 (n=3); JWH-081 (n=2); JWH-122 (n=5); JWH-210 (n=3); AM-2201 (n=12); UR-144 (n=5); and, XLR-11 (n=11).

While acknowledging standardized field sobriety tests were not specifically validated for synthetic cannabinoids or equally applied across these specimens, the types of impairment noted were mostly consistent with the cannabis category. It is also worth noting individuals under the influence of synthetic cannabinoids can demonstrate impairments consistent with other drug categories. Another challenge of testing for synthetic cannabinoids is the stability of these compounds in whole blood which has not been fully represented in the literature. While the challenge of analytical testing for these and other synthetic compounds will remain for some time, laboratories should be aware of outside resources and funding that may provide that testing as casework warrants.

Synthetic, Cannabinoid, Impairment