

## Marijuana

On the surface, there are at least two questions that are posed when dealing with the issue of marijuana exposure. The first relates to whether or not a person has smoked marijuana, and the second relates to whether or not that person was impaired at a specific point in time. Screening tests on urine can provide information to past exposure, but these tests do not necessarily differentiate between exposure to second hand smoke and actually smoking marijuana. Quantification of marijuana, delta-9-tetrahydrocannabinol (THC), and its major metabolite, 11-nor-9-carboxy-delta-9-tetrahydrocannabinol (THC-COOH), using GC/MS (gas chromatography/mass spectroscopy) is critical to understanding the extent of exposure and the nature of the species being examined. This leads into answering the second question involving possible impairment. Impairment from smoking marijuana is short lived, but metabolites of marijuana (THC-COOH) remain in the body and are excreted over several days. The principal metabolite, tetrahydrocannabinol carboxylic acid (THC-COOH), however, is not psychoactive; consequently, it is not thought to cause behavioral impairment. A finding of THC-COOH in the urine, does reflect past use of marijuana, but that use may have been several days prior to the taking of the urine sample. In chronic marijuana users, the elimination half-life of this metabolite could be as long as 40 hours; whereas, in infrequent users it averages 33 hours. Dr. Parent has participated in several marijuana cases and has accumulated a significant database. Selected references are provided below.

### Selected References

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