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AB 362
Testimony

Everyone agrees that keeping impaired drivers off the road is a necessity. That's why I bring you AB 362. I once again ask this committee to consider the scientific facts regarding measuring impairment for substances such as marijuana.

I know some folks joke about me and marijuana because I sponsored medical marijuana last session and worked on Question 9 last year. I hope that won't cause you to dismiss this bill. Driving under the influence is a serious matter and like many people, drunk driving has touched my family. My middle sister was widowed with 2 children when she was 23 years old and years ago my husband was driving his parents around LV when they were hit by a drunk driver and his mother was killed. So I don't ask you to consider this bill lightly.

But I do ask you to make sure the laws we pass in the area of driving under the influence properly measure impairment, are accurate and are defensible. NRS 484.1245 is not accurate which lends itself to not being defensible.

Marijuana, along with amphetamine, cocaine, heroin, lysergic acid diethyl amide, methamphetamine and phencyclidine were first added to the prohibited substances act during the 1999 legislature. I couldn't find any backup information on why it didn't properly define which metabolite was to be measured for cocaine and marijuana, nor the proper breakdowns for 6-acetyl morphine and methamphetamine nor the scientific basis for selecting the nanograms on the list.

That's what this bill is attempting to do. In the amended rewrite I've provided to the committee I simply define which metabolite should be looked for when drug testing for DUID. It also sets a proper, standard of 15 nanograms for marijuana. The same used by the Federal Government and the State of NV.

In my research, I found some studies and spoke to several doctors who have helped me understand what should be contained in our prohibitive practices section.

First a little background, the body processes delta-9-tetrahydrocannabinol better known as THC, much the same as it processes other psychoactive drugs. After THC enters the bloodstream mostly through smoking, a small portion (about 1 percent of the dose) is delivered to the brain where it binds to a certain set of receptors. If the amount of the drug in the brain exceeds the threshold dose, psychoactive effects occur. Maximum effects are typically achieved within 15 to thirty minutes after smoking. While its being distributed by the bloodstream to the brain it is also going to other parts of the body. As this distribution continues, THC concentrations in the blood falls, reducing the amount of drug available for binding to brain receptors. Within 2-4 hours, THC levels in the brain typically fall below those necessary for psychoactivity, which lends itself to impairment.

Many drugs are lipid soluble. This allows them to enter cells easily throughout the body by dissolving into cell membranes. Drugs move rather quickly out of most cells-either in their original form or via biotransformation within the cell, they now become water soluble metabolites. They then reenter the bloodstream and pass through the liver. Eventually all the drug and its metabolites are excreted from the body in sweat, feces, and urine. THC does the same thing other drugs do for entry into the cells at about the same rate as other psychoactive drugs. However, the difference is that the THC cells have high lipid-solubility and what makes it different is that it leaves the fat cells very slowly. This means the amount of THC in the brain falls below the concentration required for delectable psychoactivity. That's why someone can smoke it a week earlier but some trace still shows up in their system but what shows up is not impairing. It appears that none of marijuana's effects last past a few hours. Researchers have reported subtle effects up to 24 hours but dozens of studies measuring psychomotor ability and intellectual performance have found it's effects disappear within a few hours of smoking.

So I contacted 2 doctors of toxicology to discuss what this means. I contacted Dr. Donna Bush, Ph.D, and Chief of Drug testing section for the US Department of Health and Human Services. This center certifies the testing labs in the US for drugs. She said the following:
-urine is not appropriate to test for the presence of marijuana and its metabolites
-When looking for DUID you are looking for the "parent compound" in the blood equilibrium, this gets into the blood, some goes to the brain and that's

where you deal with the psychoactivity. Urine doesn't impact the brain and therefore won't measure it.
-The Academy of Forensic Science looks at placement value (in the brain vs. liver) along with the parent compounds mentioned above.
- I was faxed the definitions and recommendations that the federal government uses as mandatory guidelines for Workplace Drug Testing Programs. You have a copy in your handouts. I then asked her if there was an expert I could speak to about making it our law defensible as far as the nanograms. She said she'd make a couple calls and get back to me. She referred me to Dr. Bill Anderson,
Dr. Bill Anderson runs one of the federally certified labs in Nevada at the Washoe County Sheriff's Office. Dr.Anderson said:
-there is no direct correlation in urine for measurement
-you can't predict one specific level that can be used for impairment but there are standards used for drug testing
-urine measures 11-nor-9carboxy which is not the hallucinogen
-blood measures carboxy delta-9-THC which is the metabolite that is the hallucinogen

He was going to try to be here but had another engagement.
I also reached Mr. Dan Berkable, a forensic chemist, to testify. I'm hopeful he can do a better job than me on explaining the science I've been presenting.

Also, in your handouts is what the State of Nevada defines as metabolite for both marijuana and cocaine along with the number of nanograms for screening. The number from both the federal government and our own state is set at 15 nanograms in the blood. These are scientific and allow for consistency in our laws. These should be the levels we choose for impairment when considering DUID.

I have also reinserted language that is similar to what we'd had in law previously. We had language that referred to "mandatory conclusive presumption" which the 9th Circuit Court of Appeals said, "we need not decide today whether presumption established by 484.381(1) is facially constitutional, because the statute was applied unconstitutionally in this case." It is also in your handouts. The language was later removed from statute but the more constitutional standard of rebuttable presumption was not put in statute in its place. This would permit a standard of "beyond a reasonable doubt."

I strongly urge the committee to adopt this constitutional language which won't undermine the fact finders responsibility at trial and properly allow for due process.

In conclusion, I hope that I've laid the case out for you to properly define the marijuana metabolite as THC, to use blood as the most reliable means to test for impairment and to establish the most acceptable standard for nanograms.

Thank you for your attention. If I may ask Dr. Burkable to speak and then I'll attempt to answer questions.