"DON'T BLOW"
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CRIMES

(1) DUI (Over .08)
(2) DWI (Over .05 to .08)

PROBLEM AREAS

(1) Criminal Penalties
(2) Department of Public Safety (Administrative Penalties)
(3) Insurance

ELEMENTS

(1) Drive or be in actual physical control of a motor vehicle
(2) On a public roadway
(3) While under the influence of alcohol and/or drugs

STATUTORY PROBLEMS

(1) Presume guilty of within levels
(has been found constitutional)

DEFENSES

(1) Elements not met
(2) Involuntary intoxication

ALCOHOL–ABSORPTION AND ELIMINATION

ALCOHOL

Alcohol is a generic term. In order for it to have any meaning, especially in drunk driving litigation, it must be defined. Actually, the name "alcohol" is applicable to a family of chemicals which each contain a component known as the hydroxyl group. This group combines oxygen and hydrogen. When it is further combined with one methyl group, it is known as methyl alcohol. Methyl alcohol contains one carbon. Where are two carbon atoms plus the hydroxyl, the combination is ethyl alcohol or ethanol. There are other common alcohols such as isopropyl, propyl, butyl and others. For purposes of this discussion, however, reference to alcohol means ethyl alcohol.

ABSORPTION

Absorption of alcohol into a person's body occurs through a process known as diffusion. Alcohol need not to be digested buy the body. Alcohol undergoes no chemical change in the body; rather, it is gradually absorbed into the blood, whole it passes through the body's digestive system. The quantity of alcohol present in the blood can then be measured. That measurement is usually expressed as a percentage by weight of a given volume of blood. Most commonly, the percentage is expressed as weight per unit volume or grams per 100 milliliters of blood yields 10 grams of alcohol, the blood alcohol content id 0.10%.

With respect to the diffusion of alcohol, although a small percent is diffused into the blood stream through the stomach wall, most of the upper section of the small intestine. It then passes into the small intestine where most of it is absorbed. The rate of absorption depends on numerous factors, including the amount of food the person has on his stomach.

FACTORS AFFECTING ABSORPTION RATE

The slower the absorption, the lower the maximum blood alcohol reading will be. This is true because when alcohol is absorbed into the bloodstream, the process of elimination will immediately begin removing it from the body, thereby preventing the blood alcohol content from rising as high as it would be absent elimination. Therefore, the presence of food will slow down or retard absorption. When a person drinks on an empty stomach, most of the alcohol consumed will be absorbed rapidly, with nearly half consumed within the first 15 minutes and 90 percent absorbed within one hour.

The kind of food the subject consumes also will affect the absorption rate. This is because some food will pass directly into the small intestine, thereby slowing down absorption. As a rule, food containing large amounts of carbohydrates will pass through the stomach rapidly, while those foods containing proteins will pass more slowly. Fats can remain in the stomach for almost a full day. What this means is that a person who has consumed a large amount of food, particularly foods containing fats, would be able to keep his blood alcohol content lower than it would be if he had not eaten, or had eaten foods mostly containing carbohydrates. This can also prevent symptoms of

intoxication.

Aside from the kind and amount of food affecting symptoms if intoxication, the kind of alcohol consumed can also make a difference. Any alcohol which is mixed with a carbonated beverage, such as champagne, sparkling wines or any kind of soft drink mixer, will speed the absorption rate. This is because carbon dioxide accelerates the stomach evacuation. When this happens, alcohol is rapidly entering the small intestine. Hard liquor can also be absorbed faster than beers.

Finally, a person's health can influence the absorption rate. If a person is malnourished or suffering from a disease such as gastritis, the alcohol absorption rate can be significantly affected.

ELIMINATION

Once alcohol is consumed, the body automatically and immediately begins to eliminate it. Elimination is done in two ways, through excretion and through metabolism. Metabolism accounts for approximately 95% of the total elimination.

Most of the metabolism is done through the liver. Alcohol is acted upon by alcohol dehydrogenase (ADH). ADH then converts alcohol to acetaldehyde. The acetaldehyde is then acted upon by another enzyme, aldehyde dehydrogenase, which converts the acetaldehyde to acetate. It is the acetate that then enters the bloodstream and which is oxidized to carbon monoxide and water.

The rate of metabolism is determined by another enzyme, nicotinamide adenosine dinucleotide, or NAD. NAD accepts hydrogen from the alcohol molecule and changes NAD to NADH. Temporary reduction of NAD will limit the rate at which alcohol can be metabolized.

Excretion accounts for only a small percentage of the elimination of body alcohol. Elimination occurs through excretion mainly through the breath and urine, although it is also possible to have excretion through saliva, perspiration and tears. Because excretion can occur through the breath when a person hyperventilates, he can increase excretion somewhat. Excretion can also be increased slightly through diuresis.

The rate of elimination can be determined by what are known as clearance rates. Although clearance rates can remain relatively constant for any particular individual, they will vary greatly among different individuals. Normal clearance rates are between .01 and .02% per hour. Some individuals can have clearance rates as high as .04%, while others as low as .006%. There are many factors which can affect the clearance rate, including the size and health of a person's liver, the effect of disease, including diabetes, thyroid disease or anemia, and strenuous exercise.

At least one study has shown that women using oral contraceptives eliminate alcohol more rapidly than they would otherwise.

Clearance rates are particularly important in per se statutes. Regardless of whether the crime id the traditional one of driving under the influence, or per se guilt, the crime still occurs when the suspect was driving or otherwise operating a motor vehicle. Therefore, the person's clearance rate will have

a significant effect on whether he was guilty. That is, his blood alcohol content could have been either significantly higher during the test result than at the time he was driving, or his blood alcohol content could have already decreased by the time the test was administered. Either possibility can have a significant effect on guilt. What many prosecutors and prosecution experts try to argue, however, is that there is a predictable clearance rate in any given case and that through use of a general constant, it is possible to calculate back from a known blood alcohol content at the time of the test to determine the subject's blood alcohol content at an earlier time.

ROUGH FORMULA

APPROXIMATE BLOOD ALCOHOL PERCENTAGE

DRINKS	BODY WEIGHT IN POUNDS								
PER HR	100	120	140	160	180	200	220	240	
1	.04	.03	.03	.02	.02	.02	.02	.02	Influenced
2	.08	.08	.06	.05	.04	.04	.03	.03	Rarely
3	.11	.09	.08	.07	.06	.06	.05	.05	
4	.15	.12	.11	.09	.08	.08	.07	.06	Possible
5	.19	.16	.13	.12	.11	.09	.09	.08	Influence
6	.23	.19	.16	.14	.13	.11	.10	.09	of DWI
7	.26	.22	.19	.16	.15	.13	.12	.11	
8	.30	.25	.21	.19	.17	.15	.14	.13	Definite
9	.34	.28	.24	.21	.19	.17	.15	.14	Influence
10	.38	.31	.27	.23	.21	.19	.17	.16	of DUI

One drink is 1 1/4 oz. of 80 proof liquor, 12 oz of beer, or 4oz of table wine

RECOMMENDATIONS:

(1) Don't take any tests.
(2) Don't take the breathilizer.
(3) Don't make any statements.
(4) Don't mouth off to the police.
(5) Ask to speak with an attorney immediately.