

Alcohol and Ethylglucuronide (EtG) Testing

Alcohol is the most commonly abused drug in the United States today. According to SAMHSA's 2011 National Survey on Drug Use and Health, just over half (51.8%) of all Americans aged 12 or over reported being current drinkers of alcohol (133.4 million people), while one-quarter of the same demographic reported being a binge drinker (58.3 million people). As such, many substance abuse treatment programs – not just those specific to alcohol detox or abstinence – routinely test their patients for the presence of alcohol.

Testing for alcohol can be tricky, however, as each person's alcohol detection period varies due to many factors: the amount of alcohol consumed, the rate of consumption, a person's metabolism and body weight, etc. A general rule of thumb is that alcohol is excreted from a person's body at 1 ounce per hour; that

is, 1 ounce of hard liquor, one 12 ounce beer or one glass of wine every hour. A person who drinks six 12 ounce beers at a moderate pace has a very likely chance of testing negative for alcohol six hours after the last drink was consumed. Thus, an alcohol urine screen is useful for detecting recent alcohol consumption only.

Ethylglucuronide (EtG) is the metabolite of ethanol (alcohol) and can be detected in a urine sample for as long as 80 hours after alcohol consumption. So while an alcohol screen may produce a negative result, EtG tests for the exposure to alcohol up to three days prior to the collection of a urine sample. Testing for EtG is a strong deterrent because of the longer window of time the metabolite is present in a patient's system. It is also ideal for zero tolerance programs. An EtG test provides a more accurate interpretation of alcohol

consumption as illustrated in the below chart.

In the case of a diabetic patient, it's possible for the results of an alcohol screen to come back positive even if the patient has not consumed alcohol - the sugars in their urine sample can ferment into alcohol, triggering a positive screening result. Because EtG is a direct metabolite of alcohol, it is not formed by fermentation. The presence of EtG in a urine specimen is the direct result of alcohol consumption.

Some common household products such as mouthwash, hand sanitizers, perfumes and certain over-the-counter medications contain alcohol and have been known to trigger a positive screening result. SDRL utilizes an EtG cutoff level of 500 ng/mL, reducing the likelihood of a positive result from incidental exposure to alcohol.

Alcohol Screen	EtG	Alcohol Consumed	Explanation of Results
Positive (+)	Positive (+)	YES	Alcohol recently consumed due to the presence of Alcohol and the metabolite Ethylglucuronide (EtG)
Negative (-)	Positive (+)	YES	Alcohol has been eliminated from the system yet Alcohol was formerly consumed due to the positive Ethylglucuronide (EtG) test
Positive (+)	Negative (-)	NO	Possibly diabetic patient OR possible substance substituted/added to sample (i.e. Perfume, Listerine, etc.)

??? Did You Know ???

Question of the Month

A team of researchers from London's Imperial College recently set out to determine which drugs were most harmful based on their addictive properties. A group of Dutch scientists replicated the London study and devised a "dependency rating" that measured addictive potency of the biggest drugs on a precisely calibrated scale from 0-3. According to these studies, the top-10 most addictive drugs are (with the Dutch study's dependency ratings listed in parentheses): 1. Heroin (2.89); 2. Crack Cocaine (2.82); 3. Nicotine (2.82); 4. Methadone (2.68); 5. Crystal Meth (2.24); 6. Alcohol (2.13); 7. Cocaine (2.13); 8. Amphetamines (1.95); 9. Benzodiazepines (1.89); 10. GBH (1.89) (**Source: www.drugaddictiontreatment.com**)

Question: Does Fentanyl cross-react with any other drug(s)?

Answer: No. Fentanyl, a schedule II prescription drug, is a synthetic narcotic pain-killer of high potency and short duration of action. It is used as an anesthetic during surgery and for persons with chronic, moderate-to-severe pain who already are physically tolerant to Opiates. Even though Fentanyl has properties similar to Morphine, it has a different chemical structure and will not cross-react with the reagents for Morphine or other Opiates. Thus, a patient's urine or saliva sample that tests positive for Opiates (or any other drug) is not positive due to a Fentanyl source. SDRL offers a separate test specifically for Fentanyl to determine if a patient has Fentanyl in their system (positive) or has potentially diverted their dose (negative).