

ALCOHOL

The widespread consumption of alcohol in the United States, partnered with increasing numbers of patients requiring chronic opioid or sedative therapy, has made identifying alcohol use very important.¹ Alcohol consumption can increase adverse drug reactions among these patients.

Alcohol detection in urine has traditionally been limited to a detection window of less than 24-hours after use.² Precision Diagnostics offers the addition of alcohol metabolite tests, ethyl glucuronide (EtG) and ethyl sulfate (EtS), which can be detected up to several days following moderate to excessive consumption of alcoholic beverages.³ Testing of these metabolites may offer more effective monitoring of abstinence, detect relapse, and deter drinking among patients. Furthermore, alcohol detection alone can have implications among patients with certain illnesses such as diabetes mellitus, in which urinary alcohol is often caused by fermentation of urinary glucose excretion.⁴

Living in an alcohol rich environment can lead to incidental exposure to alcohol, such as those found in hygiene products, cooking products, antibacterial hand gels, over-the-counter medications, fermented tea, non-alcoholic beverages, etc. Individuals monitored for EtG and EtS should avoid products containing alcohol.⁵⁻⁸ Due to the possibility of incidental exposure, Precision Diagnostics has carefully selected the cutoff levels for EtG and EtS to be 500 ng/mL and 200 ng/mL respectively.

Interpretations of low concentration metabolites can be challenging. Refer to the table below for interpretation examples.

ETHANOL	ETG	ETS	COMMON INTERPRETATION
POSITIVE	POSITIVE	POSITIVE	Patient has had recent exposure to alcohol within 12 hours.
NEGATIVE	POSITIVE	POSITIVE	Patient has been exposed to alcohol greater than 12 hours prior to collection.
NEGATIVE	NEGATIVE	POSITIVE	Patient has been exposed to alcohol. No Ethanol or EtG indicates exposure was not recent or may be incidental.
POSITIVE	NEGATIVE	NEGATIVE	Alcohol detection likely due to fermentation.

*The presence of EtG alone could indicate fermentation or degradation of the urine due to the presence of E. Coli; therefore, Precision Diagnostics will not report a stand-alone positive EtG result.⁴

**A Precision Diagnostics trained Clinical Support Specialist can
assist with further review of your patient's results**

(800) 635-6901 Option 2

References:

1. Crews, B., West, R., Guitierrez, R., Latyshev, S., Mikel, C., Almazan, P., Pesce, A., West, C., Rosenthal, M., (2011). An Improved method of determining ethanol use in a chronic pain population. *Journal of Opioid Management*. 7(1): 21-34.
2. White, R. M. and Black, M. L., *Pain Management Testing Preference*, AACCC Press, Washington DC. 2007; 138-142.
3. Baselt, Randall C., *Disposition of Toxic Drugs and Chemicals in Man*, 10th ed. Biomedical Publications, Seal Beach, CA. 2014; 781-785.
4. Helander, A., Olsson, I., Dahl, H., (2007). Postcollection Synthesis of Ethyl Glucuronide by Bacteria in Urine May Cause False Identification of Alcohol Consumption. *Clinical Chemistry*. 53(10): 1855-1857.
5. Reisfield, G. M., Goldberger, B. A., Crews, B. O., Pesce, A. J., Wilson, G. R., Teitelbaum, S. A., Bertholf, R. L., (2011). Ethyl glucuronide, ethyl sulfate, and ethanol in urine after sustained exposure to an ethanol-based hand sanitizer. *Journal of Analytical Toxicology*. 35(2):85-91.
6. Thierauf, A., Wohlfarth, A., Auwärter, V., Perdekamp, M.G., Wurst, F.M., Weinmann W., (2010). Urine tested positive for ethyl glucuronide and ethyl sulfate after the consumption of yeast and sugar. *Forensic Science International*. 202(1-3): 45-47.
7. Reisfield, G. M., Goldberger, B. A., Pesce, A. J., Crews, B. O., Wilson, G. R., Teitelbaum, S.A., Bertholf, R. L., (2011). Ethyl Glucuronide, Ethyl Sulfate, and Ethanol in Urine after Intensive Exposure to High Ethanol Content Mouthwash. 35(5): 264-268.
8. Hosieth, G., Yttredal, B., Karinen, R., Gjerde, H., Christophersen, A., (2010). Levels of Ethyl Glucuronide and Ethyl Sulfate in Oral Fluid, Blood, and Urine After Use of Mouthwash and Ingestion of Nonalcoholic Wine. *Journal of Analytical Toxicology*. 34(2): 84-88.

Precision Diagnostics is a leader in clinical laboratory testing and medication adherence monitoring. Specializing in qualitative and quantitative drug testing, our innovative state-of-the art technology provides new levels of data visibility and pricing transparency.

Precision's role is to ensure each participant, from the patient to the provider and the payer, benefits from our continued commitment to the principles of value-based care and medically necessary test utilization.

Precision Diagnostics

4215 Sorrento Valley Blvd.
San Diego, CA 92121
Suite 100
(800) 635-6901
info@precisiondxlab.com
precisiondxlab.com



innovation



integrity



insights



outcomes