



# Laboratory Medicine Bulletin

## Anti-psychotic Risperidone and Paliperidone may cause False Positive on the Point-of-Care SureStep Fentanyl Urine Drug Screen

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In 2017, there were several cases in the Yukon and British Columbia regarding potential false positives on the point-of-care SureStep fentanyl urine drug screen test. The SureStep fentanyl urine drug screen test is a lateral flow chromatographic immunoassay that has been used within select St. Paul's Hospital clinics, and at the Vancouver General Hospital central laboratory. One of these cases of potential SureStep false positive involved a risperidone overdose.

Internal laboratory investigations confirmed that two anti-psychotic medications, risperidone and paliperidone (9-hydroxyrisperidone, also the major metabolite of risperidone), crossreact with the antibodies in the immunoassay when urine concentration of risperidone or paliperidone is greater or equal to 1000 ng/mL (at the upper range for a patient on a high dose regimen of risperidone [1]). The 2017 version of SureStep package insert verifies this information [2], whereas previous versions did not comment on this potential interference. When present, this interference results in a false positive on the SureStep fentanyl urine drug screen [2, 3].

Other point-of-care methods are also affected, but to a much lesser degree, so that risperidone or paliperidone would not produce a clinically relevant effect aside from a drug overdose scenario. The central laboratory fentanyl method at St. Paul's Hospital is unaffected.

### The important messages are:

1. **An otherwise unexplained positive SureStep fentanyl test could be due to risperidone or paliperidone, and confirmatory testing is therefore required.**
2. **A negative fentanyl test result is reliable even if the patient is taking risperidone or paliperidone.**
3. **In the event any urine drug screen result that is discordant with the clinical presentation and history, a confirmatory test by mass spectrometry is recommended.**

### Question?

Please do not hesitate to contact either of us if you have any questions or concerns.

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### References:

[1] Miller et al. 2015 Human Psychopharmacology Clinical Experiment. 30: 350-355.

[2] SureStep Fentanyl Urine Drug Screen Package Insert.

[3] Wang et al. 2014 Journal of Analytical Toxicology. 38:672-675.