



Summary

Carfentanil is increasingly being detected in drug checking samples sent for confirmatory testing, but is missed or not distinguished from fentanyl by the available point-of-care technologies (FTIR and fentanyl test strips). This bulletin reiterates drug checking limitations and presents some recent results from the BCCSU Drug Checking Project.

Carfentanil is a very strong opioid drug, approximately 100x stronger than fentanyl and 1,000x stronger than heroin. If carfentanil is present in a drug sample, it may be in amounts significantly lower than 1% of the sample by weight. Carfentanil is so strong that *very small* amounts of it can be toxic, especially to people without a high opioid tolerance.

Drug checking with an FTIR and/or fentanyl test strips can help determine what is in a drug sample, but these devices are not perfect technologies. The FTIR spectrometer has a detection limit of about 5%, meaning that **if carfentanil is present in a sample, it would likely be below what can be detected**. Fentanyl test strips may not be able to detect carfentanil and can show a negative result even if carfentanil is present.

Fentanyl Test Strip Limitations:

- 1) Fentanyl test strips cannot differentiate which analogue of fentanyl is present, and some synthetic opioids, such as isotonitazene, are not detected by the test strips.
- 2) Fentanyl test strips cannot determine concentration of fentanyl in the sample (i.e., a faint line on the test strip does not indicate how much fentanyl is present).
- 3) *Down* may have two or more kinds (analogues) of fentanyl present (e.g., fentanyl and carfentanil). Just because the test strip result is positive doesn't mean carfentanil is not *also* present.

FTIR Limitations:

- 1) Carfentanil is not likely to be detected by FTIR analysis and may not be detected even if it is present above 5% of the sample.
- 2) If fentanyl is detected by FTIR analysis, carfentanil may also be present in low amounts that are still toxic and go undetected.

As of right now, **it is not possible for any point-of-care drug checking method to guarantee carfentanil detection**. The best way to determine if carfentanil is present in your sample is to request that the sample be sent for confirmatory testing using laboratory methods (drop-off sample at Insite or Get Your Drugs Tested in Vancouver or SafePoint in Surrey).

Recent findings (January 2020 through August 2021)

- All samples (35/35) confirmed by the lab to contain carfentanil had a positive fentanyl test strip at point-of-care.
- 69% of samples (24/35) which contained carfentanil (determined by confirmatory testing) also contained fentanyl.

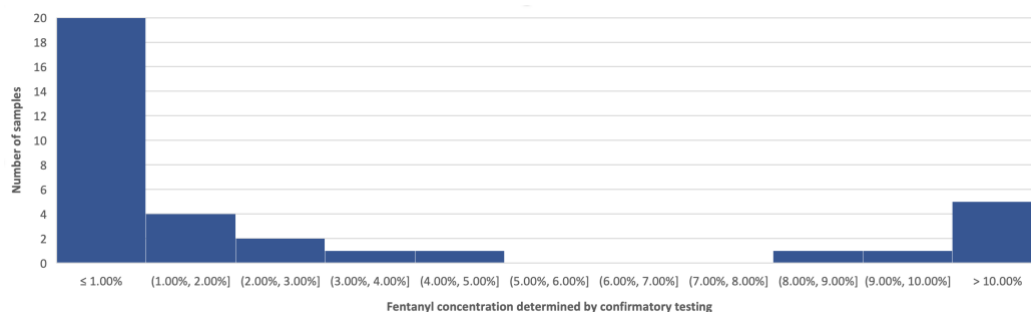


Figure 1. Distribution of carfentanil concentrations determined by confirmatory testing of drug checking samples, Jan 2020 – Aug 2021 (n=35).

- Figure 1 shows that while carfentanil is often below 1% concentration samples, it can be present at levels much higher than that.
- Point-of-care testing with FTIR was unable to detect carfentanil in any sample (0/28) where it was present below 5% (as determined by confirmatory testing).

What does this mean?

- A positive fentanyl test strip alone cannot differentiate which of these two substances is present in a given sample. Even if fentanyl is detected by FTIR, it does not exclude the additional presence of carfentanil as a possibility.
- Carfentanil requires a higher dissolved concentration to be detected, it may not immediately trigger a positive test strip if it does not co-occur with fentanyl. A negative test strip does not rule out the presence of carfentanil.

More information

- Know the signs of an overdose. Visit www.towardtheheart.com/opioid-od-awareness.
- Naloxone will work to reverse a carfentanil overdose but may take longer to take effect. Keep performing rescue breaths and re-dose with naloxone every 3-5 minutes.
- **Always start with a low amount and go slow!** You can always do more, but you can't do less.

No matter what results you get from drug checking, always follow standard harm reduction measures to protect yourself during the public health crisis of a toxic drug supply.

**Don't use alone
Have naloxone nearby
Use a small amount at first
Use at an OPS/SCS
Call 911 immediately in case of suspected overdose**