Tested positive for cocaine, but never touched the stuff [1]

Dear Alice,

My dad requires me to take weekly drug tests since he found out that I was smoking marijuana. My first test came back positive for marijuana and cocaine. I was not surprised about the marijuana because I had only been clean for five weeks, but I have never done cocaine. Is there anything that could have triggered a positive result? Could opium or mushrooms or any other drug possibly trigger this positive result?

Answer

Dear Reader,

It’s great that you’re reaching out about this cocaine conundrum. Based on existing evidence, when done correctly, cocaine tests are actually quite accurate. These tests check for a byproduct that’s created when the body metabolizes cocaine, called benzoylecgonine. While it’s unlikely that a test would produce a false positive when administered and tested correctly, it’s not impossible. Your results could be due to improper administration or it could be that you came into contact with cocaine if it was laced into another product you ingested or through cocaine-like substances.

Before diving into why you may have tested positive for cocaine, it might be helpful to first understand how the drug test works. The drug test of choice for many clinicians and places of employment is a urine drug screen (UDS). These tests measure the amount of metabolites, such as benzoylecgonine, in a person’s urine by using what’s called an epitope that attaches to the metabolites. Each drug or substance has a specific level of metabolites at which a test would read positive. In the case of cocaine, 150 nanograms per milliliter of benzoylecgonine would result in a positive test.

All of this is to say that although there’s a lot of science that goes into the workings of a UDS, they’re susceptible to the occasional false positive. A false positive happens when the epitopes bind to a metabolite that is structurally similar to the tested substance, but not the actual substance itself. An example of this is when someone who eats something with poppy seeds and then tests positive for opioids. That may happen occasionally with these urine tests, especially with certain medications such as painkillers that may resemble illicit opiates that may be used
recreationally. Typically, additional testing is required to provide more accurate results. One technique called gas-chromatography mass-spectrometry (GC-MS) is more sensitive to the metabolites that are present in the sample, leading to more accurate results. Therefore, if you were to test positive for an initial UDS, a more specific GC-MS test would most likely indicate the accuracy of the initial test.

Though a false positive is possible, it’s rare because the epitopes are unique. Instead of investigating the test itself, it may be helpful to think about potential ways you may have been exposed to cocaine. In some cases, marijuana may be laced with other substances; accidentally using cocaine in this way could make someone test positive. However, benzoylecgonine can only be detected in urine for around three days after using cocaine. Given that it’s been five weeks since you last used marijuana, lacing of marijuana may not be the culprit in your case. However, if you used other substances, there may have been the potential for unintentional cocaine consumption. Another potential source of cocaine exposure could be a topical anesthetic containing cocaine. If you recently had a biopsy or stitches, you may have been given topical treatments that could contain cocaine-like substances. Lastly, you could have tested positive if you ingested coca, the plant from which cocaine is derived. Coca leaves, particularly when brewed as a tea, are popular in a handful of countries but banned in the United States. As benzoylecgonine is only in the body for a short amount of time, it may be useful to think about if any of these scenarios pertained to you in the days immediately leading up to your test.

If you’re sure you haven’t been exposed to or haven’t unintentionally consumed, cocaine, it might be worth going to a professional to get a GC-MS test that provides more accuracy. They may be able to shed some light on what might be behind your results, including another culprit. By offering to submit to this additional test, you may also be able to build up some trust with your dad. Best of luck with all your testing!

Alice!
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