Hello Alice.

I have been trying to find information about the hope for recovery for previous meth users, but there doesn't seem to be a consensus. Some sources say that meth causes permanent damage to the brain, while others are a little more hopeful and say some important brain functions might recover.

I used meth about fifteen times, which I gather isn't a lot in comparison to other meth users but is still a considerable amount. For a while I have felt paranoid and anxious and it has been more difficult to perform daily tasks and just generally think straight. Also, things I used to enjoy are not really that enjoyable anymore.

My question is, will I be able to have my brain back? If so, how much of it? Will I ever go back to being my old self?

Thank you very much for your valuable service.

— HopingforHope

Answer

Dear HopingforHope,

Your comment about not being able to find a consensus on long-term effects of meth is right on the mark: The science behind the issue is mixed, and figuring out exactly how to study the long-term effects has proven to be tricky for researchers. This leaves scientists a bit uncertain, and — you guessed it — disagreeing on the topic (more on that in a bit). You ask whether there’s hope for getting back your brain and to being your old self again. The changes in your mood and personality might be due to one or more factors: the short-term effects of withdrawal, slightly longer-term damage to the brain cells, or even a reaction to unrelated stressors. The good news is that not only does some research point to the ability to regain your brain, but there also may be a few actions you can take to work on feeling more like yourself again.

The feelings that meth brings — euphoria, increased energy, and the feeling of everything being
sped up — are the results of the drug triggering neurotransmitters in your brain, most notably serotonin and dopamine. It does this by tricking the receptors on the nerve cells to release more of these neurotransmitters. This explains the short-term, but how does this tie into any long-term effects? Some scientists believe that, with repeated use, this mix of excess dopamine, another chemical that your brain releases called glutamate, and the increased body temperature that a high brings may actually cause damage to the dopamine receptors. This damage might make nerve cells less efficient at taking up and reacting to dopamine. In turn, this has led researchers to think that there could be long-term impacts on cognition, memory, or movement.

Here’s where the research gets a bit tricky and less certain. At least a few studies have shown some long-term changes in these dopamine-receiving brain cells or decreased performance on tasks. It’s good to note though, that these studies were conducted on rats and primates, not humans. Neuroimaging (CT scans and MRIs) in humans who use meth have shown some changes in areas of the brain with lots of these dopamine receptors. However, there are questions about whether neuroimaging is really the best way to assess changes in cognition, because there are still a lot of unknowns about brain imaging. In tests of long-term memory, attention, and quick thinking, former meth users tend to score lower than those who’ve never used meth. But, even though their scores are lower, it’s not often by a large degree, and the scores are still within a range that is considered normal. Also, a lot of these studies haven’t separated out the effects of other recreational drug use (such as cocaine, marijuana, or alcohol), so there is some skepticism about whether meth is really the only culprit for cognitive changes.

More to your question, many of these studies, from rodents to humans, have shown at least some reversal of the damage to the brain cells. For humans, the damaged areas seem to start to bounce back after about 12 to 17 months of quitting meth. This doesn’t mean that after 17 months, all former users will be completely back to “normal”; some report still having psychotic episodes and feelings of stress and anxiety many years after stopping meth. But, the good news is that it does look like some of the damage to the brain may be reversed over time.

In the meantime, it may be helpful to take stock of stressors or circumstances in your life that might be making it hard to feel like your usual self. Your description of no longer finding certain activities enjoyable might be associated with depression, which could also be a symptom of withdrawal. Even if you take the effects of meth out of the equation, have any other circumstances in your life changed lately that might be making you feel the way you do? Also, focusing on everyday healthy habits may also help. Have you thought about starting or changing an exercise regimen (sometimes seen as a natural high [2])? How about giving a new hobby a try, or finding a new social activity to join? Additionally, eating well, getting adequate sleep, and finding people and activities that make you happy — even if they aren’t the same things that used to make you happy — might set you on a path toward finding your way back to something like “your old self,” or maybe even a new self you’ve yet to discover.

Alice!
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Published date:
Mar 05, 2015

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