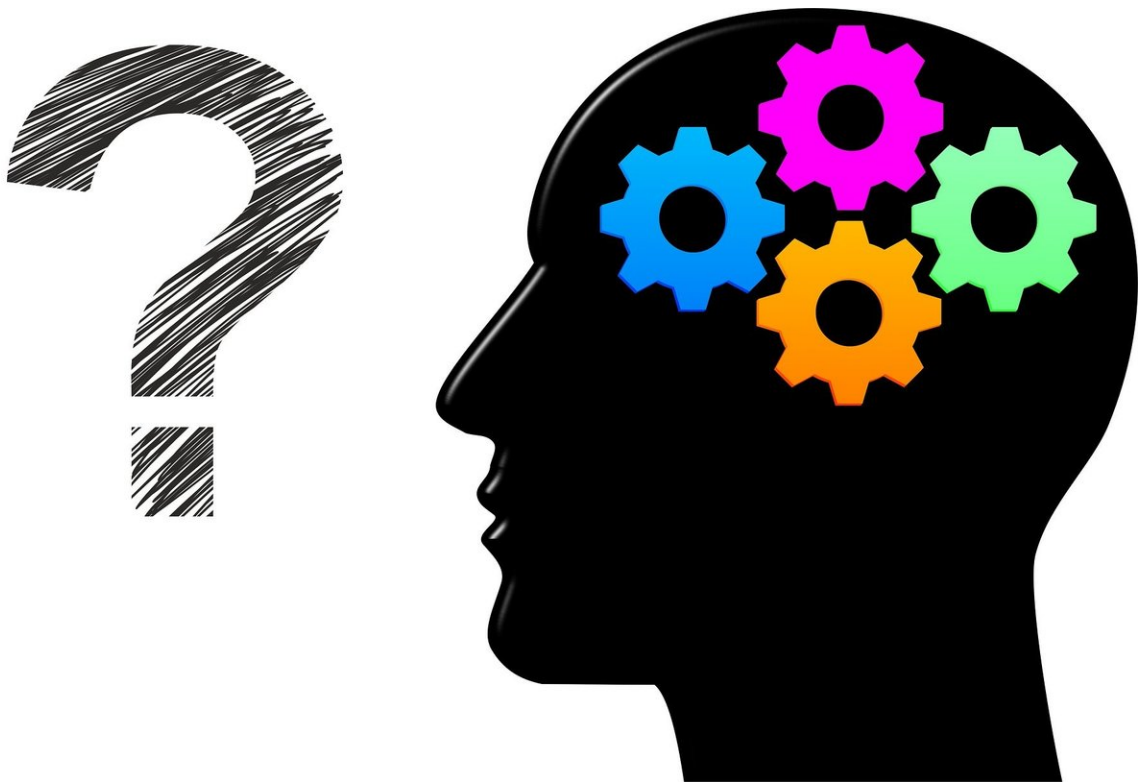


Researchers find anesthetic can muddle specific memories

March 21 2019, by Bob Yirka



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A team of researchers from Spain, the U.S. and the Netherlands has found that giving people propofol can lead to muddled memory recall of specific incidents. In their paper published in the journal *Science Advances*, the group describes experiments they conducted with

volunteers undergoing colonoscopy and what they found.

Memories can be both a blessing and a curse—most everyone has enjoyed a moment or two of reverie about pleasant experiences in their past. But most have also felt the pain that accompanies reliving [traumatic events](#). Interestingly, prior research has shown that when people remember an event, simply accessing the [memory](#) makes it open to revision, and in most cases, we do not even realize it. In recent years, medical scientists have focused a lot of attention on the possibility of taking advantage of such memory editing to remove bad memories when they lead to [psychological disorders](#) such as PTSD. In this new effort, the researchers continue the research by testing the possibility of using an anesthetic to remove or reduce the clarity of a memory.

The researchers enlisted the assistance of 50 volunteers who were previously scheduled for a routine colonoscopy that would involve sedation with the drug propofol. Two weeks before their procedure, each volunteer was told one of two stories that were accompanied by an illustrated slide show. Each [story](#) was non-emotional at the outset, had an emotional part in the middle and had a non-emotional ending. One was about a kidnapping, the other a car accident. On the day of the procedure, each volunteer was shown the initial slides from the same story they had been told just before they were sedated. They were then asked to relate the emotional part of the story, which, of course, involved invoking the memory of it. After the volunteers were revived, half of them answered questions about the emotional parts of the story. The other half were questioned 24 hours later.

The researchers report that they saw no difference in story recollection by those volunteers who were tested immediately after their procedure, but they did see a drop of 12 percent in scores by those who were tested 24 hours later. They suggest this indicates that administering [propofol](#) just after revisiting a memory could suppress bad memories. Much more

testing will have to be done, of course, to find out for sure.

More information: Ana Galarza Vallejo et al. Propofol-induced deep sedation reduces emotional episodic memory reconsolidation in humans, *Science Advances* (2019). DOI: [10.1126/sciadv.aav3801](https://doi.org/10.1126/sciadv.aav3801)

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