

Drug could rid people of bad memories and trauma

Fingolimod, a drug used for treating multiple sclerosis, could be used to get rid of bad memories in sufferers of post-traumatic stress and anxiety

A drug could be re-purposed to erase painful memories from people who have suffered trauma and pain, scientists hope. Experiments on mice have found that fingolimod, a multiple sclerosis drug, could rid them of the memories of physical pain.

In an experiment, [published in *Nature Neuroscience*](#), mice were fed the drug and then given a mild electric shock. Mice tend to stop moving when their anxiety is high and fear the chamber where they were given the shock, but that behaviour rapidly reduced when they had taken fingolimod.

Scientists hope that the drug can be used to remove the bad feelings associated with traumatic events, which can then be re-learned without the painful memories. That process is known as 'fear extinction'. That could help rid sufferers of post-traumatic stress and phobias from their anxiety and trauma.

But scientists have struggled to find a drug that could suppress those feelings successfully. Hopes had previously rested on drugs that suppress an enzyme known as HDAC — but while some experiments using those drugs have found success, others seem to amplify memories. Others have been unable to cross the blood-brain barrier.

The team studying fingolimod hopes that it might be able to develop a new version of the drug that has the memory-suppressing effects but avoids changes to the immune system.

Scientists have been attempting to heal painful memories for decades, but progress has picked up quickly over the last 10 years. In 2004, the film *Eternal Sunshine of the Spotless Mind* was released, depicting a couple that chooses to erase their memories. It is likely never to be possible to remove individual memories without destroying others, but the pace of progress towards real solutions for painful memories and trauma has picked up.