

Verbal therapy could block consolidation of fear memories in trauma victims

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Credit: George Hodan/public domain

A verbal 'updating' technique aimed at blocking the consolidation of traumatic memories could protect against the long-term psychological and physiological effects of trauma, according to new research from the Institute of Psychiatry, Psychology & Neuroscience (IoPPN) at King's College London and the University of Oxford.

Published today in *PLOS ONE*, this study is the first to examine whether updating - a verbal therapy currently only used for patients with chronic post-traumatic stress disorder (PTSD) - could be applied more widely to victims of trauma before PTSD develops, during a period known as the 'consolidation window'. This period, thought to last around six hours after a traumatic event, is when fear memories are established and strengthened.

The findings could have implications for the many millions of people who experience a traumatic event in their lifetime, as well as the thousands of people regularly exposed to trauma in their line of work, including those in the emergency services, the military and journalists in conflict zones.

The researchers looked at two cognitive behavioural techniques used to treat PTSD: 'updating', where [traumatic memories](#) are re-written with factual information, bringing the meaning of trauma in line with what actually happened and the consequences for those involved; and 'exposure', a key therapy for anxiety, which involves presenting the original object of fear for long enough to decrease the intensity of an emotional reaction.

In the study, 115 participants watched a series of six film clips containing real-life footage of humans and animals in distress, a procedure regularly used to investigate causal factors in the development of PTSD. ??Researchers found that verbally updating the trauma memory with information about the fate of the films' protagonists reduced the frequency of [intrusive memories](#) by half (5.6 intrusive memories on average) compared to those in the exposure group (11.2, where the films were viewed again); and control group (10.6, where participants viewed non-traumatic films).

In addition, a self-reported measure of distress caused by these

intrusions was found to be much lower in the updating group (19.7 rating) compared to the exposure (27.2) and control groups (25.5).

Updating also led to the greatest decrease in distress and the greatest changes in physical arousal (as measured by skin conductance) when participants were faced with reminders of the trauma.

The study also discovered that a strong initial response to the films significantly predicted the development of PTSD symptoms. This suggests marked individual differences in how people initially respond to traumatic experiences, which could open up the possibility of tailored support for those identified as being at higher risk of developing PTSD symptoms.

Dr Victoria Pile, lead author from the IoPPN at King's College London, said: 'Although most people will experience a traumatic event in their lifetime, almost all will recover over time from the post-traumatic stress symptoms that initially develop. However, nine per cent will go on to develop PTSD. Our findings have important implications for identifying those at risk as well as for designing novel early interventions to prevent the development of PTSD.'

'This research implies that finding out what actually happened as soon as possible after the trauma might change the way the memory is stored and so limit the devastating effects of PTSD. It could be particularly relevant for groups regularly exposed to trauma, such as emergency service workers, military personnel and journalists in conflict zones, who have higher rates of PTSD and for whom there are currently no established interventions to prevent the development of PTSD.'

Dr Jennifer Wild, a co-author from the University of Oxford, said: 'The updating approach is painless and carries no harmful side effects. With this approach the brain appears to re-encode the traumatic memory with

new information, making the memory less frightening and less likely to be triggered in the future.'

Provided by King's College London

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