

# Childhood adversity increases risk for depression and chronic inflammation

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When a person injures their knee, it becomes inflamed. When a person has a cold, their throat becomes inflamed. This type of inflammation is the body's natural and protective response to injury.

Interestingly, there is growing evidence that a similar process happens when a person experiences [psychological trauma](#). Unfortunately, this type of [inflammation](#) can be destructive.

Previous studies have linked depression and inflammation, particularly in individuals who have experienced early childhood [adversity](#), but overall, findings have been inconsistent. Researchers Gregory Miller and Steve Cole designed a [longitudinal study](#) in an effort to resolve these [discrepancies](#), and their findings are now published in a study in [Biological Psychiatry](#).

They recruited a large group of [female adolescents](#) who were healthy, but at high risk for experiencing depression. The volunteers were then followed for 2 ½ years, undergoing interviews and giving blood samples to measure their levels of C-reactive protein and interleukin-6, two types of inflammatory markers. Their exposure to childhood adversity was also assessed.

The researchers found that when individuals who suffered from early childhood adversity became depressed, their depression was accompanied by an inflammatory response. In addition, among subjects with previous adversity, high levels of interleukin-6 forecasted risk of

depression six months later. In subjects without childhood adversity, there was no such coupling of depression and inflammation.

Dr. Miller commented on their findings: "What's important about this study is that it identifies a group of people who are prone to have depression and inflammation at the same time. That group of people experienced major stress in childhood, often related to poverty, having a parent with a severe illness, or lasting separation from family. As a result, these individuals may experience depressions that are especially difficult to treat."

Another important aspect to their findings is that the inflammatory response among the high-adversity individuals was still detectable six months later, even if their depression had abated, meaning that the inflammation is chronic rather than acute. "Because chronic inflammation is involved in other health problems, like diabetes and heart disease, it also means they have greater-than-average risk for these problems. They, along with their doctors, should keep an eye out for those problems," added Dr. Miller.

"This study provides important additional support for the notion that inflammation is an important and often under-appreciated factor that compromises resilience after major life stresses. It provides evidence that these inflammatory states persist for long periods of time and have important functional correlates," said Dr. John Krystal, Editor of *Biological Psychiatry*.

Further research is necessary, to extend the findings beyond female adolescents and particularly in individuals with more severe, long-term depression. However, findings such as these may eventually help doctors and clinicians better manage depression and medical illness for particularly vulnerable patients.

**More information:** The article is "Clustering of Depression and Inflammation in Adolescents Previously Exposed to Childhood Adversity" by Gregory E. Miller and Steve W. Cole (doi: 10.1016/j.biopsych.2012.02.034). The article appears in *Biological Psychiatry*, Volume 72, Issue 1 (July 1, 2012)

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