Don't panic. Cortisol may help people conquer various phobias, including fear of spiders.

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Have No Fear, Cortisol's Here

By Cathy Tran
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Little Miss Muffet might have merrily continued eating her curds and whey despite that fabled spider, had she swallowed some cortisol. Scientists now report that oral doses of the stress hormone reduce fears associated with both spiders and social interactions.

Decades of research have shown that fearful situations signal the brain to release cortisol. Many people assume that cortisol only does bad things, says Dominique de Quervain, a neuroscientist at the University of Zürich. And for good reason: The hormone has been linked to increased stress, increased abdominal fat, and heart problems. De Quervain's research team, however, previously revealed that the hormone also blocks the retrieval of traumatic memories, including those of physical assaults and severe car accidents. Could it be that cortisol calms fears?

To answer this, the team recruited 60 adults with either social anxiety or spider phobia. Participants were each given a cortisol pill or a placebo an hour before facing their fear. Those who were socially anxious were asked to recite a speech and do an arithmetic task in front of a panel. Spider-fearing folks had to lock their eyes for 4 seconds on a projection of a full-color spider. Participants estimated their fear factor on a numerical scale throughout the experiment.

Volunteers who received cortisol felt less fear during the speaking task than did those with the placebo, the team reports online this week the Proceedings of the National Academy of Sciences. The cortisol group reported an average fear level of about 3 (out of 10), whereas the placebo group had an average of almost 5. Furthermore, for those with spider phobia, fear levels decreased progressively with cortisol treatment. Both the placebo and cortisol groups reported an initial fear level of almost 7. At the end of 2 weeks, the placebo group still had the same level of fear of spiders, but the cortisol group's level shrank to about 4. This reduction was shown at the last session even when no drug was given. This suggests, says de Quervain, that combining cortisol treatment with behavioral therapy for phobias may speed up the process or produce
longer-lasting results.

It is a "series of fascinating findings," says Clemens Kirschbaum, a physiological psychologist at the Technical University of Dresden in Germany. The next step, he says, is to determine the mechanism by which cortisol affects the brain to reduce fear. Arne Ohman, a psychologist at Stanford University, suggests replacing the photograph with a real spider "to see if the results apply to more stressful situations." Both emphasize that further research is needed before any clear clinical implications can be pursued.

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