

# Researchers discover new way to reduce anxiety, stress

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Two North American researchers have made a major discovery that will benefit people who have anxiety disorders. Bill Colmers, a professor of pharmacology and researcher in the Faculty of Medicine & Dentistry at the University of Alberta, collaborated with Janice Urban, an associate professor in the department of physiology and biophysics at the Chicago Medical School at Rosalind Franklin University of Medicine and Science. The duo, who have been researching anxiety for five years, discovered that blocking a process in nerve cells reduces anxiety, meaning a new drug could now be developed to better treat anxiety disorders. Their findings were published in the peer-reviewed *Journal of Neuroscience* in December's edition.

Colmers explained that current anxiety drugs on the market are non-selective, which means they inhibit various neurons, or nerve cells, in the brain—including ones you don't want to inhibit. Because no one could pinpoint how to reduce anxiety, all kinds of neurons had to be treated with anxiety medication, which can have undesirable side-effects such as drowsiness.

But now drugs can now be designed to more specifically treat anxiety disorders, likely meaning fewer undesirable side effects and a better quality of life for those with anxiety. Anxiety disorders are the most common mental-health issue in the country, affecting one in 10 Canadian adults, according to the Anxiety Disorders Association of Canada.

For years, researchers have understood what processes in the brain are responsible for high and low anxiety levels, but no one had been able to identify what triggers this process.

“No one else has discovered this,” said Colmers, a senior scientist with funding from the Alberta Heritage Foundation for Medical Research (a provincial agency now called Alberta Innovates – Health Solutions).

“Others have identified the behaviour, but now we know why this process happens and how it works. Now we know why certain chemical messengers behave the way they do.”

There are two chemical messengers in a specific part of the brain known to regulate anxiety. One messenger, known as neuropeptide Y, makes one less anxious while the other, known as corticotropin-releasing factor or CRF, makes one more anxious.

These two chemical messengers regulate how “excitable” the nerve cell gets. Neuropeptide Y causes [nerve cells](#) to be less active, meaning the cells will fire less. The other chemical messenger, CRF, causes cells to be more active and fire more often. The more often these neurons fire, the more anxious a person becomes.

By working with laboratory models, Colmers and Urban discovered that blocking the process responsible for regulating cell excitability triggers less anxiety. Blocking this process had the same effect as the chemical messenger neuropeptide Y, which makes people less anxious.

Colmers said it could be 10 years before patients could start taking a new drug for anxiety based on these research findings, but the find is still significant.

“There is a real need to find better treatments for anxiety—to better target the processes in the brain that trigger [anxiety disorders](#).”

Provided by University of Alberta

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