

## Researchers looking at genetically modified spider venom to treat erectile dysfunction

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Female of *P. cf nigriventer*. Credit: João P. Burini/ Wikipedia

(Medical Xpress)—A team of researchers working at the Catholic University of Korea has found that a protein found naturally in spider venom that can be created in the lab and tested on rats, can be effective in treating erectile dysfunction. In their paper published in the journal *Urology*, the team describes how they tested PnTx2-6 in several lab rats and what they found.

Humans, mostly of the male persuasion, have been investigating ways to reverse problems with gaining or maintaining erections for possibly thousands of years. It has only been recently though, that science has finally offered some help in the form of Viagra or Cialis. Unfortunately, such drugs often have [negative side effects](#) or sometimes they just do not work. For that reason, scientists continue to look for better options. In this latest effort, the team in Korea has built on research conducted by another team working in Brazil back in 2011—they found that a toxin found in the wandering spider (which makes its home in Brazil) [increased cavernosal relaxation](#) in mice—cavernosum are sponge-like regions of erectile tissue found inside the penis. In order for an erection to occur, bodily chemicals must loosen valves that control blood flow, allowing for engorgement, so, this was good news.

Research into the possible use of wandering [spider venom](#) arose after a team in Brazil [studied the impact](#) of spider bites on the local population back in 2000. They found that among other symptoms, the spider bites sometimes resulted in priapism—erections that last an abnormally long time. Over time other researchers have isolated the chemical involved, PnTx2-6, and used recombinant DNA techniques to produce the protein in caterpillar cells. Now, testing by this latest team of researchers indicates that the protein helps restore erectile function in the tissue of rats. That is a long way from helping humans, of course, but thus far, the research appears promising.

No doubt research will continue with PnTx2-6, and likely other possibilities as well. As the population ages, more and more men find they experience some degree of ED. But it will take awhile—even if all goes well, it will be at least a couple of years before PnTx2-6 makes its way through clinical trials and into pharmacies.

**More information:** The Effect of PnTx2-6 Protein From Phoneutria nigriventer Spider Toxin on Improvement of Erectile Dysfunction in a

Rat Model of Cavernous Nerve Injury, *Urology*, Volume 84, Issue 3,  
Pages 730.e9–730.e17. [dx.doi.org/10.1016/j.urology.2014.05.030](https://doi.org/10.1016/j.urology.2014.05.030)

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