

Infection is an important post-stroke problem

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After a stroke the brain tries to protect itself by blocking all inflammation. However, this also makes the patient highly susceptible to infection which can lead to death. Researchers have now discovered the mechanism behind this response and how to possibly treat it. The research is published this month in the journal *Science*.

Using a [mouse model](#), scientists at the University of Calgary's Faculty of Medicine have discovered Natural Killer T-cells (NKT) are the [immune cells](#) that get activated in the patient after a stroke. The cells suppress the immune system as the body tries to prevent inflammation to protect the brain. The researchers have also found a new drug that can stop the [NKT cells](#) from suppressing the immune system, stopping the infections.

"When we discovered that these novel NKT cells are important in fighting infection in stroke, we were able to specifically target them. This means that infections can be controlled without having to administer high levels of antibiotics," says Paul Kubes, PhD, senior author of the study and director of the Snyder Institute at the University of Calgary. "This in its own right is important to avoid over-usage of antibiotics leading to development of anti-biotic [resistant strains](#) of bacteria."

Early indications are that NKT cells in humans behave very similarly to NKT cells in mice making this highly relevant to human stroke.

"The research does not cure the stroke itself," says Connie Wong, PhD ,

also a co-author of the study and member of the Snyder Institute at the University of Calgary , "But by providing novel therapies it holds the promise to significantly decrease [death rates](#) associated with stroke."

Provided by University of Calgary

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