

Herpes remains active even when no symptoms appear

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Scientists investigating the herpes virus have been surprised to find an ongoing conflict in the cells of sufferers, even when the virus is apparently dormant.

Herpes Simplex Type 1 is a virus that causes cold sores. It remains in the body's nervous system indefinitely after infection. Around 80 per cent of Australians carry the virus, although it is usually in a dormant state.

"We thought when the disease was dormant, it was a truce," said Associate Professor David Tschärke from The Australian National University Research School of Biology. "It turns out that the virus is waking up more often than we thought, but our [cells](#) are constantly pushing it down."

The findings could lead to new treatments, and give researchers insights into why cold sores only flare up sporadically and why some infected people never suffer cold sores at all.

Associate Professor Tschärke's team used both cells and viruses that were genetically modified so that [infected cells](#) changed colour to a bright yellow, even if the virus was dormant.

These individual cells were then identified using a microscope equipped with laser that can be used to cut them out, allowing their level of virus activity to be measured.

"We expected that we would see no activity in the dormant cells," Associate Professor Tschärke said.

"The surprise came when we found the virus was doing something in many cells. Not all of these cells have the same level of virus activity either. For some it's very low and in others more of the virus genes are turned on. The host cells were responding most strongly when there was lots of [virus](#) activity.

"When we thought there was nothing going on we had no targets to look at. Now we know there is an interaction we can look for ways to help the good guys to win."

The research is published in *PLOS Pathogens*.

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