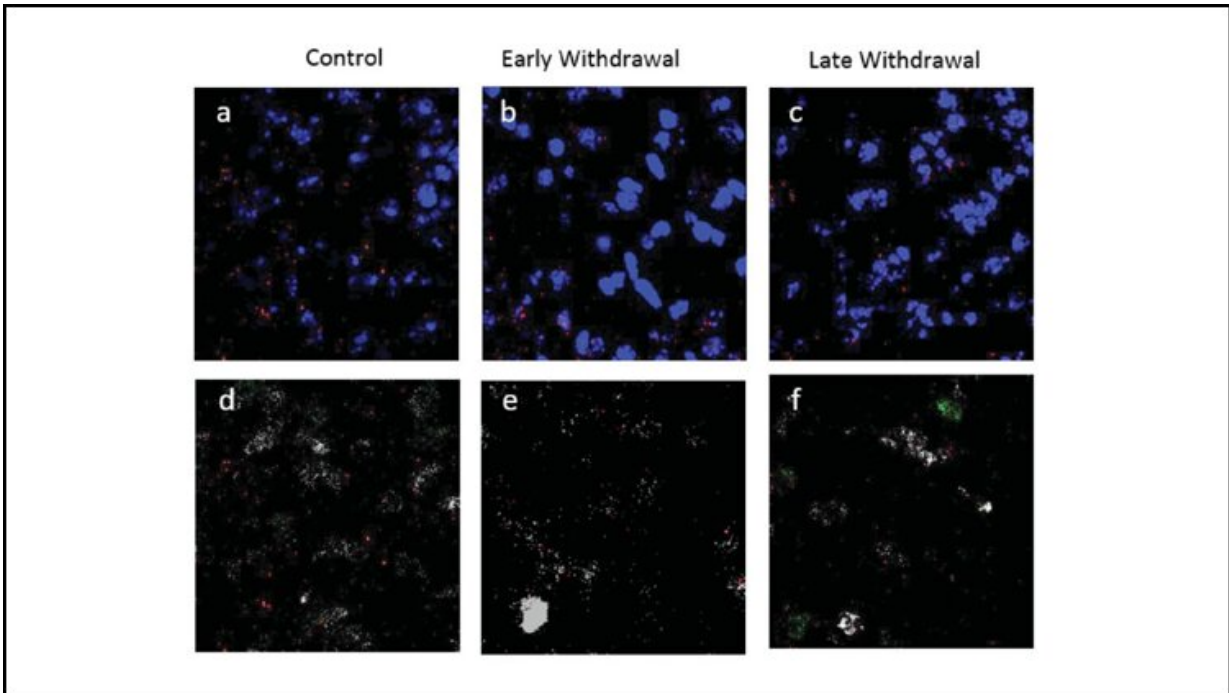


Diabetes drug relieves nicotine withdrawal

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PPAR γ transcription levels in the central amygdala. Credit: Domi et al., *JNeurosci* 2019

A drug commonly used to treat Type II diabetes abolishes the characteristic signs of nicotine withdrawal in rats and mice, according to new research published in *JNeurosci*. The finding may offer an important new strategy in the battle to quit smoking.

Smokers trying to quit face potent side effects from [nicotine withdrawal](#),

including cravings, increased appetite, restlessness, anxiety, irritability, and depression. Even though they may want to quit, many [smokers](#) continue to smoke simply because the experience is so unpleasant.

The diabetes drug, pioglitazone, targets a specific form of the peroxisome proliferator-activated receptors in the nucleus. This receptor, PPAR γ , is found in areas of the brain involved in [drug addiction](#).

Domi *et al.* demonstrated that direct injections of pioglitazone into the hippocampi of male mice reduced the signs of physical nicotine withdrawal, including paw tremors, chattering, and head shakes. Injecting pioglitazone into the amygdala of male mice ameliorated signs of anxiety associated with nicotine withdrawal.

Nicotine abusers face a 30% higher risk of developing Type II diabetes. The researchers suggest pioglitazone may help diabetic smokers quit by lessening the physical and emotional [withdrawal](#) symptoms while reducing insulin resistance.

More information: Activation of PPAR γ Attenuates the Expression of Physical and Affective Nicotine Withdrawal Symptoms Through Mechanisms Involving Amygdala and Hippocampus Neurotransmission, *JNeurosci* (2019). [DOI: 10.1523/JNEUROSCI.1922-19.2019](https://doi.org/10.1523/JNEUROSCI.1922-19.2019)

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