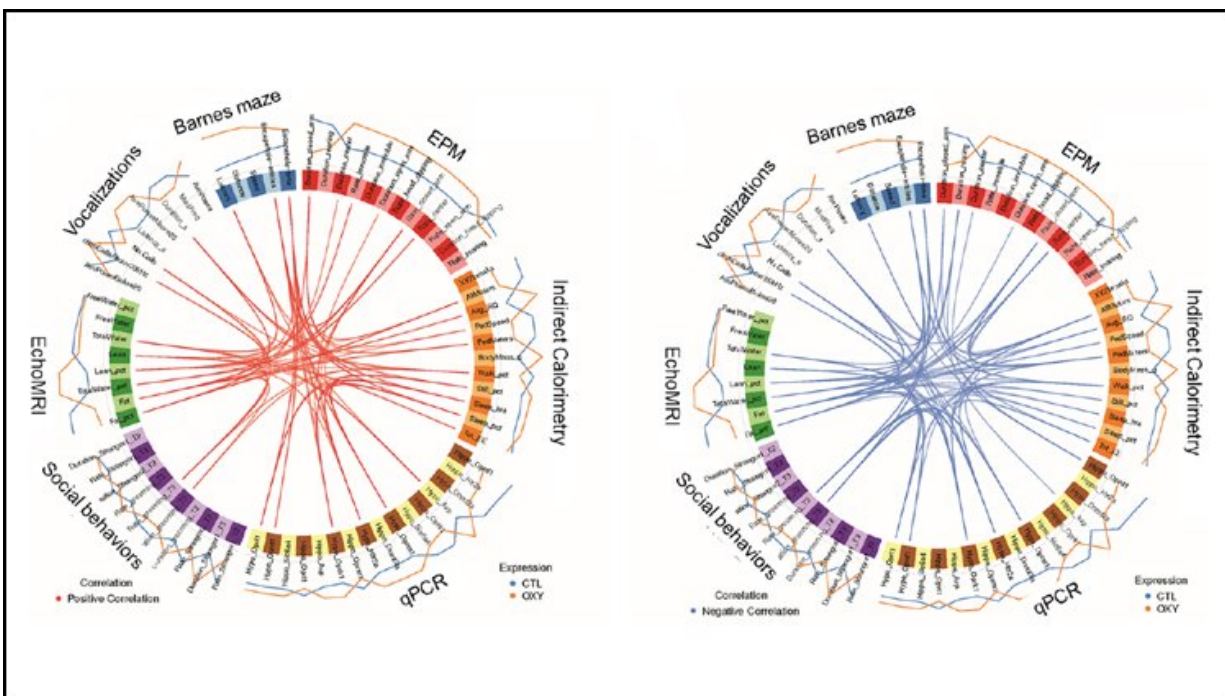


# Administering opioids to pregnant mice alters behavior and gene expression in offspring

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Correlation of behavioral results with gene expression in male mice. Credit: Martin et al., *eNeuro* 2021

Mice exposed to the opioid oxycodone before birth experience permanent changes in behavior and gene expression. The new research published in *eNeuro* highlights a need to develop safer types of

painkillers for pregnant women.

Opioids like oxycodone are prescribed to [pregnant women](#) to treat pain, but the drugs may affect the fetus, too. Opioids can pass through the placenta, binding to receptors in the fetal brain, which can lead to [opioid withdrawal](#) in newborn babies. The long-term consequences of prenatal opioid exposure haven't been fully studied, however.

To explore this, Martin et al. administered oxycodone to female mice every day for the two weeks prior to and throughout the duration of their pregnancy. The team administered a range of behavioral tests on the offspring during weaning and later in adulthood. The offspring exposed to oxycodone during gestation showed signs of impaired social behaviors and communication. They were also larger and less active than the control mice. The research team examined the [gene expression](#) of opioid receptors in the offspring. In the hippocampus, a region involved in learning and memory, one type of receptor increased in male mice while a different receptor decreased in [female mice](#).

These results reveal prenatal opioid exposure can have lifelong effects on offspring.

**More information:** Maternal Oxycodone Treatment Results in Neurobehavioral Disruptions in Mice Offspring, *eNeuro*, [DOI: 10.1523/ENEURO.0150-21.2021](#)

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