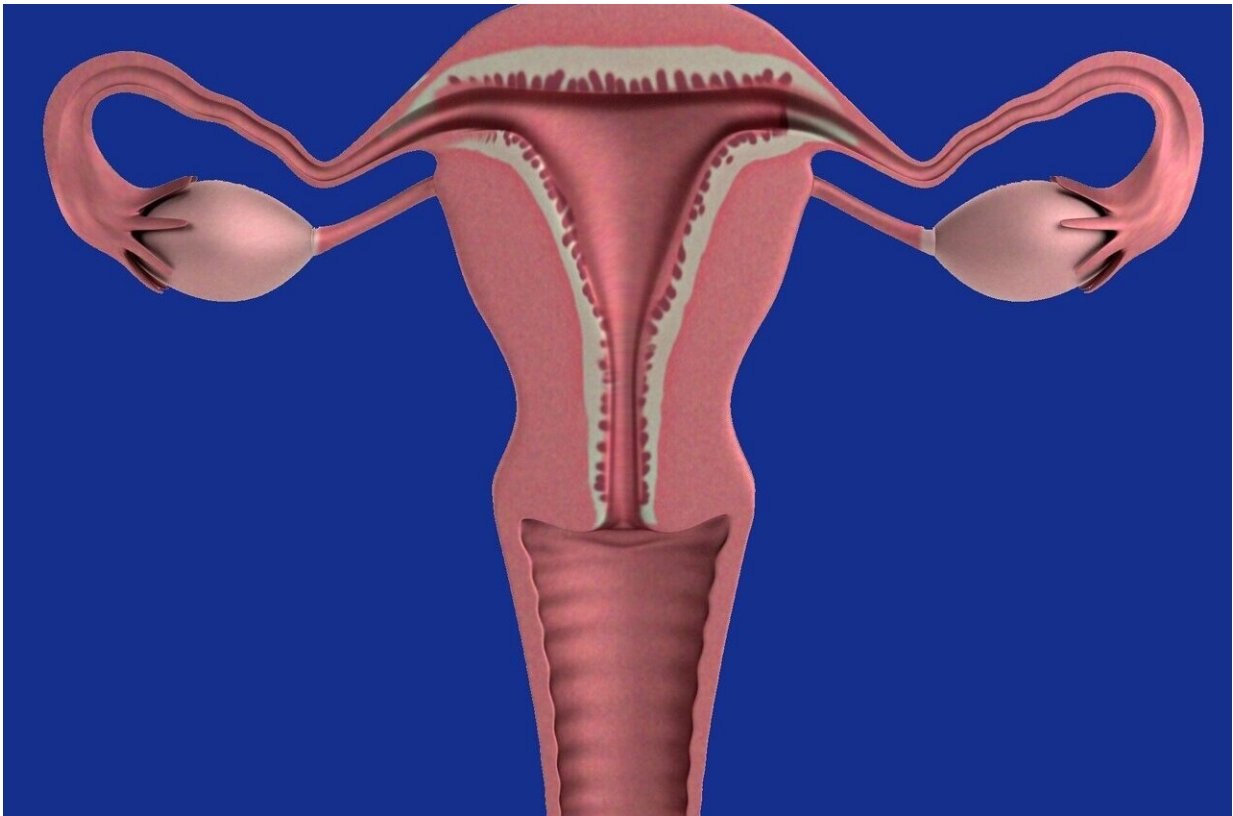


# Repurposed drug shows promise against endometriosis-related pain in animal model

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Fenoprofen, a nonsteroidal anti-inflammatory drug (NSAID), successfully alleviated pain and inflammation in a rodent model of endometriosis, according to researchers. They chose the drug after using

a computer algorithm to evaluate nearly 1,300 existing compounds for their ability to reverse gene expression related to endometriosis disease.

Analysis by researchers at the University of California, San Francisco, using publicly available data from people with endometriosis, returned 299 candidate compounds with seven considered top candidates. These drugs included commonly used treatments for the disease, such as aspirin, as well as those not yet studied for this purpose. The researchers chose fenoprofen for further evaluation because it returned the highest [gene expression](#) reversal score and belongs to a [drug](#) class—NSAIDS—that is one of the first-line treatments for endometriosis.

The findings are [published](#) in the journal *iScience*.

Fenoprofen is a prescription drug approved for the relief of mild to moderate pain and is often prescribed for arthritis. The researchers analyzed [electronic medical records](#) from five University of California health care institutions and found that the drug had been prescribed for less than 1% of patients with endometriosis or related conditions. They then tested fenoprofen in a rodent model of the disease, observing that it successfully alleviated vaginal hyperalgesia, a surrogate marker for endometriosis-related pain.

If future studies in people confirm these findings, the researchers suggest that fenoprofen could be prescribed more frequently to treat endometriosis pain. Their work also supports continued use of their computer-based approach to repurpose other existing drugs as potential therapeutic candidates for endometriosis.

There is an urgent need for new therapies and diagnostics for endometriosis, which occurs when tissue similar to the uterine lining grows outside of the uterus, often causing [severe pain](#) and infertility. The

disease affects an estimated 10% of U.S. women, yet diagnosis is often delayed. Many existing treatments have challenging side effects, do not treat the source of the disease and leave a chance for recurrence.

**More information:** Tomiko T. Oskotsky et al, Identifying therapeutic candidates for endometriosis through a transcriptomics-based drug repositioning approach, *iScience* (2024). [DOI: 10.1016/j.isci.2024.109388](https://doi.org/10.1016/j.isci.2024.109388)

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