

# Spironolactone may be an alternative to antibiotics in women's acne treatment

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In a finding that suggests the potential for practice change that would reduce the use of antibiotics in dermatology, researchers in the Perelman School of Medicine at the University of Pennsylvania have found the diuretic drug spironolactone may be just as effective as antibiotics for the treatment of women's acne. The study, published this month in the *Journal of Drugs and Dermatology*, found patients who were originally prescribed spironolactone changed to a different drug within one year at almost the same rate as those who were prescribed antibiotics. The prescription change is a proxy for ineffectiveness, since switching is often the result of treatment failure due to lack of efficacy, side effects, cost, or other factors.

Acne is one of the most common diseases in the world. It affects 85 percent of people under the age of 18, but it also regularly impacts adults. More than 50 percent of women in the United States are treated for acne between the ages of 20 and 29, while more than 35 percent are treated between the ages of 30 and 39.

Oral antibiotics are the most common systemic [treatment](#) for acne, and when combined with the large patient population, the result is that dermatologists prescribe the highest level of antibiotics per provider among all medical specialties, according to the Centers for Disease Control—a fact that contributes to concerns about increased resistance to antibiotics across all fields of medicine.

"It's clear that a safe alternative to oral antibiotics could have a huge

benefit, and our data show [spironolactone](#) may be that alternative," said the study's lead author John S. Barbieri, MD, MBA, Dermatology chief resident at Penn. David J. Margolis, MD, Ph.D., a professor of Dermatology, was the study's senior author.

Spironolactone, marketed under the name aldactone, is currently approved to treat [high blood pressure](#), heart failure, and conditions that cause people to retain fluid. It blocks the effects of male hormones like androgen, meaning it's not an option to treat acne in men. However, those same anti-hormonal effects can help prevent acne outbreaks in women. As a result, some dermatologists use it to treat female acne patients.

Researchers compared data on 6,684 women and girls taking spironolactone to 31,614 who were prescribed antibiotics. Within a year, 14.4 percent of spironolactone patients and 13.4 percent of antibiotic patients had switched to alternative treatments, suggesting each treatment was working at almost the same rate, despite the fact that tetracycline-class antibiotics are prescribed five times as frequently.

"These numbers suggest dermatologists should consider spironolactone first instead of antibiotics when it comes to women with acne," Barbieri said.

In addition to the benefits for antibiotic stewardship, Barbieri pointed to several studies showing long-term oral antibiotic use may be associated with antibiotic resistance, lupus, [inflammatory bowel disease](#), and even colon and breast cancer.

"This indicates spironolactone may have a better safety profile than oral [antibiotics](#), which is another factor that makes it such an appealing option," Barbieri said. He also noted spironolactone is less expensive, which may be relevant to patients with high deductibles or who are

uninsured.

Spironolactone is not approved for the treatment of acne by the U.S. Food and Drug Administration despite expert opinion supporting its use, and Barbieri says the findings of this study should be confirmed by a [randomized controlled trial](#) that directly compares the two treatment options.

Provided by Perelman School of Medicine at the University of Pennsylvania

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