

## Antibiotic medications can have long-lasting effects on gut microbiome

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For 70 years, antimicrobial agents, known as [antibiotics](#), have been successfully fighting infectious diseases, dramatically reducing rates of illness and death worldwide.

However, their widespread use has led to adaptations in the infectious organisms that they are designed to kill, reducing the drugs' effectiveness.

In the US, antibiotic-resistant bacteria cause at least 2 million cases of disease and 23,000 fatalities annually.

As a result, the Centers for Disease Control and Prevention (CDC) have outlined the top 18 drug-resistant threats to the US and categorized them based on level of concern: urgent, serious or concerning. Health professionals have been encouraged to limit the use of antibiotics.

The current study, led by Egija Zaura, PhD, an associate professor in oral microbial ecology at the Academic Centre for Dentistry in Amsterdam, the Netherlands, looked at 66 healthy adults from the UK and Sweden who were prescribed different antibiotics.

Participants were randomly assigned to receive a full course of one of four antibiotics: ciprofloxacin, clindamycin, amoxicillin or minocycline, or a placebo.

The researchers collected fecal and saliva samples from participants at the start of the study, immediately after taking the antibiotics, and one, two, four and 12 months after finishing the course.

Microbiome diversity in feces was significantly reduced for up to 4 months in participants taking clindamycin and up to 12 months in those taking ciprofloxacin. In contrast, diversity in the oral cavity microbiome was only altered for up to a week after drug exposure.

**Read full, original post:** [One dose of antibiotics disrupts gut microbiome for a year](#)