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Antihistamines and Weight Gain

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Benadryl, Allegra, Zyrtec, and Claritin are all antihistamines sold throughout the United States, both over the counter and via prescription. Anyone who suffers from chronic sinus congestion, runny noses, hives, or even occasional insomnia



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What is Histamine?

Histamine is a molecule famously known to be a key player in allergic responses. It is released by cells called mast cells at the membranes that cover our noses, mouths, lungs, and stomachs when exposed to an allergen (something that results in allergies such as pollen, dust, etc). This results in our small blood vessels known as capillaries, becoming more permeable, allowing white blood cells to move into the vessels to attack the foreign body. This process intends to help expel potential intruders, but often, our immune system overreacts and leads to burdensome runny noses, congested sinuses, and rashes.

Histamine also acts as a neurotransmitter in our brains, playing a pivotal role in wakefulness and preventing sleep, which is why Benadryl (an antihistamine) makes you sleepy. This effect may be one of the reasons why antihistamines are among the [medications that can cause weight gain](#).

What is the relationship between antihistamines and weight gain?

The primary study demonstrating the relationship between antihistamines and weight gain comes from the *Journal of Obesity*^[1] in 2010, which used the National Health and Nutrition Examination Survey (NHANES) data set to study the issue. The NHANES is an annual health survey conducted by the National Center for Health Statistics (NCHS), where the NCHS staff drive trailers across the United States and conduct interviews, medical histories, physical examinations, and laboratory testing to determine the prevalence of and risk factors for major diseases. This data is then available to the public for research.

For this particular study, researchers from the Yale University School of Medicine looked at the NHANES data set from 2005-2006, looking at 268 adults (174 female and 94 male) who reported the use of prescription antihistamines such as Zyrtec and Allegra and compared them to 599 people (401 female and 198 male) who did not, looking at differences in body mass index (BMI), cholesterol and glucose levels. After doing a statistical adjustment for gender and age, the researchers found that those who used prescription antihistamines displayed

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women who did not use the drugs. In pounds, men who used antihistamines had an average weight of 214 pounds versus 192, and women had an average of 176 pounds versus 166 pounds.

This seems to suggest that antihistamines could be a factor in weight gain. However, the vital thing to note is that this is a cross-sectional study, and just because, in this case, antihistamine use and weight gain are related, it doesn't mean one necessarily causes the other. Also, the study looked at only prescription antihistamines such as Zyrtec and Allegra, not over-the-counter medications like Benadryl (although now many over-the-counter antihistamines have the same strength as the prescription versions).

Still, from clinical experience and solid scientific research demonstrating how histamine affects our appetites, it is safe to say that antihistamines probably do affect weight gain. Moreover, antipsychotics like Zyprexa have a significant antihistamine effect and are well known to result in dramatic weight gain.

Why do antihistamines cause weight gain?

Histamine decreases our hunger by, in part, affecting the appetite control center in our brains[2], and it makes sense an antihistamine would have the opposite effect. These drugs can interfere with the "I'm full" signal coming from the rest of our bodies and lead to overeating. Medications like Allegra and Benadryl also have the effect of making us sleepier, decreasing the amount of energy we use, and leading to fewer calories burned throughout the day. While first-generation antihistamines like Benadryl are more prone to make you sleepy, even second-generation medications like Zyrtec, when broken down by the body, result in byproducts that have a mild sedative effect.

Do antihistamines cause weight gain?

The short answer seems to be yes. While occasionally taking a Benadryl for sleep probably won't lead to significant weight gain, chronic use of antihistamines can

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nasal sprays, decongestants, and just reducing exposure to allergens are other options.

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