



# ANTIHISTAMINES

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Antihistamines are drugs used to block chemicals in the body called histamines. They are commonly used for the relief of allergy symptoms or for gastrointestinal conditions. An allergy reaction causes the release of histamines in the body which is what causes the subsequent itchy skin, hives, runny nose, itchy eyes, or sneezing. There are two subtypes of antihistamines called H1-receptor antagonists and H2-receptor antagonists. H1-antihistamines are used to treat allergy symptoms. Within this group are two generations called the first generation and second generation antihistamines. H2-antihistamines are used to treat gastrointestinal conditions.

**Mechanism:** H1-antihistamines competitively block histamines from attaching to histamine receptors that are located on nerves, smooth muscle, endothelium, glandular cells, and mast cells. Since histamines causes vasodilation and increase vascular permeability which causes fluid to leak from the capillaries to the surrounding tissues, these H1-antihistamines will block these actions which will stop inflammation and other allergy symptoms. The second generation H1-antihistamines do not cross the blood brain barrier which is why it does not cause drowsiness such as the first generation. The H2-antihistamines block H2 histamine receptors that are found in the gastric acid producing parietal cells of the stomach. Therefore, these antihistamines will reduce the amount of gastric acid being secreted in the stomach.

**Uses:** The H1-antihistamines are used to treat allergic symptoms such as hives, itchy skin, itchy eyes, runny nose, and sneezing. They are commonly used in dermatology to relieve itchy skin. They can be beneficial for patients with **urticaria, atopic dermatitis, contact dermatitis, scabies**, and many other dermatologic conditions. Furthermore, first generation H1-antihistamines are sometimes used to treat insomnia due to their side effect profile of causing drowsiness. Some H1-antihistamines have anticholinergic properties such as diphenhydramine and can be used to treat motion sickness. H2-antihistamines are used to relieve gastrointestinal conditions such as gastroesophageal reflux (GERD) or peptic ulcers.

**Side effects:** The first generation H1-antihistamines such as diphenhydramine (Benadryl) and hydroxyzine (Vistaril/Atarax) causes more side effects such as drowsiness. These drugs should be taken before bedtime and should not be taken before driving or operating heavy machinery. The second generation H1-antihistamines such as fexofenadine (Allegra), loratidine (Claritin), cetirizine (Zyrtec) have less of a sedating effect.

Few of the main side effects from antihistamines include:

- Dry mouth
- Dry nasal mucosa
- Drowsiness
- Nausea and vomiting
- Confusion
- Blurry vision
- Irritability
- Headache
- Dizziness

Cimetidine, a H2-antihistamine, blocks androgenic testosterone at high doses which has the side effect of gynecomastia, which is the enlargement of breasts in a male. Alcohol should be avoided when taking antihistamines.

**This information has been provided to you compliments of the American Osteopathic College of Dermatology and your physician.**

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