



## Diphenhydramine

Updated: January 16, 2017.

### OVERVIEW

#### Introduction

Diphenhydramine is a first generation antihistamine that is used for symptoms of allergic rhinitis and the common cold. It is also commonly used as a mild sleeping aid. Diphenhydramine has not been linked to instances of clinically apparent acute liver injury.

#### Background

Diphenhydramine (dye" fen hye' dra meen) is a first generation antihistamine that is used widely in the therapy of the symptoms of allergic rhinitis and the common cold, including sneezing, cough, runny nose, watery eyes and itching. Because of its sedating side effects, it is also used as a mild sleeping aid. In intravenous forms, diphenhydramine is used in the treatment of severe allergic reactions and anaphylaxis. Diphenhydramine belongs to the ethanolamine class of antihistamines (with clemastine and dimenhydrinate) and in 1946 became the first antihistamine approved for use in the United States. It is still widely used today and is available in multiple generic forms as tablets, capsules, liquid oral and intravenous solutions, creams and syrups, many of which are available without prescription. A common brand name is Benadryl. Diphenhydramine is often combined with other analgesics or sympathomimetic agents for combined relief of symptoms of allergic rhinitis and the common cold. The recommended adult oral dose ranges from 25 to 50 mg three or four times daily. Common side effects include sedation, impairment of motor function, confusion, dizziness, blurred vision, dry mouth and throat, palpitations, tachycardia, abdominal distress, constipation and headache. Antihistamines can worsen urinary retention and glaucoma.

#### Hepatotoxicity

Despite widespread use over many decades, diphenhydramine has not been linked to liver test abnormalities or to clinically apparent liver injury. The reason for its safety may relate its short half-life and limited duration of use.

Likelihood score: E (unlikely to be a cause of clinically apparent liver injury).

References on the safety and potential hepatotoxicity of antihistamines are given together after the Overview section on Antihistamines.

Drug Class: [Antihistamines](#)

## PRODUCT INFORMATION

### REPRESENTATIVE TRADE NAMES

Diphenhydramine – Generic, Benadryl®

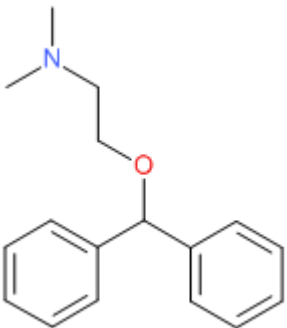
### DRUG CLASS

Antihistamines

### COMPLETE LABELING

Product labeling at DailyMed, National Library of Medicine, NIH

## CHEMICAL FORMULA AND STRUCTURE

DRUG	CAS REGISTRY NUMBER	MOLECULAR FORMULA	STRUCTURE
Diphenhydramine	58-73-1	C <sub>17</sub> H <sub>21</sub> N-O	 The chemical structure of Diphenhydramine is shown. It consists of a central carbon atom bonded to two phenyl rings (represented as hexagons with a circle inside) and an oxygen atom. The oxygen atom is part of an ethyl chain that is attached to a dimethylamino group (a nitrogen atom with two methyl groups).