

Dimenhydrinate

Updated: January 16, 2017.

OVERVIEW

Introduction

Dimenhydrinate is a first generation antihistamine that is used for treatment or prevention of motion sickness or symptoms of nausea and dizziness. Dimenhydrinate has not been linked to instances of clinically apparent acute liver injury.

Background

Dimenhydrinate (dye" men hye' dri nate) is the 8-chlorotheophylline salt of diphenhydramine and, thus, combines a first generation antihistamine with a xanthine that is added to counteract the drowsiness caused by diphenhydramine. This combination was approved as an over-the-counter agent in 2004 and is used largely for prevention of motion sickness and nausea. Dimenhydrinate is available in multiple generic forms as tablets 25 or 50 mg or oral solutions, most of which are available without prescription, a common brand name being Dramamine. A liquid formulation for intramuscular use is also available. The typical adult oral dose is 50 mg taken an hour before expected travel and up to 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, dimenhydrinate has not been linked to liver test abnormalities or to clinically apparent liver injury. The reason for its safety may relate to its 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

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Dimenhydrinate – Generic, Dramamine®

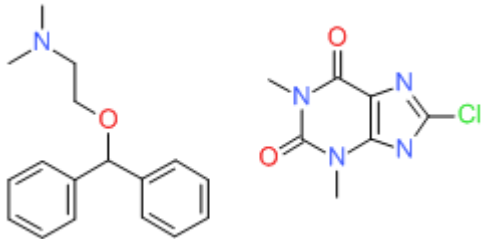
DRUG CLASS

Antihistamines

COMPLETE LABELING

Product labeling at DailyMed, National Library of Medicine, NIH

CHEMICAL FORMULA AND STRUCTURE

DRUG	CAS REGISTRY NUMBER	MOLECULAR FORMULA	STRUCTURE
Dimenhydrinate	523-87-5	C ₁₇ -H ₂₁ -N-O.C ₇ -H ₇ -Cl-N ₄ -O ₂	 <p>The image displays two chemical structures. On the left is the structure of Diphenhydramine, which consists of a central carbon atom bonded to two phenyl rings and a dimethylaminoethyl group (-CH₂-CH₂-N(CH₃)₂). On the right is the structure of Cinnarizine, a tricyclic compound featuring a benzimidazole ring system with a chlorine atom at the 2-position and methyl groups on the imidazole ring nitrogens.</p>