



## Pyrantel

Updated: July 20, 2020.

## OVERVIEW

### Introduction

Pyrantel is a nonabsorbed anthelmintic agent with activity against intestinal nematodes such as pinworms and roundworms. Pyrantel therapy has not been reported to cause serum aminotransferase elevations or clinically apparent liver injury.

### Background

Pyrantel (pi ran' tel) is a pyrimidine derivative which is believed to act by depolarizing the neuromuscular junction of nematodes, resulting in their paralysis and expulsion in stool. The drug is poorly absorbed from the intestine and is usually effective in a single dose. Pyrantel is currently available in the United States over-the-counter as tablets of 720 mg (250 mg pyrantel base) and in a suspension of 144 mg/mL (50 mg pyrantel base/mL) under the brand name Antiminth or Pin-X. It is recommended for pinworm infection due to *Enterobius vermicularis* and *Ascaris lumbricoides*. The typical dose in both adults and children is 11 mg/kg (up to 1 g) as a single dose, which can be repeated in two weeks. Pyrantel is widely used in veterinary medicine. Side effects are uncommon, mild and transient and include nausea, gastrointestinal upset and headache.

### Hepatotoxicity

Pyrantel therapy has not been clearly associated with elevations in serum aminotransferase levels nor has its use been linked to cases of clinically apparent liver injury.

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

### Mechanism of Injury

Pyrantel is minimally absorbed and given in single doses only, perhaps accounting for its lack of hepatotoxicity as currently used.

### Outcome and Management

Pyrantel is usually well tolerated and clinically apparent liver injury has not been reported.

Drug Class: [Anthelmintic Agents](#)

## PRODUCT INFORMATION

### REPRESENTATIVE TRADE NAMES

Pyrantel – Generic, Antiminth®

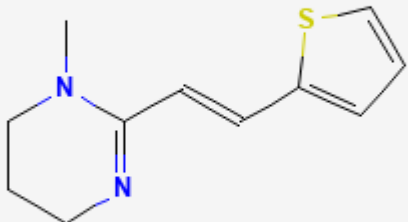
## DRUG CLASS

Anthelmintic Agents

## COMPLETE LABELING

Product labeling at DailyMed, National Library of Medicine, NIH

## CHEMICAL FORMULA AND STRUCTURE

DRUG	CAS REGISTRY NUMBER	MOLECULAR FORMULA	STRUCTURE
Pyrantel	15686-83-6	C11-H14-N2-S	

## ANNOTATED BIBLIOGRAPHY

References updated: 20 July 2020

Zimmerman HJ. Anthelmintics. Hepatic injury from antimicrobial agents. In, Zimmerman HJ. Hepatotoxicity: the adverse effects of drugs and other chemicals on the liver. 2nd ed. Philadelphia: Lippincott, 1999, pp. 626-8.

*(Expert review of hepatotoxicity of anthelmintic written in 1999; pyrantel is not discussed).*

Keiser J, McCarthy J, Hotez P. Chemotherapy of helminth infections. In, Brunton LL, Hilal-Dandan R, Knollman BC, eds. Goodman & Gilman's the pharmacological basis of therapeutics. 13th ed. New York: McGraw-Hill, 2018, pp. 1001-9.

*(Textbook of pharmacology and therapeutics).*

Keiser J, Utzinger J. Efficacy of current drugs against soil-transmitted helminth infections: systematic review and meta-analysis. JAMA. 2008;299:1937–48. PubMed PMID: 18430913.

*(Pyrantel pamoate is effective against A. Lumbricoides and possibly N. Americanus; side effects are mainly abdominal pain, nausea and dizziness).*

St Georgiev V. Pharmacotherapy of ascariasis. Expert Opin Pharmacother. 2001;2:223–39. PubMed PMID: 11336582.

*(Ascariasis can be treated with mebendazole, albendazole and pyrantel pamoate; a single dose of pyrantel has a cure rate of 95-100%; reported to cause mild serum enzyme elevations in children).*

Van Riper G. Pyrantel pamoate for pinworm infestation. *Am Pharm.* 1993;NS33:43–5. PubMed PMID: 8456745.

*(Review: pyrantel is the only over-the-counter medication for pinworms [Enterobius vermicularis] and also has activity against the common roundworm [Ascaris lumbricoides]; recommended dose is 11 mg/kg given once or twice [2 weeks apart]; side effects are minimal and transient).*

Drugs for parasitic infections. *Treat Guidel Med Lett.* 2013;11 Suppl:e1–31.

*(Brief description of drugs for parasitic infections in adults and children as well as a table of their major side effects; pyrantel can be helpful in treatment of pinworm [Enterobius] and whipworm [Trichostrongylus] infection; side effects can include gastrointestinal upset, headache, dizziness, rash and fever).*

Hernández N, Bessone F, Sánchez A, di Pace M, Brahm J, Zapata R, A, Chirino R, et al. Profile of idiosyncratic drug induced liver injury in Latin America. An analysis of published reports. *Ann Hepatol.* 2014;13:231–9. PubMed PMID: 24552865.

*(Systematic review of literature of drug induced liver injury in Latin American countries published from 1996 to 2012 identified 176 cases, only one of which was attributed to an anthelmintic, mebendazole; none were attributed to pyrantel).*

Chalasanani N, Bonkovsky HL, Fontana R, Lee W, Stolz A, Talwalkar J, Reddy KR, et al; United States Drug Induced Liver Injury Network. Features and outcomes of 899 patients with drug-induced liver injury: The DILIN Prospective Study. *Gastroenterology.* 2015;148:1340–52.e7. PubMed PMID: 25754159.

*(Among 899 cases of drug induced liver injury enrolled in a US prospective study between 2004 and 2013, 409 [46%] were attributed to antimicrobial agents, but none to anthelmintics or to pyrantel).*