

Texas Vendor Drug Program

Drug Use Criteria: Nitazoxanide (Alinia®)

Publication History

- Developed January 2007.
- Revised September 2019; September 2017; August 2015; December 2013; February 2012; April 2010; March 2007.

Notes

- Information on indications for use or diagnosis is assumed to be unavailable. All criteria may be applied retrospectively; prospective application is indicated with an asterisk [*]. The information contained is for the convenience of the public. The Texas Health and Human Services Commission is not responsible for any errors in transmission or any errors or omissions in the document.
- Medications listed in the tables and non-FDA approved indications included in these retrospective criteria are not indicative of Vendor Drug Program formulary coverage.

Prepared by

- Drug Information Service, UT Health San Antonio.
- The College of Pharmacy, the University of Texas at Austin.



TEXAS
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1 Dosage

Nitazoxanide is available as a 500 mg tablet and a 100 mg/5 ml oral suspension. The 500 mg tablet contains greater than recommended amounts of nitazoxanide for pediatric dosing and should not be used in pediatric patients younger than 11 years of age.¹⁻⁵

1.1 Adults

Nitazoxanide is FDA-approved for the management of diarrhea caused by *Giardia lamblia* or *Cryptosporidium parvum* in adults. Adult dosage recommendations for nitazoxanide are summarized in Table 1. Dosages exceeding these recommendations will be reviewed. Table 1. Adult Nitazoxanide Dosage Recommendations¹⁻⁵

Treatment Indication	Available Dosage Strengths	Maximum Recommended Dosage
Diarrhea caused by <i>G. lamblia</i> or <i>C. parvum</i>	500 mg tablet, 100 mg/ 5ml suspension	1 tablet (500 mg) or 25 ml of oral suspension every 12 hours with food for 3 days

Although not FDA-approved, nitazoxanide 500 mg twice daily for 10 days has demonstrated comparable efficacy to metronidazole in managing *Clostridium difficile* colitis in both patients responsive and resistant to metronidazole therapy.^{6, 7} Additionally, nitazoxanide may be proven comparable in efficacy to vancomycin in treating *C. difficile* colitis, although current sample sizes are too small to assess clinical significance.⁸

Nitazoxanide has also shown benefit in treating diarrhea caused by intestinal parasites other than *G. lamblia* as well as rotavirus but does not yet possess FDA approval for these indications.^{9, 10-13}

Nitazoxanide has improved eradication rates compared to standard triple therapy when used as part of a four-drug treatment regimen for *Helicobacter pylori* in treatment-naïve patients but is not FDA-approved for this indication.¹⁴

Nitazoxanide, while not FDA-approved, may be considered as an alternative treatment to manage *Cryptosporidium*-associated diarrhea in adult and adolescent human immunodeficiency virus patients. Dosages utilized are 500 mg to 1000 mg

orally twice daily for 14 days to 8 weeks in conjunction with optimized antiretroviral therapy, electrolyte replacement and symptomatic treatment as well as rehydration.^{2, 3, 15}

1.2 Pediatrics

Nitazoxanide is FDA-approved for the management of diarrhea caused by *G. lamblia* or *C. parvum* in pediatric patients 1 year of age and older. Nitazoxanide pediatric dosage recommendations are summarized in Table 2. Patient profiles containing dosages exceeding these recommendations will be reviewed.

Table 2. Pediatric Nitazoxanide Dosage Recommendations

Treatment Indication	Available Dosage Strengths	Maximum Recommended Dosage Per Age Group*
Diarrhea caused by <i>G. lamblia</i> or <i>C. parvum</i>	500 mg tablet, 100 mg/ 5ml suspension	<ul style="list-style-type: none">1-3 years of age: 100 mg (5 ml as oral suspension) every 12 hours (with food) for 3 days4-11 years of age: 200 mg (10 ml as oral suspension) every 12 hours (with food) for 3 daysGreater than or equal to 12 years of age: 500 mg tablet (or 25 ml as oral suspension) every 12 hours (with food) for 3 days

- * = Tablets are only approved for use in children 12 years of age and older

2 Duration of Therapy

Nitazoxanide is FDA-approved for three days of therapy to manage cryptosporidiosis and giardiasis in immunocompetent adult and pediatric patients, as documented in clinical trials.^{9, 15-17} Treatment durations exceeding these recommendations will be reviewed.

3 Duplicative Therapy

Concurrent administration of nitazoxanide with other approved antibiotic therapies for cryptosporidiosis and giardiasis (i.e., paromomycin, metronidazole, tinidazole, paromomycin plus azithromycin) is not recommended as these combinations do not

provide additional therapeutic benefit and may result in enhanced adverse events. Patient profiles containing adjunctive prescriptions for nitazoxanide and additional cryptosporidiosis or giardiasis therapy will be reviewed.

4 Drug-Drug Interactions

Patient profiles will be assessed to identify those drug regimens which may result in clinically significant drug-drug interactions. The following drug-drug interactions are considered clinically relevant for nitazoxanide. Only those drug-drug interactions classified as clinical significance level 1/contraindicated or those considered life-threatening which have not yet been classified will be reviewed:

4.1 Highly Plasma Protein-Bound Medications

(e.g., hydantoins, salicylates, warfarin) [clinical significance level – 3- moderate (CP)]

Nitazoxanide is rapidly metabolized to tizoxanide following oral administration. Because tizoxanide is highly bound to plasma proteins (greater than 99.9%), caution should be exercised when dosing nitazoxanide concurrently with other drugs highly protein bound possessing narrow therapeutic indices as competition for binding sites may occur with potential for toxicity. However, in an open-label, randomized, crossover study, investigators assessed nitazoxanide effects on warfarin pharmacokinetics and pharmacodynamics after a single warfarin 25 mg dose in 14 adult male volunteers and found that warfarin pharmacokinetic/pharmacodynamic parameters did not change significantly following nitazoxanide administration.¹⁸ Until further confirmatory data are available, it may be prudent to monitor patients for signs of warfarin toxicity and changes in INR when warfarin and nitazoxanide are administered concurrently. Similarly, until contrasting data are available, monitor patients for signs and symptoms of hydantoin or salicylate toxicity when nitazoxanide is administered adjunctively.

5 References

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