



Eklutna Lake in Anchorage, Alaska



**DUQUESNE**  
**UNIVERSITY**  
MYLAN SCHOOL OF PHARMACY

## PIC QUESTION OF THE WEEK: 8/30/10

Q: What is giardiasis and how is it treated?

A: Giardiasis is an intestinal infection caused by the protozoal parasite *Giardia intestinalis* (also known as *G. lamblia* and named for the 19<sup>th</sup> century biologist Alfred Giard). The organism resides in the intestinal tract of infected humans and animals and can be transferred in feces. The parasite can also survive outside of a host for several months in food, soil, or water contaminated by feces. Nearly 60,000 cases of giardiasis were reported to the CDC between the years 2006-2008. Giardiasis is often confused with travelers' diarrhea. Those most likely to acquire the parasite are campers, backpackers, international travelers, and small children who are frequently exposed to infected water, food, or soil. Symptoms usually appear within 1-2 weeks of exposure and can extend for up to six weeks. They include low grade fever, chills, explosive diarrhea, intestinal discomfort, flatulence, dehydration, nausea, and anorexia. Most cases of giardiasis are asymptomatic and do not require treatment. Complications of giardiasis include the development of malabsorption syndrome, failure to thrive, growth retardation, etc. In mild cases, gastrointestinal symptoms may persist for years. Fluoroquinolones are the drugs of choice for travelers' diarrhea; however, they are ineffective in the treatment of giardiasis. Historically, metronidazole (250 mg three times daily for 5 to 7 days or 2 g daily for 3 days) has been considered the drug of choice for giardiasis. The drug is not, however, FDA-labeled for this indication. Common adverse effects of metronidazole include nausea, dizziness, headache, and metallic taste. Tinidazole (Tindamax) and nitazoxamide (Alinia) are FDA-labeled for the treatment of giardiasis. Both are considerably more expensive than metronidazole. In adults, tinidazole should be given as a single 2 g dose and administered with food. Children >3 years of age should receive a single dose of 50 mg/kg. The most common adverse effects of tinidazole are anorexia, constipation, abdominal discomfort, taste disturbances, nausea, and vomiting. Nitazoxamide dosage is 500 mg every 12 hours for 3 days. In children >1 year of age, dosage is 100 mg every 12 hours for 3 days. Adverse reactions associated with nitazoxamide consist of abdominal pain, diarrhea, headache, nausea, and vomiting. Prevention of giardiasis includes proper hand hygiene, careful selection of a water source while camping, swimming, and traveling, avoidance of fecal exposure during sexual activity, and not swimming for at least 1 week after diarrhea has stopped.

### References

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