



## Treatment duration of metronidazole for giardiasis

Dear Editor

[Re: "Appropriate use of metronidazole", BPJ 43, Apr, 2012]. For the treatment of giardiasis, this article recommends a daily 2 g dose of metronidazole x 3 days because it "is as effective as longer courses," citing Gardner and Hill (2001). However, Gardner and Hill (2001) state: "Although the efficacy of three days of 2 to 2.4 g in a single daily dose APPROACHES that of longer regimens, this regimen is NOT recommended" [emphasis correspondents own]. That seems like a big misreading.

Remy Okazaki

(Online comment)

In the metronidazole article (BPJ 43), the Gardner and Hill reference was used for the following sentence: "The single daily dose, shorter course regimen (three days) is recommended as it improves compliance, and is as effective as longer courses". The reference is referring to the latter half of the sentence only, regarding the effectiveness rather than the recommendation. The correspondent is correct that Gardner and Hill did not recommend this treatment and in retrospect this was poorly referenced.

In the review article, Gardner and Hill (2001) discussed a range of treatments for giardiasis. They found that for giardiasis, the efficacy of a three day, higher dose treatment course of metronidazole (93 – 100% efficacy) was comparable to that of the more conventional five to ten day, lower dose

treatment course (60 – 100% efficacy).<sup>1</sup> They, however, did not recommend the shorter course of treatment because at the time, giardiasis was not an approved treatment indication for metronidazole and there was concern that the higher doses may be associated with increased adverse effects.<sup>1</sup> These include headache, nausea, vertigo and a metallic taste in the mouth.

However, since 2001, in the context of more recent medicine approvals and further experience in regards to adverse effects, the three day course of metronidazole has become more standard within medicine formularies. For example:

- New Zealand Formulary: Metronidazole for giardiasis; oral Adult 2 g, daily, for 3 days, or 400 mg, 3 times daily, for 5 days [unapproved dose], or 500 mg, twice daily for 7–10 days [unapproved dose]
- New Zealand Formulary for children: Metronidazole for giardiasis; oral child 1 – 3 years 500 mg, once daily, for 3 days, child 3 – 7 years 600 – 800 mg, once daily for 3 days, child 7 – 10 years 1 g, once daily, for 3 days, child 10 – 18 years (see adult dose)
- British National Formulary: Metronidazole for giardiasis; 2 g daily, for 3 days, or 400 mg, 3 times daily, for 5 days, or 500 mg, twice daily, for 7–10 days; child 1–3 years 500 mg, daily, for 3 days; 3–7 years 600–800 mg, daily, for 3 days; 7–10 years 1 g, daily, for 3 days
- AHFS drug information (United States): For the treatment of giardiasis, the the usual dosage of oral metronidazole for adults is 250 mg 3 times daily for 5–7 days. Adults have been treated successfully with a single daily dose of 2 g for 3 days. For adults with coexistent amebiasis, the usual dosage is 750 mg 3 times daily for 5 – 10 days.

Ornidazole for one to two days is an alternative first-line treatment for giardiasis.

 **Best Practice Tip:** Check the latest version of the bpac<sup>nz</sup> antibiotic guide for the most up to date advice about antibiotic treatments for common infections managed in general practice.

### Reference:

1. Gardner TB, Hill DR. Treatment of giardiasis. Clin Microbiol Rev 2001;14(1):114-28.

## Formula for home-made oral rehydration solution

*What is the current recommendation for a home-made oral rehydration solution if pre-prepared products are not available?*

*(online comment)*

A quick internet search, and indeed a search of our own articles on the bpac<sup>nz</sup> website, will result in several slightly different recommendations for a recipe for home-made oral rehydration formula to treat dehydration, e.g. in people with diarrhoea managed at home. The reason for this is that the recommended formula has changed over recent years to include less salt and glucose.

The currently recommended formula for oral rehydration solution from the World Health Organisation is:

- 6 teaspoons of sugar
- ½ teaspoon of salt
- 1 litre of drinking water

See: <http://rehydrate.org/solutions/homemade.htm>

Patients/caregivers should be advised to measure these amounts carefully, and not to make the solution more concentrated – too much sugar can worsen diarrhoea and too much salt can cause adverse effects such as water retention and increased blood volume. Making a more diluted solution (i.e. a little more than 1 L of water) is not harmful. The solution can be stored in a cool place, or refrigerated. It should not be stored for longer than 24 hours.

Commercial rehydration products (which come in various flavours) that are available in New Zealand include:

- Enerlyte, Gastrolyte, Hydralyte and Pedialyte sachets for solution
- Gastrolyte, Hydralyte and Pedialyte tablets for solution
- Hydralyte oral liquid and ice block sachets, and Pedialyte oral liquid

Pedialyte oral liquid and Enerlyte sachets are fully subsidised for patients on prescription, with 10 Enerlyte sachets subsidised on a PSO. Products may also be purchased from pharmacies and supermarkets.

For children who are dehydrated, oral rehydration solution should be encouraged frequently, in small amounts. As a general guide, give 50 mL/kg over four hours. Oral rehydration solutions are not usually required for adults with dehydration being managed at home, however, the same formula as for children can be used. Adults with dehydration should increase oral fluid intake to 2 L per day.

See: National Institute for Health and Care Excellence (NICE). Diarrhoea and vomiting in children. Available from: <http://publications.nice.org.uk/diarrhoea-and-vomiting-in-children-cg84/guidance>

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