

Alternative Treatment for C. Diff Infections

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Arizona and the rest of the nation is now plagued with the gut infecting bacteria *Clostridium difficile*, which most know as C. diff. These bacteria used to grow in our GI tracts when our normal bacteria were damaged by too many antibiotics, but we now have a problem with this bug because it has become resistant to many of our more commonly used antibiotics.

A study from 1996 shows how xylitol may help this problem. Researchers in Estonia looked at what xylitol, which they and their Finnish neighbors commonly call birch sugar, does to the ability of these bacteria to hold on to the cells in the GI tract. The following is the abstract of their study from the National Library of Medicine:

For many microorganisms, including *Clostridium difficile*, mucosal association is an important factor influencing intestinal colonisation and subsequent infection. Inhibition of adhesion of *C. difficile* to intestinal mucosa could be a new promising strategy for prevention and treatment of antibiotic-associated diarrhoea. We investigated the possibilities of influencing the adhesion of *C. difficile* by xylitol and bovine colostrum whey. Caco-2 cells and *C. difficile* cells were incubated with 1%, 5% and 10% solutions of xylitol and colostrum. Our study revealed that both xylitol and colostrum inhibited the adhesion of *C. difficile* to Caco-2 cells. Inhibition by xylitol was dose-dependent. When compared to the control, the count of adherent *C. difficile* decreased 3.4 times when treated with 1% xylitol, 12 times when 5% xylitol was applied, and 18.7 times when treated with 10% xylitol. The inhibition of adherence by colostrum was partially dose-dependent: 3.1 times in the case of 1%, and 5.5 times in the cases of 5% and 10% colostrum. Further experimental and clinical studies are needed for the application of xylitol and colostrum in the treatment and prophylaxis of pseudomembranous colitis. PMID: 8856319 [PubMed – indexed for MEDLINE] Unfortunately the further studies have not been done, likely because there is no ‘drug level’ profits available from this ‘drug use’ of the unregulated and generally available xylitol. But the rationale for its use is clear, especially when one wants **not** to increase the antibiotic resistance of these already highly resistant bacteria. Xylitol and other sugars that interfere with bacterial adherence are unique here for the action of interfering with adherence does not trigger a threat like antibiotics do which stimulate the development of resistance. For more about this peacemaking aspect of our warfare with bacteria see the chapter dealing with this subject in *The Boids and the Bees*.

The authors also show a benefit from colostrum which is also available at your local health food store. And now others are claiming benefits from specific probiotics. We recommend *playing* with all three, playing because that is the only way to individualize treatment.

Recommendation

When you suspect you have a problem because of bloody and frequent diarrhea first of all confirm it by a stool specimen with your primary care physician and talk about treatment which should include sharing this information. Xylitol, when taken in the amounts needed, may cause loose stools itself, but they will not be bloody. Liquids are needed whenever diarrhea is a problem and oral rehydration is the best option. (<http://www.nasal-xylitol.com/evolutionary.htm#oralrehydration> is our web page telling how to make and use this solution.) Oral rehydration keeps the fluids in your body close to normal despite the diarrhea. In this case early treatment should include a rounded teaspoon of xylitol in every quart of oral rehydration and you should

drink at least three quarts a day plus an estimate of what you lose in diarrhea. A rounded teaspoon in a quart is approximately the 10% the researchers found best, but since it was dose dependent you can go up—which may likely lead to more loose stools. Play with it and see.

At the same time start taking the colostrum. This is available mostly in powdered form that can be dissolved in the oral rehydration along with the xylitol. Start small, like a teaspoon in each quart, and increase if you see a benefit, but the researcher did not see added benefit after two teaspoons.

One of the best probiotics we have seen and have personal experience with is *Prescript Assist*, and their recommendation for diarrheal problems is two tablets three times a day. While this recommendation is specifically for irritable bowel their very successful and significant research was done with bacterial caused diarrhea, which is not unlike *C. diff*.

Unless you get a lot worse awfully fast, in which case you belong in a hospital, play with these three factors for three days before taking the antibiotic that your physician likely recommended. It may take longer for your body to get rid of these bacteria than the three days so if the diarrhea disappears you can stop the oral rehydration but continue the three elements for at least two or three weeks to make sure your bacteria are back to normal.