



## **Nutrition Tips From the Emergency Physician**

By Harpreet K. Ghuman, MD and Dr. Catherine A. Marco, MD, FACEP

*University of Toledo Medical Center*

Nutrition in the Emergency Department? Has this ever come up in your practice? Rarely, do we address nutritional issues as emergency physicians. At times, patients ask me for nutritional advice or alternative methods to help with their disease processes. They want to know alternatives or what they can do to boost their energy, decrease headaches, or what they can do to stay in shape. In other cases, patients may have a viral syndrome or other nonemergent condition that does not require prescription medication, but may benefit from nutritional support.

Most of the time as emergency physicians, our own nutrition may be less than ideal. This might make it difficult to provide sincere advice to patients. After all, our break rooms are stocked with graham crackers, peanut butter and saltine crackers!

This article will help us to explore nutritional recommendations that can be added to our patients' management. Some simple tips can go a long way.

Sound nutritional practices are important in promoting overall health, longevity, weight control, and disease prevention. Recommendations by the American Dietetic Association

include a diet based in fruits, vegetables, whole grains, and lean protein. Additional resources from the ADA for health professionals are available on their website.

We commonly prescribe several antibiotics every shift and some patients develop diarrhea as a side effect. Many of our patients tend to stop their antibiotic treatment due to side effects. Probiotics may be a way to increase compliance in our patients. Several studies have shown benefit of probiotics for antibiotic-associated diarrhea, as well as numerous other medical conditions, including upper respiratory infections, gastroenteritis, and allergies.

Probiotics are live microorganisms that at certain dosages are found to be beneficial and provide a significant health benefit. They modify the microflora of the intestine, which results in antibacterial substances being secreted. The probiotics compete with pathogens to prevent adherence to the intestinal epithelium. Probiotics are found in many different forms such as pills, powder, milk, and yogurt. Probiotics can be purchased in the capsule form over the counter. As emergency physicians, we might recommend probiotics as capsules, or in yogurt for our patients on antibiotics or with other conditions.

There are several studies that show statistical significance for antibiotic associated diarrhea reduction in patients taking probiotics as compared with placebo. The recommended dose is 1 and 10 million colony-forming units (CFU) daily. Also, a meta-analysis done by Johnston et al. (2007) showed evidence that a dose of 5-40 billion CFU/day of *S.bouardii* or *Lactobacillus GG* (LGG) had the most promise of decreasing antibiotic associated diarrhea.

We prescribe children with several antibiotics throughout their years while treating common infections such as otitis media and pharyngitis. It was found in a study that probiotics helped reduce the risk of antibiotic associated diarrhea by 75% in children in the United States.

Wound healing is another common problem we encounter in the ED. Many patients have diabetes, which hinders wound healing even further. Vitamin C has been found to help promote wound healing in patients with or without comorbidities. Vitamin C is needed for growth and repair of tissues and is one of many antioxidants. It has also been found to boost the immune system and can prevent allergic reactions. We can recommend citrus fruits including oranges, pineapple, strawberries and vegetables including broccoli, spinach or tomatoes to our patients.

We can provide nutritional recommendations to all of our patients whether they are admitted or discharged from the ED. Some patients may benefit from a referral to a registered dietician, in addition. We must do our part to stay current with the medical literature regarding nutrition and provide sound advice and resources to emergency patients that can benefit from nutritional counseling.

Sample Nutritional Recommendations for Emergency Department Conditions

<b>Diagnosis</b>	<b>Nutritional Recommendation</b>
Upper respiratory infection	Zinc, Vitamin C, probiotics
Diarrhea	Probiotics
Constipation	Probiotics, prebiotics, soluble and insoluble fiber
Wounds	Vitamin C, zinc
Diabetes	Whole grains, vegetables, lean protein
Hypertension	Low salt, whole grains, fruits, vegetables, lean protein, dark chocolate
Migraine headache	Hydration, Omega-3-fatty acids, riboflavin, magnesium
Arthritis	Omega-3 fatty acids, antioxidants
Inflammatory Bowel Disease	Prebiotics, probiotics, vitamin supplements
Overall good health	Whole grains, fruits, vegetables, omega-3-fatty acids, antioxidants, probiotics

## References

Doron S1, Gorbach SL. Probiotics: their role in the treatment and prevention of disease. *Expert Rev Anti Infect Ther.* 2006 Apr;4(2):261-75.

Johnston, B., Supine, A., Ospina, M., & Vohra, S. Probiotics for the prevention of pediatric antibiotic associated diarrhea. *Cochrane Database of Systemic Reviews*, 2. 2007.

Jones, Kathleen, MSN, CPNP. "Probiotics: Preventing Antibiotic-Associated Diarrhea." *JSPN Vol. 15, No. 2, April 2010.* Page 1-4.

Lee, JS., Lee, MS., Min, K. Acupressure for treating neurologic disorders: A systemic review. *Internation J of neuroscience.* 2011, Aug. 121, 409-14.

Lehtoranta L1, Pitkäranta A, Korpela R. Probiotics in respiratory virus infections. *Eur J Clin Microbiol Infect Dis.* 2014 Mar 18. [Epub ahead of print]

Saavedra, J. Probiotics plus antibiotics: Regulating our bacterial environment. *Journal of Pediatrics.* 1999. 135, 535-537.

Shailja Chambial<sup>1</sup> Vitamin C in Disease Prevention and Cure: An Overview. *Indian J Clin Biochem.* 2013 Oct; 28(4): 314-328.

Szajewska H1, Guarino A, Hojsak I, Indrio F, Kolacek S, Shamir R, Vandenplas Y, Weizman Z. The Use of Probiotics For The Management of Acute Gastroenteritis. A Position Paper By The Espghan Working Group For Probiotics. *J Pediatr Gastroenterol Nutr.* 2014 Jan 23. [Epub ahead of print]

Vanderhood, J.A., Whitney, D.B., Antonson, D.L. Lactobacillus GG in the prevention of antibiotic associated diarrhea in children. *Journal of pediatrics.* 1999. 135, 564-568.

<http://www.eatright.org/HealthProfessionals/content.aspx?id=6862>