

The Allergy & Asthma Clinic

www.TheAllergyClinic.com

Andrew C. Engler, M.D.

290 Baldwin Avenue, San Mateo, California 94401
(650) 343-4597 FAX (650) 343-3402

Newsletter

www.theallergyclinic.com

April 2019

Does the key to preventing allergies and asthma begin with our gut microbiome?

Dr. Engler, as well as our Nurse Practitioners at The Allergy and Asthma Clinic, attended the annual AAAAI conference in February, staying up to date on the latest in allergy and asthma research. A key area of research discussed at this conference was the study of the human microbiome and the role that the microbes in our gut play in our immune systems.

Studies of the human microbiome started as early as the 1600's, but more recently researchers have been trying to identify the role that gut flora have in the development of allergies and asthma. The question at the center of this discussion is this: Why do some children get asthma and allergies and some don't?

An article published September 12, 2016 in *Nature Medicine*, sought to examine this question. Their research showed that the gut microbes present in some 1-month-old infants predict a three-fold higher risk of developing allergic reactions by age 2 and asthma by age 4. The article demonstrates that a particular pattern of microbes living in a baby's gut during its first year of life may directly impact a developing immune system. And not having enough of these microbes could lead to the eventual development of allergies and asthma later in childhood. Co-senior author, Susan Lynch, PhD, a UCSF professor of medicine, who spoke at the AAAAI conference, says she "believes the discovery represents an opportunity to develop new treatments that could stave off allergies and asthma before they become established". She detailed research currently being conducted on the introduction of probiotics in early infancy that may help to prevent the development of allergies and asthma.

Numerous studies have shown that early exposure to beneficial microbes in the environment can have a positive health benefit for the host. In particular, research has found factors such as breastfeeding and vaginal births (as opposed to C-sections) are both associated with protective effects against the development of allergies and asthma. In addition, a 2015 study from British Columbia (Arrieta et.al) demonstrated that infants with low levels of four specific types of gut bacteria were significantly more likely to show early warning signs of asthma (such as atopy and wheezing) at their first

birthdays compared to infants with normal levels of these gut microbes.

While there is still a lot of research to be done to help identify the specific bacteria that may be helpful in preventing allergies and asthma, there certainly are some take home points that we can think about and this is definitely a growing field of research to pay attention to. For instance, when taking antibiotics for an infection, consider taking probiotics to help restore gut flora, both during the course of antibiotics and for several weeks after. It may also make you think twice about taking a course of antibiotics when you really do not need them, as the antibiotics can disrupt your gut flora. And, in case breastfeeding didn't already have enough documented health benefits for infants, microbial exposure can be added as another potential benefit of breastfeeding.

So what actually is a Probiotic? A Probiotic is a live microorganism that provides a health benefit to the host when present in adequate amounts. It has been recognized for many years that certain microorganisms may be helpful to humans. It is important to note that not all probiotics are created equally, nor do they contain the same microbes. An article published in 2012 by Matthew Ciorba "A Gastroenterologist's guide to Probiotics" details several different commercially available probiotic products and the literature on their effectiveness in helping with certain GI conditions such as Ulcerative colitis, IBS, Crohn's disease, and others. While much research is still being conducted for allergic conditions, we can turn to gastroenterology for at least some guidance on brands to consider purchasing. Some of the brands recommended in this article, as they have been studied in greater detail, include: Align, Activia, BioGaia, BioK+, Culturelle, DanActive, Florastor, MutaFlor, & VSL-3.

Of note, probiotics are considered dietary supplements. Thus, they are not typically covered by medical insurance and their production is not regulated by the Food and Drug Administration. However, several clinically tested probiotic products with quality-controlled production are now available on the market. Be sure to follow the manufacturer's instructions on whether to take it with or without food, and note that many recommend that you do not take it with a hot beverage as probiotics are vulnerable to heat. It may be a good time to consider adding some probiotics to your life and keep your gut healthy!