Probiotics & Prebiotics
Digestive Microorganisms

NONPROFIT BREASTFEEDING CENTER
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What are probiotics? Probiotics are microorganisms (live bacteria) that live in and on our bodies and have a beneficial effect on our health. There are many different beneficial species (or strains) of bacteria in the human digestive tract (also known as the gut or intestine). Probiotics may be taken as a powder or in capsule form; probiotics are also found in fermented foods, like yogurt, kefir, kimchi, sauerkraut, miso and tempeh.

What are prebiotics? Prebiotics promote the growth of healthy bacteria in the digestive tract. They serve as food for probiotics. Bananas, onions, garlic, leeks, artichokes, asparagus, oatmeal and legumes are all considered prebiotics. Humans are dependent on certain gut microorganisms for optimal health.

What do digestive microorganisms (the gut "microbiome") do?

- **They break down undigested food.** This releases micronutrients (like vitamin K) so we can absorb and use them.
- **They defend the digestive tract** from invasion by harmful microorganisms by competing with them.
- **They influence the immune system of the digestive tract.** This maintains a healthy balance that aids defenses against harmful pathogens and can decrease excessive inflammation. This healthy balance is also involved in maintaining oral tolerance (when the digestive tract knows that the food we eat is foreign to our bodies but is harmless and can safely be allowed to enter our body.)

Research indicates that symptoms of a food allergy or sensitivity in infants (especially eczema; an allergic rash) may be reduced when:

- Pregnant mothers maintain a good bacterial balance in their digestive tract by taking certain strains of probiotics, and/or,
- Infants are given probiotics directly to impact their intestinal flora.

There is NO agreement on which strains are the most helpful, and whether certain geographic regions are more likely to be helped by a certain strain. Research continues!

Several of the bacteria are felt to help the immune system in the gut wall learn to tolerate foreign proteins – especially lactobacillus rhamnosus, which has been shown to decrease the allergic skin rash called eczema in infants and toddlers. Other Lactobacillus strains in this product include L. plantarum, which appears to help keep tighter junctions between gut cells and L. acidophilus. The two Bifidobacteriam strains are B. lactis, which is felt to help the immune system function optimally, and B. infantis, which has been shown to improve fussiness in babies < 3 months old. All of these are bacteria normally present in a breastfed baby's bowel. Probiotic preparations containing multiple strains may be preferred if you want to try to improve the microflora after your baby was born via Cesarean or has received antibiotics.

Specific Probiotics for Infants available at MilkWorks:

- **LoveBug Infant Probiotics for Colic, Reflux, Diarrhea, Constipation, & Gas** is a mixture of 6 different bacteria strains of Lactobacilli and Bifidobacteria (Bifidobacterium Lactis, Lactobacillus Reuteri, Lactobacillus Plantarum, Lactobacillus Acidophilus, Lactobacillus Rhamnosus GG, Bifidobacterium Infantis) that are normally found in the intestines of healthy breastfed babies. *PLEASE NOTE: THIS PREPARATION ALSO **CONTAINS VITAMIN D**! If your baby is already receiving Vitamin D drops, or more than ½ of their daily intake is from formula, please talk to your baby's provider before using this product.*

- **Legendairy Milk Probiotic Organic Drops** is a mixture of 4 different probiotic strains of Lactobacilli and Bifidobacteria (Lactobacillus Rhamnosus GG, Lactobacillus Reuteri, Bifidobacterium Infantis, and Bifidobacterium Longum) that are normally found in the intestines of health breastfed babies. PLEASE NOTE: THIS PREPARATION ***DOES NOT* CONTAIN VITAMIN D**!

The American Academy of Pediatrics recommends an exclusively breastfed baby receive 400 IU vitamin D daily.

Specific Probiotics for Adults available at MilkWorks:

- **Target b2** contains Lactobacillus Fermentum (CECT5716), which is clinically demonstrated to support breast health and improve breast pain that is thought to be due to an imbalance of the breast "microbiome," or the types of bacteria living in the breast. This condition is called "mammary dysbiosis" or "subacute mastitis." (Please see Plugged Ducts/Mastitis Handout for more information)

- **Therbiotic Complete** contains high doses of seven strains of Lactobacilli, four strains of Bifidobacteria, and Streptococcus thermopiles for mothers who feel they need a more comprehensive probiotic to optimize their gut health (eight of these strains are the same strains found in the Therbiotic Infant Formula probiotic).

How to Handle and Store Therbiotic Probiotics: Refrigeration is recommended, but the capsules and infant powder are stable at room temperature for short periods of time. If you are traveling, carry only the amount that you will consume. You may keep them outside a refrigerator for a week or two at room temperature.

All probiotic products are live cultures of friendly bacteria. Their effectiveness can be adversely impacted by prolonged exposure to high temperatures and humidity.

- Store bottles in the refrigerator with the cap tightly closed whenever possible.
- Avoid handling the capsules and putting them back in the bottle.
- Do not mix with hot food or beverages. High temperatures will kill the live microorganisms. Mix or take probiotics with cold or slightly warm liquid

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