

## INTRODUCING FOOD TO THE INFANT WITH FPIES

**Food Protein–Induced Enterocolitis Syndrome (FPIES)** is a non-IgE mediated food allergy. FPIES has a different presentation than the more common IgE mediated food allergy. Both types of food allergies occur when the immune system mistakenly treats a particular food as if it's dangerous - an overreaction to a specific part of the food. Individual reactions in each type of food allergy differ; the description below is a general reference. The distinguishing feature of FPIES diagnosis vs IgE Food Allergy is a delayed onset of repetitive projectile vomiting, pallor and lethargy, along with corresponding lack of respiratory and skin related allergic reaction.

	FPIES Food Allergy	IgE Food Allergy
<b>Immune Pathway</b>	Non-IgE	IgE
<b>Common Allergens</b>	Cow's Milk, Soy, Rice, Oat, among others	Top 8: Cow's Milk, Soy, Egg, Wheat, Peanut, Tree-nuts, Fish, Shellfish
<b>Allergen in the food</b>	Unknown	Food protein
<b>Reaction Symptoms</b>	Gastrointestinal: Vomiting (severe/projectile), Diarrhea, Dehydration, Lethargy, Pallor. Also possible although rare is a dangerous drop in blood pressure (hypotension).	Usually involves the Skin (hives, flushed, itching) or Respiratory system (coughing, wheezing). Also possible symptoms are stomach pain, vomiting, diarrhea, lethargy, voice changes, sweating, dizziness, fainting, swelling of lips, tongue and throat.
<b>Reaction Time</b>	Delayed, 2-4 hours after ingestion	Immediate (usually): within minutes after ingestion, up to hours
<b>Testing</b>	Oral Challenge	Skin Prick or Blood Testing, Oral Challenge
<b>Treatment</b>	Rehydration, steroids, O2, vasopressors	Epinephrine (in cases of anaphylaxis)

The actual offending foods in FPIES vary around the world, highlighting the likely role of ethnic, dietary, and geographic differences in the development of each individual allergy, and the difficulty in predicting future offending foods. In the US, [Cow's Milk](#), [Soy](#), [Rice](#), and [Oat](#) are the most common.

Other foods that may trigger a FPIES reaction:

- **Grains:** barley, corn
- **Meat and Poultry:** beef, chicken, turkey, egg
- **Vegetables:** white potato, sweet potato, squash, string bean
- **Fruit:** tomato
- **Legumes:** peanut, green pea, lentil
- **Tree-nuts**
- **Mushrooms**
- **Seafood:** fish, shellfish, crustaceans, mollusks
- *Saccharomyces boulardii*, a probiotic yeast

### BREASTFEEDING

It is **rare** for a child to develop FPIES to a food allergen transmitted through breast milk. The lower total dose of food allergens in breast milk may **reduce the likelihood of a FPIES reaction** because simply not enough of the offending allergen may be present. It is also thought that breastfeeding may reduce the risk of FPIES because of immune factors (specifically IgA) that are transmitted through a mother's milk. Typically a FPIES reaction will occur with **direct feeding of the solid food**; however it may not occur with the first feeding.

## GUIDELINES TO INTRODUCING SOLID FOODS

**Nutritional Management** → **Eliminate trigger food/foods** + **Nutritional support to avoid deficiencies**

*Once you have successfully eliminated the offending food, now consider what to offer to your infant. Your Allergist may have very specific food introduction guidelines and recommendations of what foods will likely be safe. However, as each individual reaction is different, the potential food triggers may be difficult to predict.*

Guidelines by the American Academy of Pediatrics recommend **introducing solid foods to a potentially allergic baby at 4-6 months of age**, when the infant displays cues of readiness (good head control, sits upright). Some experts recommend delaying introduction or an in-allergist office oral challenge of high-risk foods that are commonly implicated in FPIES (cow's milk, soy, grains, legumes, and poultry). However this recommendation is not evidenced based, do follow the recommendations of your Allergist.

Additionally, your Allergist may recommend:

- Use a single new food introduction schedule, starting with a small amount ¼ tsp and gradually increase
- Trial a new food only 1 time per week, ideally during the day to monitor for delayed reaction

After 3-4 separate exposures to the food, with no reaction, you can assume the food is safe to include in your infant's regular diet. The total dose should be an expected serving size, which will depend on age and oral skills, ask your Allergist for more details.

### Sample Food Introduction for the Infant with FPIES\*

**Fruits and Vegetables:** All, no restrictions other than appropriate texture for your infant (i.e. no grapes, choking hazard). Can try mashed Avocado, Pear sauce or Apple sauce, steamed mashed Plum or Peach, pureed Spinach or Chard, steamed mashed Carrots.

**Grains:** Use caution; especially avoid Rice, Oats, Buckwheat/Kasha. Allergist may suggest a home or in-office Wheat challenge, can wait until 1 year of age.

**Meats/protein:** Lamb, Chicken, Turkey, Beef (may delay if FPIES is related to Cow's Milk), Fish, Eggs, soft/mashed Beans: Garbanzo, Black, Pinto, and Cannellini.

**Fats:** Suggest Olive oil, Coconut oil, Canola oil, Avocado. No butter or ghee if FPIES is related to Cow's milk.

**Dairy:** No liquid cow's milk until age 1 year. Additional dairy products, i.e. yogurt, or alternative sources of dairy will be based on the type of FPIES. Please note, most 'substitutes' for dairy products are soy based, or nut (almond), and may be high risk depending on the type of FPIES and associated factors. Breastfeeding typically has no added risk, confirm with your Allergist.

*\*Note, this is a sample plan only; individual recommendations will differ depending of specific type of FPIES and a constellation of other factors.*

### Does my child require a multivitamin or other supplementation?



Per the American Academy of Pediatrics, all exclusively breastfed infants require 400 IU vitamin D supplementation until age 1 year. If multiple foods are avoided, your child may be at risk for other vitamin or mineral deficiencies. Consult your Pediatrician, Allergist, or Registered Dietitian for more information.

### References:

American Academy of Pediatrics, <http://pediatrics.aappublications.org/content/122/5/1142.short>. Accessed Sept 2015.

Feuille E, Nowak-Węgrzyn A. Food Protein-Induced Enterocolitis Syndrome, Allergic Proctocolitis, and Enteropathy. *Current Allergy and Asthma Reports*. 2015 Aug;15(8):50.