Managing Food Protein-Induced Enterocolitis Syndrome (FPIES)

Food protein-induced enterocolitis [en-ter-oh-kuh-LAI-tuhs] syndrome (FPIES) is an immune reaction in the gut to one or more specific foods. The common symptoms are extreme vomiting and diarrhea.

Almost any food can cause an FPIES reaction. FPIES reactions often show up when an infant is exposed to a food for the first time. Over time, FPIES can result in poor growth from malabsorption and chronic diarrhea. When the problem food(s) is removed from the diet, all FPIES symptoms clear up.

FPIES Signs and Symptoms

Common signs and symptoms of FPIES include:

- Forceful and repeat vomiting 1-4 hours after eating
- Diarrhea (sometimes bloody, 6 hours after eating)
- Pale or ashen skin color
- Sleepy or lethargic
- Limp

Severe vomiting and diarrhea can cause dehydration and hypovolemic [hi-poh-vuh-lee-mik] shock. Hypovolemic **shock is a potentially life-threatening condition** needing urgent medical care. The body loses enough water from vomiting or diarrhea that it can't get enough blood to all the organs.

Shock is a medical emergency. Signs of shock include:

- Weakness, dizziness, and fainting
- Cool, pale, clammy skin
- Weak, fast pulse
- Shallow, fast breathing
- Low blood pressure
- Extreme thirst, nausea, or vomiting
- Confusion or anxiety

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Treating FPIES

FPIES is a cell-mediated food allergy. FPIES involves immune cells (cell-mediated) instead of an IgE (Immunoglobulin E) antibody like a typical food allergy. So the treatment for an FPIES reaction is different than how other food allergies are treated.

Always follow your doctor's emergency plan for your specific situation. Many children can be re-hydrated at home. Infants often respond well to nursing/breastfeeding.

Zofran (ondansetron) can be given at home or in the hospital to help stop vomiting. It can be given by mouth as a dissolving tablet, or by a shot or intravenous (IV) infusion in the health care setting. Using Zofran early in FPIES vomiting lowers the chances of needing IV fluids.

For mild to moderate reactions, Zofran and at home feeding are the first options. The child may appear sleepy, or may nap, but then wake up and feed normally.

For more severe FPIES reactions, emergency care is needed when the:

- Vomiting does not respond to Zofran (if used)
- Vomiting leads to dehydration (with or without Zofran use)
- Child appears unusually lethargic or non-responsive
- Child cannot or refuses to take fluids at home

If your child is experiencing symptoms of severe FPIES or shock, contact 911 right away. If you are uncertain if your child is in need of emergency services, contact 911 or your doctor for guidance.

The most critical treatment during a severe FPIES reaction is IV fluids. IV fluids can reverse shock from the vomiting or diarrhea. Children experiencing more severe symptoms may require in-hospital monitoring.

Unlike IgE-mediated allergies, **FPIES reactions are not treated with epinephrine**. None of the symptoms in FPIES would be fixed by epinephrine.

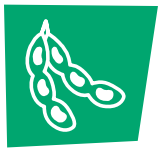
Common FPIES Triggers

The most common FPIES triggers in the U.S. are:

Dairy (milk)

Rice

Oat



Soy

Other common FPIES triggers include:

- Wheat
- Barley
- Green beans
- Peas
- Sweet or white potatoes
- Squash (and other starchy vegetables)
- Poultry
- Egg
- Peanut
- Banana
- Seafood (growing trend for FPIES in adults)

Most people have FPIES to just one food, but a small percentage may react to 2 or more foods. A reaction to one food does not mean that other foods will be an issue.

Diagnosing FPIES

FPIES is difficult to diagnose. Doctors make the diagnosis entirely by symptoms. Vomiting from FPIES may look like someone has a stomach bug. This can make an FPIES reaction hard to spot.

Is it FPIES or a stomach bug?		
Feature	**FPIES**	**Stomach bug**
Cause	Abnormal immune response to a specific food	An infection from viruses or bacteria in the stomach and gut
When symptoms start	Delayed 1-6 hours after eating the food	Immediate onset after eating contaminated food or soon after exposure to sick person
Symptoms	• Severe, repeat vomiting • More rarely, diarrhea (can be bloody) • Pale appearance • Limp • Tired/lethargic	• Nausea • Vomiting • Stomach cramps • Watery diarrhea • May include muscle aches or headache
Fever	No	Maybe
How long it lasts	Typically resolves in a few hours after the food has been digested	Typically lasts a few days
Does it come back	Eating the trigger food will cause the symptoms to return	Symptoms do not return after recovery
Contagious	No	Other people in the household may also be sick

The most accurate way to diagnose FPIES is through an oral food challenge. This is done to prove that:

- A trigger causes FPIES
- A potential trigger is safe after developing FPIES to another food
- FPIES has been outgrown

FPIES oral challenges involve eating a small amount of the food under medical supervision. The child is observed for symptoms for up to approximately 4 hours after finishing the dose.

The patient can be "cleared" of FPIES or risk of FPIES to that food if they tolerate the dose. Careful watching at home may be needed after tolerating an in-office trial of a food.

Food allergy tests do not help diagnose FPIES, since FPIES is not brought on by IgE antibodies.

Managing FPIES

Avoidance of the known trigger(s) is the main strategy to manage FPIES. But practices can vary, depending on the patient, their specific reactions, and the treating clinician's experience.

Avoiding foods unnecessarily beyond the known triggers may worsen the risk for developing an IgE-mediated food allergy. It is more common to offer food challenge to test tolerance of the other common FPIES triggers.

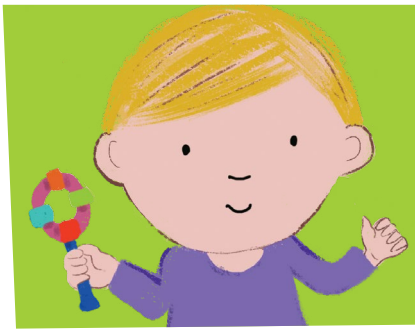
New foods are usually introduced very slowly, one food at a time, for an extended period of time per food.

Emergency care plan for someone with FPIES:
FPIES is a rare but serious condition. In an emergency, it is vital to get the correct treatment. Most doctors provide their patients with a letter containing a brief description of FPIES and its proper treatment. You can download a sample letter at: **kidswithfoodallergies.org/fpies**

Is FPIES a Lifelong Condition?

FPIES is typically not a lifelong condition. Many children outgrow FPIES between 12-36 months after their first reaction, though it can vary. A very small percentage will continue to have FPIES into their teenage years. Adults can also develop new-onset FPIES, and it is unclear how long such cases last.

Together with your child's doctor, you should determine if and when to consider a food challenge.



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Kids with Food Allergies

For more information on FPIES, visit: **kidswithfoodallergies.org/fpies**

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