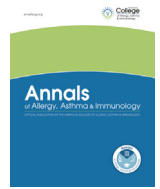




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## Perspective

# Dietary management of food protein–induced enterocolitis syndrome during the coronavirus disease 2019 pandemic



Marion Groetch, MS, RDN<sup>\*</sup>; Raquel Durban, MS, RDN<sup>†</sup>; Rosan Meyer, PhD, RD<sup>‡</sup>;  
Carina Venter, PhD, RD<sup>§</sup>; Anna Nowak-Wegrzyn, MD, PhD<sup>||,¶</sup>

<sup>\*</sup> Pediatric Allergy and Immunology, Icahn School of Medicine at Mount Sinai, New York, New York

<sup>†</sup> Asthma & Allergy Specialists Professional Association, Charlotte, North Carolina

<sup>‡</sup> Department of Paediatrics, Imperial College, London, United Kingdom

<sup>§</sup> Section of Allergy and Immunology, Children's Hospital Colorado, University of Colorado, Aurora, Colorado

<sup>||</sup> Allergy and Immunology, Department of Pediatrics, Hassenfeld Children's Hospital, New York University School of Medicine, New York, New York

<sup>¶</sup> Department of Pediatrics, Gastroenterology and Nutrition, Collegium Medicum, University of Warmia and Mazury, Olsztyn, Poland

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As communities struggle to adapt to life under the threat of the global coronavirus disease 2019 (COVID-19) pandemic, those living with food protein–induced enterocolitis syndrome (FPIES) must adapt to additional difficulties. Social distancing and shelter-in-place strategies have been implemented, resulting in fewer supermarket trips, stockpile-purchasing behaviors in up to 74.5% of those surveyed,<sup>1</sup> and shortages of staple food items, all with a potential effect on the availability of foods for those on limited diets. Concern about allergic reactions make exploring alternative or new ingredients undesirable or untenable. Remaining safe at home is important to avoid trips to the emergency department, where families may be exposed to the severe acute respiratory syndrome coronavirus 2 and medical attention can be limited because of the burden on global health systems. Parents of children with FPIES are also understandably concerned about meeting their child's nutritional needs during these times of sheltering in place. Now more

than ever, advice on what foods to serve and when to serve them is critically important.

## Choosing New Products

In a March 2020 poll of 2000 consumers in the United Kingdom, Canada, and the United States,<sup>2</sup> more than 40% of consumers said they would purchase less familiar brands if their preferred brand was not available; however, for consumers with FPIES, alternative brands add a layer of uncertainty. Branching outside the foods the child has safely eaten in the past can seem risky in the current environment, and families may chance multiple trips to markets with diminished options to find familiar foods rather than try something new. Therefore, it is important that families feel confident in reading product labels because new products may be the better or only option. For most children with FPIES, the risk of reacting to trace exposures because of cross-contact is low<sup>3</sup> (Fig 1). Products may contain unfamiliar ingredients that are confusing, and parents might worry that these ingredients will perhaps trigger a reaction. Generally safe ingredients that are not likely to trigger a reaction are listed in Figure 1. Label-reading skills in the age of COVID-19 are now more valuable than ever.

## Oral Food Challenges

The American Academy of Allergy, Asthma and Immunology's special article on pandemic contingency planning for the allergy and immunology clinic recommends that food challenges be deferred during the pandemic unless there is a critical acute nutritional need for introduction of a key nutrient.<sup>4</sup> Although food challenges should be deferred, what should be done regarding

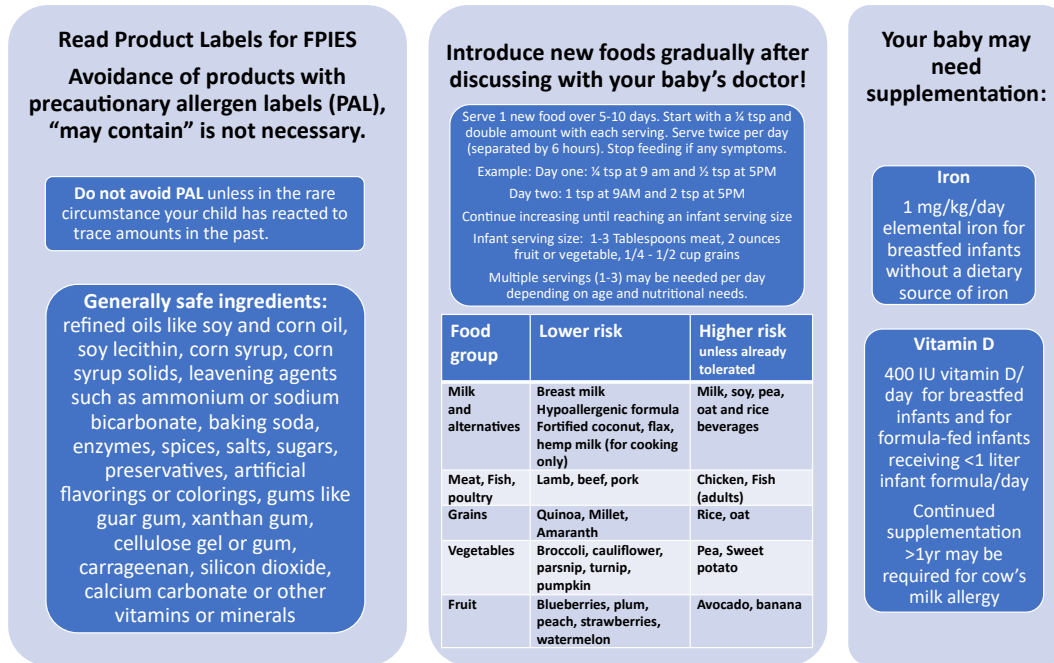
**Reprints:** Marion Groetch, MS, RDN, Pediatric Allergy & Immunology, Icahn School of Medicine at Mount Sinai, 1 Gustave L. Levy Place, Box 1198, New York, NY 10029; E-mail: [marion.groetch@mssm.edu](mailto:marion.groetch@mssm.edu).

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**Figure 1.** Practical approach to the dietary management of FPIES during the COVID-19 pandemic. COVID-19, coronavirus disease 2019; FPIES, food protein–induced enterocolitis syndrome.

home food introductions or when nutritional need is critical in children with FPIES?

### Introducing New Foods

Although food challenges should be deferred, what should be done regarding home food introductions in FPIES and when is nutritional need critical in children with FPIES? The Expert Guidelines, Managing FPIES emergencies during the COVID-19 pandemic (EG-FPIES), suggest delaying introduction of new high-risk foods until the COVID-19 pandemic resolves, especially in patients with moderate-severe forms of FPIES or those with multiple food FPIES.<sup>5</sup> This is a reasonable approach because multiple food triggers in FPIES are a risk factor, with a recent US case series indicating that 68% of children had more than 1 trigger food.<sup>6</sup> Because of the risk of multiple food FPIES, parents can feel uneasy about introducing even lower-risk foods. Therefore, during this time, the EP-FPIES recommend discussing food introductions with the physician and introducing lower risk foods more cautiously over 5 to 10 days starting with a very small amount and doubling this amount twice daily until a full serving is reached. In addition, the EG-FPIES suggest that physicians consider providing certain patients with FPIES older than 6 months a prescription for oral ondansetron to be used at home in case of an acute reaction in addition to the emergency action plan.<sup>5</sup>

### Meeting Nutritional Needs

The American Academy of Pediatrics recommends exclusive breastfeeding until approximately 6 months of age. We recommend introducing low-risk, nutritionally important, complementary foods by 6 months of age to meet increasing nutritional needs, most especially in the breastfed infant, because exclusive breastfeeding for more than 6 months has been associated with increased risk of iron deficiency anemia at 9 months of age.<sup>3</sup> Finding safe high-iron foods is a struggle in general for children with FPIES because the highest iron containing infant foods are iron-fortified grains, introduction of which is typically delayed in

children with FPIES. Other high-iron, lower-risk foods for children with FPIES are lamb, prunes, and pseudo or ancient grains (eg, fortified quinoa and millet). Alternatively, until iron-containing complementary foods have been introduced, an iron supplement (1 mg/kg daily of elemental iron) can be provided to help fill the nutritional gaps of a limited predominantly breast milk diet after 4 to 6 months of age as recommended by the AAP.<sup>3</sup> Vitamin and mineral supplementation should occur per country-specific guidelines, and in the United States that also includes 400 IU of vitamin D daily for breastfed infants and infants receiving less than 1 L of formula per day (Fig 1). US infant formulas contain sufficient iron to meet nutritional needs when consumed in adequate volume; therefore, formula-fed infants are not likely to need iron supplementation. Once a child reaches 12 months of age, continuing to take breast milk or formula is necessary if the diet is not varied and cannot support nutritional needs. Calcium intake (700 mg/d for 1-4 years) should be assessed at this time. Because of possible irregularities in availability of over-the-counter, extensively hydrolyzed formula during the pandemic, a prescription for an amino acid–based formula may be required. Formula and breastfed infants will benefit from introduction of lower-risk foods, continuing to vary the textures of the diet based on infant’s age and feeding skills. Children usually begin with a smooth puree, progress to thicker purees and lumpier purees, and then progress to soft finger foods. This process can be achieved even with only a few foods in the diet. A variety of fruits and vegetables fall into the lower-risk category that can help with nutrition and feeding skill development. Consultation with a registered dietitian will help guide food and nutrition choices, and many dietitians are available by means of telehealth during this time.

It is unclear how long the pandemic will affect our lives. However, infants’ diets, feeding skills, and nutritional needs change rapidly during the first year of life so that delays in feeding even for only 1 to 2 months may have a considerable effect on overall health, feeding skills, and food preferences. Empowering families to safely choose foods will help minimize some of the stress associated with this

pandemic. Timely introduction of nutritionally important complementary foods or nutrient supplementation is important to prevent iron deficiency anemia, provide adequate nutrition, and support the development of feeding skills and preference for healthy foods.

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