

Primary Prevention of Allergic Disease Through Nutritional Interventions: Guidelines for Healthcare Professionals

Fleischer DM, Spergel JM, Assa'ad AH, Pongracic JA. *J Allergy Clin Immunol: In Practice* 2013;1:29-36

These recommendations are a resource for primary care providers, allergist/immunologists, and other specialists. They are not intended for children who have already developed an allergic condition, such as food allergy or atopic dermatitis, unless otherwise stated. Free full text article available at [http://www.jaci-inpractice.org/article/S2213-2198\(12\)00014-1/fulltext](http://www.jaci-inpractice.org/article/S2213-2198(12)00014-1/fulltext)

MATERNAL AVOIDANCE OF HIGHLY ALLERGENIC FOODS FOR PRIMARY PREVENTION

Recommendation: *Maternal avoidance of highly allergenic foods during pregnancy and lactation is not recommended.*

- Maternal avoidance during pregnancy or lactation of essential foods such as milk and egg is not recommended at this time.
- Regarding peanut ingestion and peanut allergy in children, data are inconclusive to make recommendations for peanut avoidance during pregnancy at this time.
- *Note: For mothers that choose to avoid foods during pregnancy or lactation, dietary counseling with a nutritionist is recommended.*

Highly Allergenic Foods
Cow's milk
Soy
Eggs
Wheat
Peanuts and Tree nuts
Fish and Shellfish

BREASTFEEDING FOR PRIMARY PREVENTION

Recommendation: *Exclusive breastfeeding is recommended for at least 4 months and up to 6 months of age.*

- To possibly reduce the incidence of atopic dermatitis in children younger than 2 years.
- To reduce the early onset of wheezing before 4 years of age, but not necessarily to reduce asthma.
- To reduce the incidence of cow's milk protein allergy in the first 2 years of life, but not necessarily to reduce food allergy in general.
- There are no clear effects of breastfeeding on allergic rhinitis.
- Data are conflicting about whether exclusive breastfeeding longer than 3 months has an effect on the incidence of atopic dermatitis in children.
- Despite some studies that showed an increased risk of allergic disease with exclusive breastfeeding, the overall benefits of breastfeeding on the general health of the child are likely to outweigh the potential drawbacks.

SELECTION OF INFANT FORMULA FOR PRIMARY PREVENTION

Recommendation: *For infants at increased risk of allergic disease who cannot be exclusively breastfed for the first 4 to 6 months, a hydrolyzed formula may offer advantages to prevent atopic dermatitis.*

- Partially hydrolyzed and extensively hydrolyzed formulas (see Table) may have a preventive effect on atopic dermatitis when used in the first 6 months of life instead of intact cow's milk protein formula.
- The evidence is not substantial to support soy formulas or amino acid formulas for prevention of allergic disease.
- The evidence is not conclusive to support the use of a formula over breastfeeding to prevent atopic disease.

Hydrolyzed Infant Formulas That May Reduce Risk of Atopic Dermatitis	
Partially Hydrolyzed Whey	Gerber® Good Start® Gentle ^{1,4}
Partially Hydrolyzed Casein/Whey	Enfamil® Gentlease ²
Extensively Hydrolyzed Casein	Enfamil® Nutramigen ^{2,4} Enfamil® Pregestimil ² Similac Expert Care® Alimentum ³

¹ GERBER GOOD START is a registered trademark of Société des Produits Nestlé S.A., Vevey, Switzerland.

² ENFAMIL GENTLEASE, NUTRAMIGEN, AND PREGESTIMIL are registered trademarks of Mead Johnson & Company.

³ SIMILAC EXPERT CARE ALIMENTUM is a registered trademark of Abbott Nutrition.

⁴ NOTE: Only Gerber Good Start and Enfamil Nutramigen have been studied in clinical trials that show that their use may reduce the risk of atopic dermatitis and cow's milk protein allergy.

INTRODUCTION OF COMPLEMENTARY FOODS FOR PRIMARY PREVENTION

Recommendation: *Complementary foods can be introduced between 4 and 6 months of age, when an infant is developmentally able to sit with support and has sufficient neck control.*

- Most pediatric guidelines suggest first introducing single ingredient foods between 4 to 6 months of age, with one new food every 3 to 5 days.
- There is no need to delay acidic fruits (berries, tomatoes, citrus fruits) and vegetables that may cause a perioral rash or irritation since they do not usually result in systemic reactions.
- Whole cow's milk as the infant's main drink should be avoided until 1 year of age due to the increased renal solute load and low iron content. Cow's milk protein in the form of infant formula, yogurt and cheese can be introduced before age 1 year.
- Whole nuts should be avoided due to potential aspiration risk. Peanuts and tree nuts in the form of peanut/tree nut butters or other formulations can be introduced.

Recommendation: *Highly allergenic complementary foods may be introduced between 4 and 6 months of age once a few typical complementary foods have been fed and tolerated.*

- Emerging data suggests that *delayed* introduction of solid foods, especially highly allergenic foods, may *increase* the risk of food allergy or eczema.
- Emerging data also suggests *early* introduction of highly allergenic foods may *prevent* food allergy in infants and children.
- *Note: Interventional studies are recommended to support limited data from observational studies.*

Recommendation: *Counsel parents how to introduce highly allergenic foods in the following manner:*

- Introduce highly allergenic foods *after* other complementary foods have been introduced and tolerated.
- Introduce an initial taste of a highly allergenic food at home, rather than at a day care or restaurant.
Note: Advise parents that for some foods, such as peanuts, most reactions occur in response to the initial ingestion.
- Gradually increase the amount of the highly allergenic food if there is no reaction.
- Introduce other new foods at a rate of one new food every 3 to 5 days if no reaction occurs.

Recommendation: *Consult with an allergist/immunologist for the development of a personalized plan for complementary food introduction for any of the following scenarios:*

- An infant has moderate to severe atopic dermatitis despite optimal management.
- An infant has had an immediate allergic reaction to a food or has a known food allergy, which puts them at higher risk for other food allergies.
- An infant has a sibling with a peanut allergy. Although peanut could be introduced with low risk at home, parents or physicians may request allergy consultation with testing prior to peanut introduction.
- Either an infant with positive serologic food-specific serum IgE testing to a food not yet introduced or an infant with undetectable food-specific IgE serum testing despite convincing history of an allergic reaction.
*Note: Routine serologic food-specific IgE screening on children without a history of an allergic reaction or other symptoms/signs of food-related allergic disease is **not** recommended.*