Atopy as a concept, is defined as the genetic predisposition to developing allergic diseases including asthma, allergies (food and environmental) and atopic dermatitis (eczema). This involves the development of specific IgE antibodies to certain antigens following exposure causing clinical symptoms. Atopy of one form or another affects millions of children and adults in North America, which translates into a significant burden of illness. Thus, researchers have asked the question “can atopy be prevented?”. As atopic diseases are secondary to a complex interaction between genetic predisposition and environmental factors, the hypothesis arises; can manipulation of the environmental factors (such as exposures) deviate the developing immune system from the pathway leading to the development of atopy. This is called primary prevention of atopy.

There has long been the thought that perhaps early exposure to certain antigens may predispose the high risk infant to developing atopy later on. It has been postulated that infants can become exposed and theoretically sensitized to certain antigens in-utero, during lactation, through early introduction of solids and early introduction of highly allergenic foods. But now this is being challenged.

Over the last several decades over 4500 articles have been published directly dealing with the concept of prevention of atopy. This vast body literature includes thousands of trials leading to a variety of recommendations for prevention of atopy in high risk infants (defined by having at least one first degree relative with atopy). Keeping in mind the postulated sensitization routes in infants, studies have attempted to modify one or more of these routes with a goal of preventing the onset of atopy in a significant proportion of “at risk” children. Trials have taken the form of antigen avoidance in pregnancy and lactation, prolonged breastfeeding, delayed introduction of solids and further delayed introduction of particularly allergenic foods.

Unfortunately, these studies are very difficult to do. The difficulties take many forms including difficulty with randomization, contamination, measurement of multiple outcomes, small sample sizes, inappropriate blinding, multiple testing and interventions and no intention to treat.

Given the vast body of literature in this area as well as the various difficulties in doing studies of this nature, the questions arises how do we make evidence-based recommendations to our patients? Fortunately a number of reviews and guidelines exist which help us to do this. These take the form of Cochrane reviews, national/international guidelines and consensus statements and review articles. The following is a synthesis of these providing some practical recommendations.
Practical Guidelines – How to advise your patients.
A synthesis of sources

1. Breast-feeding is the treatment of choice for all high risk infants and is encouraged for as long as possible for reasons which are multi-factorial.
2. In high risk infants who cannot be exclusively breast-fed there is evidence that use of a hydrolysed formula reduces the risk and or severity of eczema. (pHF-W and eHF-C)
3. To date, there is insufficient evidence to support antigen avoidance during pregnancy.
4. There is no convincing evidence for antigen avoidance during lactation in prevention.
5. No evidence to support feeding with hydrolysed formula for the prevention of allergy in exclusively breast-fed infants
6. There is no convincing evidence that the use of soy-based formula is useful in allergy prevention
7. No evidence that delaying the introduction of solid foods beyond 4 to 6 months has a significant protective effect including highly allergenic foods.
8. There is insufficient evidence to support further delay (after 4 to 6 months) of particularly antigenic foods (such as cow’s milk, egg, peanut/treenut)


