

## **COW'S MILK PROTEIN ALLERGY**

### **Definition**

Cow's milk protein allergy (CMPA) is defined as an abnormal reaction by the body's immune system to protein found in the cow's milk. The immune system normally protects our bodies from harm caused by bacteria or viruses. In this condition, the immune system reacts unusually to the protein found in cow's milk. The reaction can cause injury in the stomach and intestines.

### **Types of CMPA**

CMPA can be divided into *IgE-mediated* (immediate reaction) and *non-IgE-mediated* (delayed reaction) types.

IgE, or immunoglobulin E, is an antibody normally found in humans that causes the symptoms seen with allergies (hives, rashes, wheezing). In *IgE-mediated* CMPA, symptoms usually start within 2 hours of drinking cow's milk. In *non-IgE-mediated* CMPA, symptoms happen later, from 48 hours to 1 week after ingestion.

### **Signs and Symptoms**

Signs and symptoms of CMPA are very diverse. Most infants will show signs that involve the skin or gastrointestinal (GI) system. GI symptoms can include vomiting, abdominal pain, bloody stools, and diarrhea. Skin symptoms include hives and eczema. Babies can also present with wheezing, irritability, facial swelling, and poor growth.

### **Diagnosis**

Having your doctor take a history and perform a physical examination are the most helpful investigations in diagnosing CMPA. Letting your physician know if there is a family history of allergies, asthma, or eczema can be helpful. An important step in diagnosis can be seeing how your child responds to eliminating cow's milk protein from the diet.

### **Treatment**

The treatment of CMPA includes eliminating cow's milk protein from the infant's diet. If the infant is breastfeeding, this may involve having the mother exclude all dairy and soy products from her diet if she continues to breastfeed\*. If the infant is not breastfeeding, extensively hydrolyzed formulas are recommended. These formulas are made up of broken down proteins. Two commonly available formulas are Nutramingen and Alimentum. Soy formulas are NOT recommended as many infants will have a similar reaction to the proteins in these formulas.

Most infants will outgrow CMPA by 1 year of age and should stay on the elimination diet until re-introduction is recommended by the pediatrician.

For more information on the elimination diet for breastfeeding mothers, see our handout "CMPA & Breastfeeding"

*Adapted from North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN) patient handout on Cow's Milk Protein Intolerance*