

# Cow's Milk Protein Intolerance

## "Milk Protein Allergy"

### *What is Cow's Milk Protein Intolerance and what causes it?*

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

### *How common is Cow's Milk Protein Intolerance and who is at risk of developing it?*

Risk factors for developing CMPI include having a parent or sibling with atopic or allergic disease (like asthma, eczema, and seasonal allergies). Breastfeeding seems to protect infants from developing CMPI.

### *What are the different types of Cow's Milk Protein Intolerance?*

Cow's milk protein intolerance can be divided into IgE-mediated (immediate reaction) and non-IgE mediated (delayed reaction) types. The two types have different symptoms associated with each.

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

### *What are the signs and symptoms of Cow's Milk Protein Intolerance?*

Signs and symptoms of cow's milk protein intolerance are very diverse. The symptoms will usually develop within the first week of starting cow's milk in their diet. Most infants will show signs that involve the skin or the gastrointestinal system. GI symptoms can include vomiting, abdominal pain, blood in the stools, and diarrhea. Skin manifestations include hives and eczema. Babies can also present with wheezing, irritability, facial swelling, and poor growth due to poor absorption of nutrients.

### *When should you contact or see a doctor or Pediatric Gastroenterologist?*

**Red flags:** Increased tiredness or lethargy, fevers, severe vomiting or diarrhea, not tolerating any feedings, weight loss, blood in the stools.



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## ***How is Cow's Milk Protein Intolerance diagnosed?***

History and physical examination are the most helpful investigations in diagnosing CMPI. Describing your child's signs and symptoms (what your child is experiencing) to the physician is very important in making the diagnosis of this disease. The timing of the symptoms in relation to starting feeds with cow's milk protein is also key in diagnosis. Whether there is a family history of allergies, asthma, or eczema can be helpful for diagnosis.

CMPI also is diagnosed after seeing how your child responds to the elimination of cow's milk from the diet.

## ***What tests are used in children to diagnose Cow's Milk Protein Intolerance?***

Checking for blood in the stool of infants suspected of having CMPI can be helpful in diagnosing this disorder. Blood tests and other invasive studies are not always helpful in diagnosing cow's milk protein intolerance. Your physician may recommend tests to exclude other problems.

## ***What is the treatment for Cow's Milk Protein Intolerance?***

The treatment of CMPI includes eliminating cow's milk protein from the infant's diet. Elimination diets are usually started with extensively hydrolyzed formulas. These formulas are made up of broken down proteins and are able to be digested without an immune reaction. These formulas will work in 90% of patients with CMPI. In some patients, it is necessary to use amino-acid based formulas, which are formulas containing the individual building blocks of proteins.

In breastfed infants with CMPI, the mother must exclude all dairy and soy products from her diet if she continues to breastfeed. This may be difficult, and is helped by having a dietitian discuss hidden sources of dairy and soy with the mother prior to starting the elimination diet.

Giving infants goat's milk or sheep's milk will not improve CMPI. Soy milk also is not recommended. Many infants will have similar allergic reactions to the proteins in these milks or soy-based formula.

## ***What can I expect if my child has Cow's Milk Protein Intolerance?***

Fortunately, cow's milk protein allergy resolves in 90% of children by the age of 6 years. 50% of infants will have tolerance at age 1 year, and more than 75% will have resolution by 3 years of age.

Most infants that are started on cow's milk-free formulas or breastfed by a mother on a cow's milk-free diet will need to remain on the diet for about 6-12 months. At that point, the child can be challenged with cow's milk, and if they have no reactions, milk can be put back into the child's diet.

## ***Where can I find support for my child and family?***

<http://cowsmilkproteinallergysupport.webs.com/>

# Quick Facts

## Cow's Milk Protein Intolerance

### *Brief Definition*

- Abnormal reaction by the body's immune system to protein found in cow's milk.

### *Incidence*

- Thought to occur in 2-3% of infants in the US and occurs in approximately 0.5% of breastfed infants.

### *Risk Factors*

- Risk factors include having a parent or sibling with atopic or allergic disease, like asthma, eczema, seasonal allergies.

### *Diagnostic Tests*

- No specific diagnostic tests
- Best diagnosis is by history and physical exam, and examining symptoms

### *Treatment*

- Eliminating cow's milk from infant's diet and from breastfeeding mother's diets
- Most resolve on their own by 6 years of age

#### **IMPORTANT REMINDER:**

This information from the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN) is intended only to provide general information and not as a definitive basis for diagnosis or treatment in any particular case. It is very important that you consult your doctor about your specific condition.

November 2013



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