

Milk-free Diet

Why this Diet is Important

This eating plan is for people who have a cow's milk allergy. A milk allergy occurs when antibodies against milk protein allergens are produced by the immune system. The combination of the allergen and the antibody produces a series of biochemical reactions. These reactions cause inflammation in the body. Symptoms may occur within minutes or up to 72 hours after eating foods containing milk proteins.

There are more than 30 different milk proteins. Any number of these proteins may trigger an allergic reaction. Most children and adults who are allergic to milk react to more than one milk protein. Milk allergy is much more common in young infants and children than in adults.

Some people find they can tolerate milk from other animals, such as goat's milk. However 70-80% of people who are allergic to cow's milk proteins will develop an allergy to goat's milk proteins because the two are quite closely related. Milk from sheep, buffalo, mares, and other animals may be tolerated.

People should not self diagnose food allergies. All food allergies should be diagnosed with the help of a medical practitioner. People with allergies should become familiar with the common symptoms of their allergy. They should know how to deal with rare but serious anaphylactic reactions. A dietitian can help ensure that the diet remains healthy while avoiding allergen-containing foods.

What are the Symptoms of a Milk Allergy?

An allergic reaction to milk protein will be the same as any food allergy, and may include any of the following reactions:

- flushing or reddening, especially of the face
- hives or a rash, increase in eczema symptoms
- itchy skin
- swelling of the face, lips, throat and tongue
- trouble breathing, wheezing
- difficulty in speaking or swallowing
- stomach pain, diarrhea, vomiting

- drop in blood pressure, rapid heart beat
- anxiety, distress, faintness, paleness, sense of doom, weakness
- loss of consciousness (in extreme cases).

A severe allergic reaction is rare, but it can happen. It may involve difficulty breathing, speaking or swallowing; a drop in blood pressure; rapid heartbeat and loss of consciousness. These symptoms indicate an anaphylactic reaction which requires immediate medical attention.

What Will Happen if I Eat a Small Amount of Milk or Products Containing Milk?

A totally milk-free diet is necessary if an allergy to milk exists or is suspected. If milk proteins in any form are consumed, it is likely that you would have an allergic reaction. A challenge test after four weeks on a milk-free diet should determine which fractions of milk (if any) can be consumed without an allergic reaction being triggered.

An allergic reaction does not depend on the quantity of the allergenic food eaten. Each person reacts at his or her own level, which typically differs between individuals. If milk protein is eaten, the symptoms of allergy will persist only as long as the chemicals released in the immune response are present in the body. Symptoms will recur when milk protein is again eaten.

What About Feeding a Baby Who Has a Cow's Milk Allergy?

Cow's milk protein in the mother's diet can pass into her breastmilk and cause allergy symptoms in the milk-allergic baby. If the breastfed infant is allergic to milk protein, the elimination of all milk and milk-containing products from the mother's diet is necessary. Contact a registered dietitian for management of a milk-free diet for the nursing mother. If milk elimination only partially eases the infant's distress, a detailed record of the mother's food intake, together with a symptom record for the baby, may indicate other possible dietary or medication irritants.

If the baby is lactose intolerant, a milk-free diet for the mother will not help. Even if a breastfeeding mother does not consume milk or milk-products, her breastmilk will still contain lactose. For management of lactose intolerance in the breastfed baby, contact a registered dietitian.

Infants who have an allergy to cow's milk may tolerate a casein-hydrolysate infant formula. Partially hydrolysed whey formula is not suitable for an infant with suspected or diagnosed cow's milk protein hypersensitivity. If there is no resolution of symptoms on the casein-hydrolysate formula, an amino acid formula should be initiated under the supervision of a registered dietitian or physician. Children should be encouraged to continue on hydrolysate or amino acid formula as long as it is acceptable. Alternatively, they can be provided with milk substitutes (e.g. fortified soy or rice milks) and other calcium-fortified foods after 24 months of age if allergy to these foods is not suspected.

Label Reading Guidelines for a Milk-Free Diet

Any food that has "milk" in its name should be avoided. The following lists include terms that indicate that a product may contain milk.

Note: Be careful with imported products. Ingredients lists for imported products are not always accurate. Errors can occur as a result of incomplete translation or as a result of printing errors. Buying products manufactured in Canada is preferred because of our labelling requirements and monitoring systems. Direct access to the manufacturer is available should additional information be needed. Buying U.S. products also allows easier access to allergen specific information as compared to purchasing products manufactured overseas.

Terms that Indicate the Presence of Cow's Milk

Acidophilus milk	Delactosed whey	Lactulose
Ammonium/calcium/magnesium/potassium caseinate	Demineralized whey	Light cream
Artificial butter flavour	Dried milk/cream/sour cream	Malted milk
Butter	Evaporated milk	Milk powder
Buttermilk	Feta	Milk solids
		Modified milk

Buttermilk solids	Half-and-half	Natural butter
Butter fat	Homogenized; 1%; 2%;	flavour
Butter flavored oil	skim; whole; low-fat;	Potassium caseinate
Butter solids	non-fat milk	Processed cheese
Calcium caseinate	Hydrolysed casein	Quark
Casein	Hydrolysed whey	Rennet casein
Casein hydrolysate	Ice cream	Ricotta
Cheese	Ice milk	Sherbet
Cottage cheese	Lactaid® milk	Sodium caseinate
Cream	Lactalbumin	Sweet dairy whey
Cream cheese	Lacteeze® milk	Whey
Condensed milk	Lactoferrin	Whey hydrolysate
Cultured milk	Lactoglobulin	Whey powder
Curd	Lactose	Whey protein

Ingredients that May Contain Milk Protein

Brown sugar flavoring	Flavoured coffees	Margarine
Caramel flavor	Coffee whitener	Natural flavor
Chocolate	High protein flour	Opta™
		Simplese™

Note: Lactic acid, lactate and lactylate do not contain milk and do not need to be eliminated.

Non-Food Sources of Milk Proteins

Cosmetics	Medications	Pet food
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Nutrient Sources

There are alternative sources of all the nutrients that milk and milk products provide.

Calcium

If all milk and milk products are removed from the diet, it can be challenging to obtain enough calcium from alternative sources. The calcium that would ordinarily be obtained from milk and milk products can be obtained from other foods. These foods include calcium-fortified beverages, soy, legumes, nuts, seeds, and canned salmon.

Vitamin D

Vitamin D is required to help in the absorption of calcium into the body. Milk is artificially fortified with vitamin D. Avoiding milk will reduce the amount of vitamin D in the diet. However, the body makes its own vitamin D when exposed to sunlight, which is our main source of the vitamin. Egg yolk, fish and fish liver oils are good sources of vitamin D. A vitamin D supplement may be necessary during the winter (cloudy) months. Health Canada recommends everyone over the age of 50 should take a vitamin D supplement of 400 IU each day.

Protein

The protein that you would ordinarily obtain from milk and milk products can be easily obtained from other foods. These foods include poultry, fish, nuts, legumes and a combination of whole grains and vegetables.

Milk-free Diet

This diet provides a variety of foods in all food groups. With the exception of calcium and vitamin D, all nutrient needs can be easily met. Remember to check labels carefully.

<i>Type of food</i>	<i>Foods Allowed</i>	<i>Foods Restricted</i>
Grain Products	<ul style="list-style-type: none"> All plain grains, flours and starches Bagels Breads and baked goods made without milk or milk products French or Italian bread Pasta without cheese or milk-containing sauce Plain cooked, or ready to eat cereals Some whole wheat bread Some rye bread Soda crackers 	<ul style="list-style-type: none"> Any manufactured food containing ingredients indicating that the foods are derived from milk Baked products made with milk or milk products such as breads, crackers, biscuits, doughnuts, muffins, pancakes Cereals containing milk or milk solids Commercial baking mixes

<i>Type of food</i>	<i>Foods Allowed</i>	<i>Foods Restricted</i>
Milk and Alternatives	<ul style="list-style-type: none"> • Casein hydrolysate formula • Coconut milk • Milk-free margarine • Milk-free soy bean cake • Milk substitutes • Non-dairy creamers • Nut milks • Potato starch-based drinks • Rice beverages • Soy beverages • Soy based infant formula • Seed milks • Whey-free margarine 	<ul style="list-style-type: none"> • All cow's milk (whole; 2%; 1% skim; Lactaid® Lacteeze® or other Lactose-free or lactose-reduced milk; Acidophilus milk) • All milk derivatives (cream, half-and-half; whipping cream; light cream; sour cream; ice cream) • All milk products (buttermilk; yogurt; quark; kefir; cheese of all types) • Any manufactured product containing ingredients indicating milk such as: <ul style="list-style-type: none"> ○ casein ○ caseinates ○ lactose ○ lactalbumin ○ lactoglobulin ○ milk solids ○ whey • Milk from all animals (goat, sheep, buffalo, mares, other)
Vegetables	<ul style="list-style-type: none"> • All vegetables and their juices except those listed in the restricted column 	<ul style="list-style-type: none"> • Vegetables prepared as: <ul style="list-style-type: none"> ○ breaded or battered ○ butter/margarine added ○ creamed ○ instant potatoes ○ mashed with butter and/or milk ○ prepared or frozen vegetables with milk, cream, or butter sauces ○ scalloped

<i>Type of food</i>	<i>Foods Allowed</i>	<i>Foods Restricted</i>
Fruit	<ul style="list-style-type: none"> All pure fruits and pure fruit juices 	<ul style="list-style-type: none"> Any with cream, milk or butter as additional ingredients, toppings or sauce
Meat, Poultry and Fish	<ul style="list-style-type: none"> All fresh or frozen meat, poultry or fish Kosher processed meats (may be called “parve” or “pareve”) Meat, poultry and fish canned without milk or milk products Processed meats made without milk or milk products 	<ul style="list-style-type: none"> Commercially prepared meat, poultry or fish that is: <ul style="list-style-type: none"> battered breaded creamed Commercially produced meat products containing milk ingredients such as meat loaf, hot dogs, cold cuts and sausages
Eggs	<ul style="list-style-type: none"> Milk-free mayonnaise Omelette or scrambled eggs made without milk or cheese Plain, boiled, fried or poached 	<ul style="list-style-type: none"> Any egg dish containing milk ingredients such as: <ul style="list-style-type: none"> cheese commercial mayonnaise cream milk
Legumes	<ul style="list-style-type: none"> All plain legumes such as dried beans, dried peas; lentils; dals Any soy bean product free from milk components Milk-free; casein-free tofu Peanut butter Soy beans 	<ul style="list-style-type: none"> Any prepared with milk ingredients such as: <ul style="list-style-type: none"> cream cheese milk

<i>Type of food</i>	<i>Foods Allowed</i>	<i>Foods Restricted</i>
Nuts and Seeds	<ul style="list-style-type: none"> All plain nuts and seeds 	<ul style="list-style-type: none"> Any nut or seed candies or confectioneries containing milk ingredients Nuts, seeds and nut and seed mixtures with coatings containing milk or lactose
Fats and Oils	<ul style="list-style-type: none"> Clarified butter Gravy made without milk Lard Milk-free margarines such as: <ul style="list-style-type: none"> Fleischmann's® low sodium, no salt Parkay Diet Spread® Canoleo® margarine Meat dripping Non-dairy dessert topping Pure vegetable oils Real mayonnaise Shortening 	<ul style="list-style-type: none"> Butter Cream Cream cheese Margarine containing whey or milk Salad dressings with milk or milk products Sour cream Whipped topping
Spices and Herbs	<ul style="list-style-type: none"> All pure spices and herbs 	<ul style="list-style-type: none"> None
Sweets and Sweeteners	<ul style="list-style-type: none"> All pure sugar, syrup, honey Any item made from allowed ingredients Sugar Twin® 	<ul style="list-style-type: none"> Any item made from milk or milk products Milk chocolate and candies made with foods to avoid (toffee, caramels, chocolates) Sugar substitutes containing lactose

<i>Type of food</i>	<i>Foods Allowed</i>	<i>Foods Restricted</i>
Beverages	<ul style="list-style-type: none"> Alcoholic beverages, except cream-based liqueurs Clear coffee, tea and herbal tea. Fruit juices and drinks Mineral water Soft drinks Vegetable juices 	<ul style="list-style-type: none"> Diet drinks that contain lactose Cream-based liqueurs

Additional Tips

Substitutes in Meals and Recipes

- Soy milk can be substituted for milk in a milk-free diet if you are not allergic to soy bean. Add lime juice if you find the taste of soy milk unpalatable. Some soy beverages are enriched with added calcium. Check labels on soy beverages for information about the nutritional content of the product.
- Fresh soy bean curd can be used in place of cottage cheese.
- Tofu can substitute for cheese, but check all labels. Some tofu products called "tofu cheese" or "toforella" contain milk solids (whey, casein, or caseinate). These milk solids are not allowed in a milk-free diet.
- Soft or medium tofu can be used in place of yogurt.
- Frozen soy products are available in a variety of flavours as substitutes for ice cream.
- Dairy-free potato beverages are usually enriched with calcium. Check the ingredient label.
- A number of rice-based beverages, with and without added calcium, are available.
- Rice-based desserts in a number of flavours and can substitute for ice cream.

Note: Products designed as milk substitutes based on grains, rice, and potatoes are low in protein. Some are calcium enriched; others are not. Read labels carefully. Make sure that adequate high quality protein is included in the diet if these products are used extensively as substitutes for milk and milk products.

Vegetable oil margarines can be used in place of butter. Make sure that the margarine does not contain milk solids, whey, casein, caseinate, or lactose. Many margarines contain whey. Look for margarines that include “dairy-free” or “milk-free” on the label. Read labels carefully.

Breakfast cereals are traditionally eaten with milk, but milk can be replaced with soy beverages, whipped soft tofu, calcium-enriched rice beverages, and non-dairy “milk substitute beverages” derived from a variety of grains and nuts, such as oats and almonds, or fruit juice.

Desserts and Breads

All homemade desserts, cookies, cakes, muffins, candy made with allowed ingredients are acceptable. Check labels on fat-free baked goods and desserts.

In many fat-free foods, the fat or oil is replaced with Simplese® which is made of components of milk.

Fruit ice pops and ices are good choices.

Condiments and Snacks

All labels should be checked. Ingredients can change. Acceptable condiments include:

- ketchup
- mustard
- pickles
- relish
- salt and pepper

- soy sauce
- Tabasco®
- Worcestershire sauce®.

Acceptable snacks include:

- air popped popcorn or potato chips
- plain, unflavoured tortilla chips and salsa
- hard and gelatin candy.

Restaurants

Standard and international restaurants should provide a variety of foods. Tips for dining out include:

- Stock-based soups and salad with oil and vinegar or lemon on the side are good appetizers.
- Meat, poultry or fish, roasted, grilled or barbecued without sauces or marinades containing milk or milk products, or vegan vegetarian dishes make good entrées.
- Check pasta dishes with the chef to be sure that cheese or milk products have not been added to the sauce.
- Check with the chef that breads and buns are milk free.

Most fast food restaurants will have lists of foods that are milk free.

Shopping

- Become familiar with all the terms on manufactured products that indicate the presence of milk proteins.
- Read ingredient labels carefully and avoid those with the terms listed. If there is no ingredient label, avoid the product.
- The new Health Canada directives will make it necessary in the future for manufacturers to list the term “milk” on the ingredient label of any product

that has ingredients that contain milk. At the present time, these alternative terms may be listed, especially on imported products.

- For information about questionable products, contact the manufacturer.

Baking/Cooking

Baking/cooking tips include:

- In recipes that require milk, such as bread and rolls, the same quantity of potato water can replace milk.
- In recipes requiring sour cream, substitute 4 tablespoons of starch (corn starch, rice starch, or potato starch) mixed with $\frac{3}{4}$ cup of water and $\frac{1}{4}$ cup of vinegar for each cup of sour cream required.
- Desserts that are traditionally made with milk, such as tapioca, sago and rice puddings, can be made with fruit juice instead.
- In sauces for meat or fish, substitute bouillon (meat, fish, or vegetable broth) when the recipe calls for milk.

Recipes

Instant sorbet

In a food processor, blend:

1	Banana	1
Dash	lemon juice	Dash
250 – 275 mL	frozen berries	1 – 1 $\frac{1}{2}$ cups

Sugar or artificial sweetener to taste.

Rice, Soy, Potato, Oat, or Nut Milk Hot Chocolate

Combine 15 mL (1 Tbsp) of pure cocoa with 1 Tbsp sugar.

Mix in 15 mL (1 Tbsp) cold water until smooth.

Stir in 237 mL (1 cup) of hot milk substitute.



Notes

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