

Diet for Lactose Intolerance

What is lactose intolerance?

Lactose (milk sugar) intolerance results from an inability to digest lactose in the small intestine. Lactose is the main carbohydrate or sugar found in milk, and in varying quantities in dairy products made from milk including yoghurt, ice cream, soft cheeses and butter.



What causes lactose intolerance?

Lactose is digested in the small intestine by an enzyme called lactase. This enzyme allows the body to break down the lactose into two simple sugars, glucose and galactose. These are quickly absorbed by the intestine and provide energy for the body. The level of the lactase enzyme varies between individuals, as does the severity of symptoms caused by lactose intolerance. Some people may suffer severe symptoms after consuming small amounts of lactose. Others may be able to tolerate small amounts of lactose such as milk in tea, or larger quantities spread over the day. Symptoms vary from mild abdominal discomfort, bloated and have excessive wind (flatulence) to abdominal cramps and diarrhoea.

It is rare for anyone to be born with a complete intolerance to lactose (1). Some people, especially those of particular racial background may gradually develop lactose intolerance as they get older. The incidence is highest amongst Asian, Middle Eastern, Southern European, African or Australian Aboriginal groups (1). It is less common in people of European background. Lactose intolerance may also occur after a bout of gastroenteritis. In such cases it is a temporary condition, and will rectify itself in a few weeks.

Dietary treatment of lactose intolerance

The dietary changes for lactose intolerance should initially include the exclusion of those foods highest in lactose. If the symptoms resolve then small amounts of lactose containing foods may be reintroduced, and symptoms monitored. Most people will be able to determine their tolerance level for lactose. Very rarely people may be so sensitive that they will need to exclude foods with lower levels of lactose including biscuits, cakes and other processed foods (2). It is important to find a suitable replacement if important foods are excluded from the diet.

Lactose content of dairy foods

The lactose content of dairy foods varies widely, as do the serving sizes consumed. The following table lists the lactose content of average serves of dairy foods (3). Dairy products such as hard cheese are generally tolerated due to their low lactose content. Yoghurt may be tolerated by some individuals as some of the lactose is predigested by the yoghurt's bacteria.

FOOD	SERVE	LACTOSE (grams)	CALCIUM (mg)
MILK - regular	1 cup/250 ml	12	285
MILK - reduced fat	1 cup/250 ml	13	340
YOGHURT - regular	200 gm	9	340
YOGHURT - low fat	200 gm	12	420

CHEESE - cheddar	30 gm	0.02	260
CHEESE - creamed cottage	30 gm	0.1	22
BUTTER	1 tsp	0.03	1
ICE CREAM	2 scoops 50 gm	3	55

The recommended daily intake for calcium is 800 mg for men and the same for women, until menopause. Post-menopausal women require 1000 mg of calcium per day. Pregnant women require 1100 mg and 1200 mg if breastfeeding (NH&MRC 1991).

Substitutes for lactose-containing dairy foods

There are now available in Australia a wide range of UHT and fresh soy milks, yoghurts and ice creams which are lactose free. It is best if these foods are calcium enriched. Enriched brands include Sanitarium So good. Soy based yoghurts such as Soy Natural are a moderate source of calcium. Powdered soy milks such as Carnation powdered soy milk can be added during cooking to cakes, desserts and sauces to increase calcium content. Soy milk can be used freely in cooking as you would cows milk. Lactose free ice creams include those based on soy such as Fruccio dairy free ice cream, and many fruit sorbets.

For those who cannot tolerate soy milk or prefer cow's milk there are a number of low lactose milk products available. These include Lactaid or Balance, reduced lactose milks. These are UHT products that can be found on supermarket shelves.

Enzyme drops are also available, and can be added to dairy products to digest the lactose. "Lact-easy drops" may be ordered through pharmacies. The manufacturer, Pharmotech can be contacted on (03) 9531 6667 or faxed on (03) 9531 6622.

A guide to a healthy lactose free/low lactose eating plan

Breakfast:

A bowl of high fibre cereal such as weetbix or porridge with fresh fruit and soy or low lactose milk (if tolerated) and/or wholemeal or grain toast with milk free margarine e.g. Sundew and honey or vegemite. Tea or coffee with soy or low lactose milk.

Lunch:

Sandwiches made with wholemeal bread with lean beef, tinned fish such as salmon (include the bones for calcium) and salad. Milk free margarine if necessary. Tinned or fresh fruit. Water, tea, diluted juice or cappuccino made with soy milk.

Main Meal:

Water with lemon juice. Chicken and vegetable stir fry served with steamed rice. Fruit and Fruccio dairy free ice cream, or custard made on soy or low lactose milk.

Snacks:

Fresh fruit, crackers or microwaved pappadums with salsa, popcorn. Toasted fruit loaf with milk free margarine and. Water, juice, tea, coffee or hot chocolate made from cocoa and soy milk.

References

1. Cobiac, L. "Lactose: A review of intakes and of importance to health of Australians and New Zealanders" CSIRO Australia (undated).

2. McBean, L, Miller, G.D. Allaying fears and fallacies about lactose intolerance. JADA, June 1998, 671 - 676.
3. Australian Dairy Corporation. Proximate Composition of Australian Foods, 1993.

Links to additional information on lactose intolerance:

Web site of the Sanitarium Health food company. Information on their products including soy milks, facts sheets on lactose free eating and recipes.

<http://www.sanitarium.com.au/>

Australian Dairy foods advisory bureau's site. Information on calcium, osteoporosis and the role of dairy foods in a lactose free diet.

<http://www.dairy.com.au>

National Institute of Health information on lactose intolerance.

<http://www.niddk.nih.gov/health/digest/pubs/lactose/lactose.htm>

Dietitians Association of Australia site with information on finding a dietitian.

<http://www.daa.asn.au>