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Milk Allergy & Lactose Intolerance

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By the end of the session you should be able to:-

- Describe the differences between a lactose intolerance and milk allergy
- Identify the main symptoms of a lactose intolerance and milk allergy
- Identify lactose and milk alternatives
- Consider the possible nutritional implications of excluding cows milk and including alternatives

Non-dairy product growth

Globally, sales of non-dairy milk more than doubled between 2009-2015 to \$21bn

From 2017-2020 soya is predicted to increase by 9% while cereal and nut-based ingredients to grow by 30%

Perceived to have beneficial alternative nutrients to cows milk



- Traditionally, products are used by those who have a lactose intolerance or a milk allergy
- However, non-dairy plant based milk and products are no longer seen as primarily for people with a dietary restriction
- Becoming more main stream as more consumers follow a plant-based diet
- Perceived health and wellbeing benefits such as, lowering cholesterol and containing omega 3 fats and fibre



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Milk allergy



Milk allergy

- Leading cause of food allergy
- 2-3% of infants and children have a cows milk allergy
- Usually occurs before the age of 6 months
- Almost 90% of children will react to other mammalian milks – goat, buffalo or sheep milk
- About 90% of children will grow out of a milk allergy by the age of 5
- 1 in 200 will continue or develop a milk allergy in adulthood





Milk allergy (IgE mediated)

Can be an immediate onset allergic reaction

Symptoms include:-

- Urticaria
- Vomiting
- Diarrhoea
- Swelling
- Breathing difficulties
- Anaphylaxis



Milk allergy (Non IgE mediated)



Onset can also be within hours or days

Symptoms include:-

- Eczema
- Acid reflux
- Abdominal pains
- Constipation/diarrhoea
- Blood/mucus stools
- Bloating
- Catarrhal symptoms
- Tiredness

- Treatment is the avoidance of cow, goat, buffalo and sheep milk and all associated products including margarine, butter, yoghurt, ice cream, custard, cheese, evaporated milk.

Check food labels for:

Skimmed milk powder	Hydrolysed whey protein	Casein
Milk powder	Lactalbumin	Whey
Milk sugar	Sodium caseinate	Whey protein
Non fat milk solids	Calcium caseinate	Lactose



Not suitable for milk protein allergy





Milk free diet

Foods to avoid	Foods to check	Suitable foods
<p>Milk and dairy products Cows milk, sheep's milk, goat's milk Dried milk, evaporated and condensed. Flavoured milks, coffee compliment, other whitener, cream, cheese, yoghurt, ice cream, buttermilk</p>	<p>Milk and dairy products Vegetarian cheeses</p>	<p>Milk and dairy products Many milk, cream, ice cream and yoghurt alternatives based on rice, oat, coconut, pea, almond or hazelnut Soya milk and cheese (if tolerated, from 6 months), e.g. Cheezly, Alpro soya yoghurts</p>
<p>Fats and oils Butter, shortening, margarine, low fat spread, ghee</p>	<p>Fats and oils Vegetable margarine</p>	<p>Fats and oils Pure fats and oils, lard, suet dripping, Dairy-free margarines e.g. Granose, Vitalite, Tomor, Pure Kosher margarine</p>
<p>Cereals Milk breads, soda bread, brioche and croissants Filled pasta e.g. ravioli, ready meals e.g. lasagne, pizza Breakfast cereals containing chocolate, muesli</p>	<p>Cereals Bread – wholemeal, brown and white, Chapatti and nan breads, fruit loaves Crackers and crispbreads Cakes and biscuits, pastries Fresh pasta, tinned pasta in sauces, pot noodles Breakfast cereals</p>	<p>Cereals Flour, cornflour, oatmeal, barley and oats, rice and dried pasta Homemade pizza using suitable ingredients</p>



Milk free diet

Foods to avoid	Foods to check	Suitable foods
<p>Meat, fish and alternatives Quiche, sausage rolls, meat pies, scotch eggs; fish in batter Chocolate or yoghurt coated nuts</p>	<p>Meat, fish and alternatives Meat products, e.g. sausages, beef burgers, pate, meat paste Breaded meat products, e.g. chicken nuggets; fish in sauces, coated in breadcrumbs, fish fingers, tinned fish, Ready made meals and takeaways Dry roasted or flavoured nuts</p>	<p>Meat, fish and alternatives NB 'plain' and not breadcrumbed battered, etc.; all fresh and frozen meats (e.g. beef, poultry, pork, lamb); shellfish; eggs; pulses - lentils, beans , hummus; Quorn; soya mince (provided tolerated) All types of nuts (whole nuts should not be given to children under 5 years of age)</p>
<p>Vegetables Vegetables in mayonnaise Coleslaw, vegetable pies</p>		<p>Vegetables All types of fresh, frozen, tinned and dried</p>
<p>Fruit Fruit yoghurts, fools and mousses Chocolate coated fruit, fruit pies Fruit in batter</p>		<p>Fruit All types of fresh, frozen, tinned and dried Fruit juice</p>
<p>Puddings Milk based instant desserts, e.g. Angel Delight, blancmange powders, instant whips; egg custard, milk puddings and custards, chocolate puddings and sauces</p>		<p>Puddings Rice, sago, tapioca and semolina made with milk substitute; soya desserts (provided tolerated); jelly, homemade sponge puddings</p>

Milk free diet

Foods to avoid	Foods to check	Suitable foods
<p>Confectionery Toffee, fudge and butterscotch Ice cream or milk lollies Milk and white chocolate</p>		<p>Confectionery Boiled sweets, fruit pastilles, jellies and gums, ice lollies, dairy free chocolate, e.g. Humdinger</p>
<p>Drinks Instant white tea, cappuccino, Horlicks, Ovaltine, Bournvita, instant hot chocolate, milkshakes and milkshake powders</p>		<p>Drinks Fruit juice, squash cordials and fizzy drinks; tea, coffee, cocoa, meat extracts e.g. Bovril, Oxo, Bisto and Marmite Milk shake syrups</p>
<p>Miscellaneous Lemon curd, lemon cheese; chocolate spread; sauces made with milk Some artificial sweetener powders</p>		<p>Miscellaneous Jam, honey, marmalade, syrup, and treacle; salt, pepper, herbs and spices, tomato ketchup, oil based salad dressings; sugar</p>



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Lactose intolerance



Lactose Intolerance vs Milk Allergy



Lactose intolerance	Milk allergy
A sensitivity	An allergy
Occurs in gastrointestinal system	Triggered by immune system
A sensitivity to milk carbohydrate (lactose)	A reaction to milk protein
Rare in young children	Generally impacts young children; may be outgrown*
Can enjoy milk and milk products with simple management strategies	Should avoid milk and milk products (unless allergy is outgrown)



Lactose intolerance

- A lactose intolerance is the inability to digest the milk sugar (lactose) due a lactase deficiency.
- Symptoms include:-
 - Bloating
 - Flatulence
 - Diarrhoea
 - Stomach cramps
 - Nausea



Primary lactose intolerance:-

- Genetically inherited
- Age related
- Decrease in lactase activity
- Permanent

Secondary lactose intolerance:-

- Usually temporary
- Caused by damage to the bowel lining where lactase is produced
- Occurs at any age

- Treatment is avoiding or reducing cow, goat, buffalo and sheep milk and all associated products including margarine, yoghurt, ice cream, custard, some cheeses, evaporated milk.

Check food labels for:

Skimmed milk powder	Hydrolysed whey protein	Casein
Milk powder	Lactalbumin	Whey
Milk sugar	Sodium caseinate	Whey protein
Non fat milk solids	Calcium caseinate	Lactose

Lactose free diet

- Reducing or eliminating lactose from the diet to help manage symptoms.
- Short or life-long lactose avoidance.
- Amount of lactose to include/exclude is individual.
- Use naturally lactose free, low lactose and lactose free alternatives.

Foods to avoid	Suitable alternatives
Milk, including fresh, dried, long life, evaporated and flavoured milk, coffee whitener Products with added Whey or Caseinates	Milk Substitute E.g Lactofree or soya/ rice/almond/hazelnut/oat (Choose the calcium fortified type)
Yogurt, fromage frais, ice-cream. Instant puddings containing milk powder. Blancmange, trifle and mousse	Lactofree yogurts and desserts. Fruit sorbet ice-cream, yoghurts and desserts based on rice/almond/pea/hazelnut/oat Soya products from 6 months
Fresh or Long Life cream, Aerosol cream	Artificial cream e.g. Tesco non-dairy, Sainsbury's Imitation, Oatly or Alpro Soya
Cream cheese, cheese spread, cottage cheese, Processed cheese	Hard cheese's e.g. Cheddar, Leicester, Edam Brie, Stilton
Most margarine and low fat spreads	Butter, Dairy free margarine (e.g. Pure, Vitalite, Soya) vegetable oils, Lactofree spread
Tinned & packed milk pudding's and custard	Milk puddings and custard made with milk substitute
Horlicks, Ovaltine, Complan, Build Up, "Instant" hot chocolate drinks	Tea, coffee, cocoa, drinking chocolate made with milk substitute
Creamed soups, soups containing milk powder or whey powder. Dried and ready made sauces	Milk free soups and gravies Salad cream and mayonnaise
Low calorie sweeteners containing lactose Fudge, toffee, milk chocolate	Boiled sweets, fruit gums and fruit jellies Plain chocolate



Potential nutritional consequences

- Cows milk is a good source of calcium, protein and fat soluble vitamins
- If milk and milk products and associated nutrients are excluded or reduced, it may lead to nutritional deficiencies.
- Reduced dietary calcium and vitamin D can have an affect on bone health
- Consider the nutritional value of plant-based milk and products when using in food products



Plant based milk nutritional considerations

Consider which milk free alternative/s are the most appropriate to your product and market



Low protein content
(0.1g/100ml)



Higher saturated fat
1.9g/100ml



Higher protein
3g/100ml



Higher fibre
0.8g/100ml



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Any Questions?



Food labelling

TESCO
Free From
4 Strawberry & Vanilla Cones

New

GLUTEN FREE
WHEAT FREE
DAIRY FREE MILK FREE

No artificial preservatives, flavours or colours.

Each cone contains	
Energy 879kJ / 210kcal	11%
Fat 9.1g	13%
Saturates 8.1g	41%
Sugars 18.8g	21%
Salt 0.15g	3%

Keep frozen
480ml
(4x120ml)

Vegetarian & Vegan

Typical values per 100g: Energy 1203kJ / 287kcal

DELICIOUS FREE FROM
WHEAT FREE | GLUTEN FREE | MILK FREE

4 CHERRY BAKEWELLS

by Sainsbury's

DELICIOUS FREE FROM
WHEAT FREE | GLUTEN FREE | MILK FREE

CHOCOLATE SPONGE PUDDING

by Sainsbury's

NEW

HIGH TASTE

FLORA freedom

DAIRY FREE

60% lower in saturated fat than butter

Viotros

violife

NO preservatives

original

200g

- ✓ Suitable for vegans and vegetarians
- ✓ Dairy free
- ✓ Lactose free
- ✓ Soy free
- ✓ Palm oil free
- ✓ Gluten free

koko
Dairy Free

Original + Calcium

delicious dairy free alternative to milk.

Energy 100kJ / 24kcal

Colette

LACTOSE FREE

Milk Free MILK

SWEDISH GLACE

dairy-free

smooth Vanilla

made with SOY

alpro

alpro



- British Dietetic Association food facts
<https://www.bda.uk.com/foodfacts/milkallergy.pdf>
- NHS choices on lactose intolerance
<http://www.nhs.uk/Conditions/lactose-intolerance/Pages/Introduction.aspx>
- Cows milk allergy
<http://www.cowsmilkallergy.co.uk>
- Allergy UK
https://www.allergyuk.org/assets/000/000/514/AUKOB_-_Guide_to_Food_Allergy2_original.pdf?1492601191
- Food Standards Agency – Understanding of food labelling terms used to indicated the absence or reduction of lactose, milk or dairy.
https://www.food.gov.uk/sites/default/files/multimedia/pdfs/publication/understand_foodlabelling.pdf