



Children's Health Ireland  
at Temple Street

# Metabolic.ie

National Centre for Inherited Metabolic Disorders



# Galactosaemia



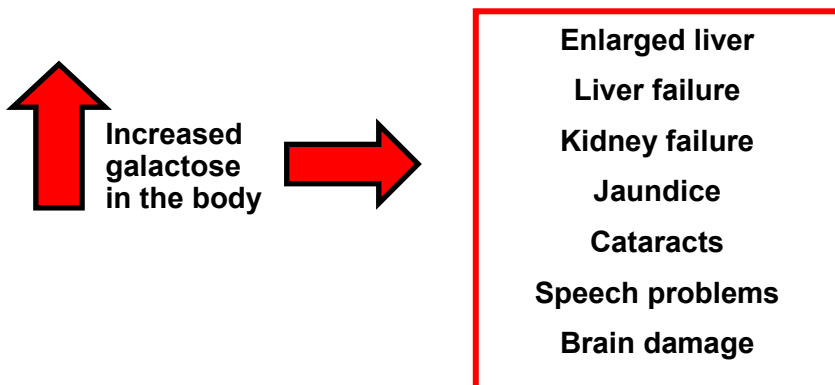
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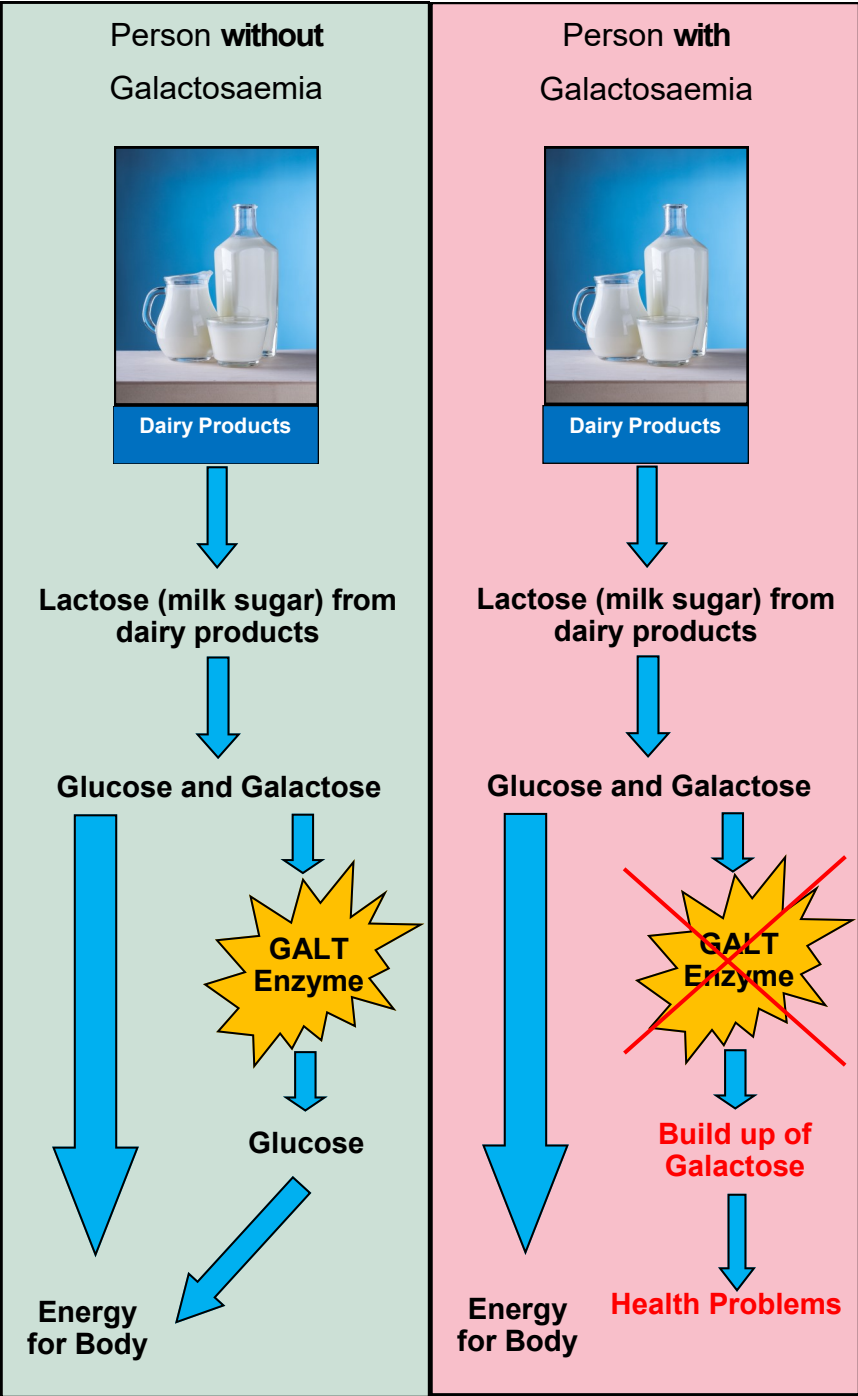
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# What is Galactosaemia?

Galactosaemia is a rare, inherited, metabolic disorder. The sugar found in all animal milks is called lactose, which contains galactose. Usually, when a person eats or drinks a product containing lactose, such as milk, cheese, or yoghurt, the body breaks lactose into two sugars, glucose and galactose. Glucose is used by the body for energy, while galactose is converted into more glucose. People with galactosaemia lack the enzyme needed to break down galactose. This is known as the GALT (galactose-1-phosphate uridyl transferase) enzyme.

This causes too much galactose to build up in the blood.





# What is the Treatment for Galactosaemia?

The treatment is a low galactose diet. The main source of galactose is lactose, therefore lactose has to be excluded from the diet. It is recommended to follow this dietary restriction for life.

## Types of food that contain lactose

Lactose is found in 4 main types of food:

- Cow's milk
- Products made from cow's milk
- Manufactured foods which contain cow's milk
- Any mammalian milk including breast milk, goat's milk or sheep's milk



**No Lactose, No Galactose**

# The Traffic Lights

The galactosaemia diet can be split into 3 main groups.

A traffic light system is often used to help explain the groups.

## **RED STOP:**

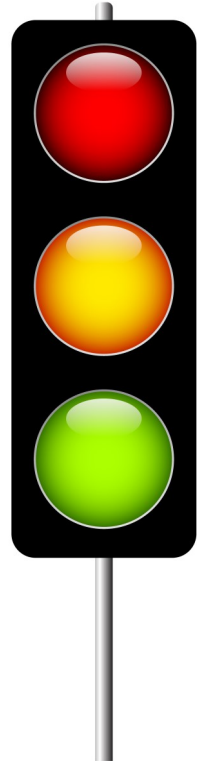
Avoid these foods

## **ORANGE CAUTION:**

May contain lactose or galactose so check the label

## **GREEN GO:**

These foods are allowed

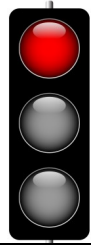


**Always check the food label**

There is more information on how to do this on  
pages 21-22

## RED STOP:

These foods are not allowed as they contain lactose or galactose



<p><b>Milk and milk products</b></p> 	<ul style="list-style-type: none"> <li>• All cow's milk including full fat, semi-skimmed, skimmed, UHT milk and milk shakes</li> <li>• <b>All 'lactose free' milk</b> and milk products such as those shown left as these still contain galactose</li> <li>• Any mammalian milk including goat, sheep or breast milk</li> <li>• Dried milks such as Marvel, Coffee mate and other coffee creamers</li> <li>• Evaporated and condensed milk</li> <li>• Yoghurt and yoghurt drinks</li> <li>• Ice-cream</li> <li>• Fromage frais, crème fraiche, sour cream</li> <li>• Cream - double, single, whipping, clotted and artificial</li> <li>• Buttermilk</li> </ul>
<p><b>Fats</b></p>	<ul style="list-style-type: none"> <li>• Butter</li> <li>• Vegetable spreads – most contain milk products</li> </ul>

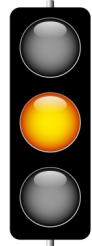


<b>Sauces</b>	<ul style="list-style-type: none"> <li>• White sauce</li> <li>• Parsley sauce</li> <li>• Butter sauce</li> <li>• Cheese sauce</li> <li>• Sauces made with any milks other than the suitable milks listed</li> </ul>
<b>Cheese</b> 	<ul style="list-style-type: none"> <li>• All cheese, cheese spreads and cottage cheese <i>with the exception of the 9 permitted cheeses for Galactosaemia on page 18</i></li> <li>• <b>All 'lactose free' cheese</b> as it still contains galactose</li> </ul>
<b>Bread</b>	<ul style="list-style-type: none"> <li>• Milk bread such as brioche, soda and naan bread</li> <li>• Any breads containing milk as an ingredient</li> </ul>
<b>Eggs</b>	<ul style="list-style-type: none"> <li>• Scotch egg</li> <li>• Quiche</li> <li>• Scrambled egg if made with milk or butter</li> </ul>
<b>Pastas</b>	<ul style="list-style-type: none"> <li>• Macaroni cheese</li> <li>• Pasta in a creamy sauce</li> </ul>
<b>Spreads</b>	<ul style="list-style-type: none"> <li>• Chocolate spread</li> </ul>

<b>Desserts</b>	<ul style="list-style-type: none"> <li>• Milk puddings</li> <li>• Instant desserts made with milk</li> <li>• Mousse</li> <li>• Custard made with milk</li> <li>• Ready made custard/instant custard powder</li> <li>• Pies, crumbles and sponges made with butter or margarine</li> <li>• Milk jelly</li> <li>• Ice cream</li> <li>• Pancakes / crepes</li> </ul>
<b>Confectionary</b>	<ul style="list-style-type: none"> <li>• Milk chocolate / White chocolate</li> <li>• Toffee</li> <li>• Fudge</li> <li>• Caramel</li> </ul>
<b>Drinks</b>	<ul style="list-style-type: none"> <li>• Milk, milk shakes</li> <li>• Bournvita, Horlicks, Ovaltine</li> <li>• Instant cappuccino coffee / instant hot chocolate</li> <li>• Instant white tea</li> <li>• Cream liqueurs such as Bailey's or Irish Mist <b>(for those over 18 year old)</b></li> </ul>

## ORANGE CAUTION:

These foods are manufactured and therefore may contain lactose or galactose. The ingredients list need to be checked regularly to make sure it is suitable.



<b>Meat, poultry and fish</b>	<ul style="list-style-type: none"><li>• Processed and pre-packed meat and fish</li><li>• Sausages, burgers, hot dogs, meat balls, meat pies, sausage rolls</li><li>• Chicken nuggets, chicken burgers, chicken tenders or any meat in batter or breadcrumbs</li><li>• Tinned fish in sauce</li><li>• Fish fingers and other fish in batter and breadcrumbs</li></ul>
<b>Vegetables</b>	<ul style="list-style-type: none"><li>• Mashed potato - check if any ordinary milk or butter added</li><li>• Instant mash, potato salad</li><li>• Tinned vegetables in sauce</li><li>• Baked beans</li><li>• Crisps</li><li>• Tortilla chips</li><li>• Coleslaw</li><li>• Potato waffles, potato shapes</li><li>• Vegetables in batter or breadcrumbs</li></ul>
<b>Fat</b>	<ul style="list-style-type: none"><li>• Margarines or low fat spreads</li></ul>

<b>Desserts</b>	<ul style="list-style-type: none"> <li>• Sorbets and ice lollies</li> <li>• Instant desserts</li> </ul>
<b>Sauces, soups and spreads</b>	<ul style="list-style-type: none"> <li>• Dried or ready to use cooking sauces</li> <li>• Gravy mixes, stock cubes and browning</li> <li>• Tinned, packet or fresh soups</li> <li>• Sandwich spreads including salad cream, mayonnaise</li> <li>• Peanut butter</li> <li>• Meat and fish paste</li> <li>• Lemon curd</li> <li>• Fruit mincemeat used for mince pies</li> </ul>
<b>Confectionary</b>	<ul style="list-style-type: none"> <li>• Plain chocolate</li> <li>• Chewy sweets</li> <li>• Popcorn</li> </ul>
<b>Drinks</b>	<ul style="list-style-type: none"> <li>• Drinking chocolate</li> </ul>
<b>Fruit and nuts</b>	<ul style="list-style-type: none"> <li>• Fruit pie</li> <li>• Coated nuts, dry roasted nuts</li> </ul>
<b>Breakfast cereals</b>	<ul style="list-style-type: none"> <li>• Breakfast cereals and cereal bars</li> </ul>
<b>Pasta</b>	<ul style="list-style-type: none"> <li>• Tinned spaghetti in sauce, pasta shapes in sauce</li> </ul>
<b>Eggs</b>	<ul style="list-style-type: none"> <li>• Scrambled egg or omelette - check if made with ordinary milk and butter</li> </ul>

<b>Breads</b>	<ul style="list-style-type: none"> <li>• Wholemeal, granary, white, soda, naan and crisp breads</li> <li>• Croissants</li> <li>• Chapatti</li> <li>• Crumpets, pancakes</li> <li>• Muffins</li> </ul>
<b>Biscuits and cakes</b>	<ul style="list-style-type: none"> <li>• Manufactured biscuits, cakes and doughnuts</li> </ul>

**WARNING:**

Even if a manufactured food is lactose free the first time you buy it, always recheck the label the next time to make sure it still is lactose free. Sometimes the manufacturer's change the ingredients.

## GREEN GO:

These are allowed as they do not contain lactose or galactose.



<b>Milk and milk products</b>	<ul style="list-style-type: none"><li>• Soya powdered infant formula such as SMA Soya Infant formula</li><li>• Soya milk</li><li>• Soya yoghurts</li><li>• Soya ice-cream</li><li>• Soya desserts</li><li>• Soya cream</li><li>• Rice milk - <i>not suitable under 5 years/during pregnancy</i></li><li>• Oat milk</li><li>• Oat cream</li><li>• Nut milks e.g. Hazelnut, Almond, Coconut</li></ul>
<b>Fats and Oils</b>	<ul style="list-style-type: none"><li>• Vegan margarine e.g. Pure</li><li>• Kosher margarine</li><li>• Lard, dripping</li><li>• Vegetable oil including olive oil</li><li>• Butter oil</li><li>• Butter fat</li><li>• Ghee</li></ul>

<b>Eggs</b>	<ul style="list-style-type: none"> <li>• Eggs plain or can be cooked with dairy free alternative milk and dairy free margarine</li> </ul>
<b>Cheese</b>	<ul style="list-style-type: none"> <li>• Gruyere</li> <li>• Emmental</li> <li>• Italian Parmesan</li> <li>• Pecorino Romano</li> <li>• Grand Padano</li> <li>• Jarlsberg</li> <li>• Comte</li> <li>• Vintage cheddar</li> <li>• Extra Mature cheddar</li> <li>• Low Fat Extra Mature cheddar</li> <li>• Babybel Original</li> </ul>
<b>Meat, poultry and fish</b>	<ul style="list-style-type: none"> <li>• Fresh meat, chicken or turkey</li> <li>• Fresh fish or shell fish</li> <li>• Tuna, sardines or pilchards in brine, spring water or oil</li> </ul>
<b>Fruit and nuts</b>	<ul style="list-style-type: none"> <li>• All fresh, frozen and dried fruit</li> <li>• Tinned fruit in juice or syrup</li> <li>• Plain, roasted or salted nuts</li> </ul>
<b>Bread, biscuits and cakes</b>	<ul style="list-style-type: none"> <li>• Homemade with milk-free ingredients</li> </ul>

<b>Flours, grains and pasta</b>	<ul style="list-style-type: none"> <li>• Wheat, rye, barley, oats, sago, corn flour, semolina, tapioca</li> <li>• Rice</li> <li>• Plain boiled pasta and spaghetti – dried or fresh</li> </ul>
<b>Vegetables</b>	<ul style="list-style-type: none"> <li>• All fresh, frozen or dried vegetables</li> <li>• Pulses –dried or tinned e.g. red kidney beans, chick peas or lentils</li> <li>• Mashed potatoes plain or can be made with milk substitute and milk-free margarine</li> </ul>
<b>Desserts</b>	<ul style="list-style-type: none"> <li>• Jelly</li> <li>• Custard and other milk puddings made with milk substitute</li> <li>• Pies, crumbles and sponges made with milk free ingredients</li> </ul>
<b>Sauces, soups and spreads</b>	<ul style="list-style-type: none"> <li>• Homemade soup without milk or cream</li> <li>• Homemade sauces made with milk substitutes</li> <li>• Homemade gravy made with milk-free gravy mix, lactose free stock cubes, Marmite or Bovril</li> </ul>



<b>Sugar, preserves and confectionary</b>	<ul style="list-style-type: none"> <li>• Sugar, glucose, honey, jam, marmalade, syrup and treacle</li> <li>• Boiled sweets</li> </ul>
<b>Drinks</b>	<ul style="list-style-type: none"> <li>• Fruit juice, squash</li> <li>• Fizzy drinks</li> <li>• Mineral water</li> <li>• Tea, coffee and cocoa made without milk or with milk substitute</li> </ul>
<b>Miscellaneous</b>	<ul style="list-style-type: none"> <li>• Baking powder, bicarbonate of soda, cream of tartar, yeast</li> <li>• Herbs, pure spices</li> <li>• Mustard</li> <li>• Vinegar, salt, pepper</li> <li>• Tomato ketchup</li> <li>• Colouring and essences</li> </ul>

## What About Cheese?

The following cheeses are suitable for people with galactosaemia:

- Gruyere
- Italian Parmesan
- Jarlsberg
- Emmental
- Grana Padano
- French Comte
- Vintage cheddar
- Extra Mature cheddar
- Low Fat Extra Mature cheddar
- Babybel Original (others not suitable)
- Pecorino Romano

These cheeses are a very good source of calcium and should be included in the diet to achieve adequate calcium intake (see section on bone health pages 24 to 25).

There are also a number of alternative vegan cheeses available. These cheese alternatives do not always contain calcium. Your dietitian can provide you with a full list of products available.

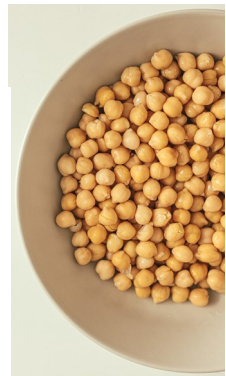
# What About Bound Galactose?

Many foods contain 'bound galactose'. These foods include

- Fruit
- Vegetables
- Nuts
- Seeds
- Legumes e.g. kidney beans, black beans, pinto beans and chickpeas
- Offal e.g. kidney, brain, liver and heart

Bound galactose cannot be digested in the human stomach as the enzyme called galactosidase that is required to break this down is not present in the human gut.

Bound galactose does not result in an increase in galactose in the body. Therefore, in Ireland we do not recommend avoiding these foods in your child's diet.



## Soya-based Food Products

**Non-fermented:** Non fermented soya products include tofu, soya milk, soya beans and soya nuts. The international galactosaemia guidelines recommend allowing any amount and type of non-fermented soya products in your child's diet



**Fermented:** Fermented soya foods include tempeh, miso and soy sauce. Fermented soya products are higher in galactose due to the fermentation process releasing galactose, making it more available for absorption. All fermented soya-based products can be allowed in small amounts.




# Reading Food Labels

The following are a list of ingredients that contain milk and are therefore **not** suitable:

## Unsuitable Ingredients

- Milk, skimmed milk powder, milk solids, milk protein, non-fat milk solids, separate milk solids
- Margarine or shortening containing skimmed milk or whey
- Whey, hydrolysed whey protein, whey syrup sweetener, hydrolysed whey sugar, vegetarian whey
- Casein, hydrolysed casein
- Cheese (unless known to be suitable -see page 18), cheese powder
- Butter, buttermilk, cream, artificial cream
- Lactose
- Artificial sweetener called Tagatose and Lactitol



**Ask your dietitian  
for our wallet  
sized shopping  
card**

Products which state they have been “made in a factory where milk products are made” or “may contain traces of milk” **are safe** to use.

Some ingredients, such as those below, sound as though they contain lactose but they do not contain lactose. These foods **are** suitable for people with galactosaemia.



### Suitable Ingredients

- LacticAcidE270
- SodiumlactateE325
- Stearoyllactylates
- PotassiumlactateE325
- CalciumlactateE327
- Monosodiumglutamate
- Gluconadeltalactone
- Butter oil
- Lysacin
- Cocoabutter
- Butter fat, milk fat
- Ghee

## Bone Health: How Much Calcium do I Need?

Calcium is necessary to build strong, healthy bones. Usually milk and milk products provide the main source of calcium.

The amount of calcium needed depends on your age.

EFSA guidelines 2015,

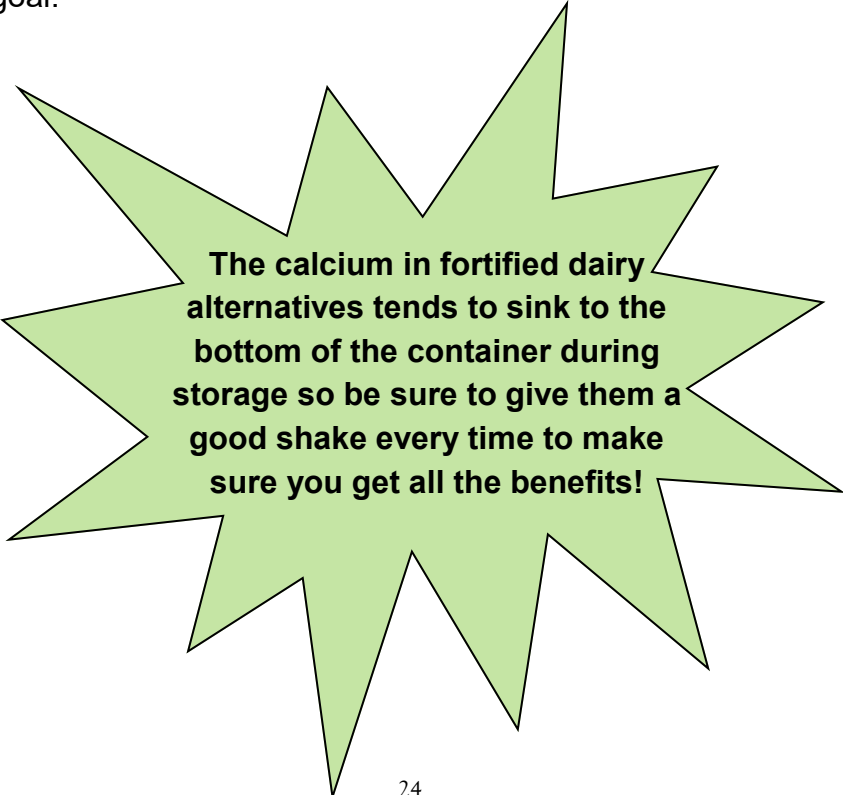
Age	Calcium requirement (mg/day)	No. of portions
<b>Infants</b> <b>7 - 12 months*</b>	280	3
<b>1-3 years</b>	430	4 ½
<b>4-10 years</b>	800	8
<b>11-17 years</b>	1150	11 ½
<b>Adults:</b> <b>18-24 years</b> <b>&gt;25 years</b>	1000 950	10 9 ½
<b>Pregnancy and Lactation</b>	As per Adult	

\*Initially when solids are started, their calcium requirements will be met from a combination of both milk free food and soya based infant formula. Your dietitian will help calculate the amount of formula and food required.

**100mg of calcium = 1 portion**

Certain foods which are naturally lactose free are high in calcium and should be included in your daily diet. The calcium content of these food has been divided into portions in the tables on pages 26-31

Use the tables to calculate how much calcium you are taking each day and work out how you can achieve your goal.



**The calcium in fortified dairy alternatives tends to sink to the bottom of the container during storage so be sure to give them a good shake every time to make sure you get all the benefits!**



## Meal Plan Example

A twelve year old girl needs **1150mg calcium (11.5 calcium portions)** each day. Here's a sample meal plan for her:

Meal	Calcium Portion
<b>Breakfast</b>	
Readybrek (30g)	4
Made with calcium enriched soya milk (150ml)	1 $\frac{3}{4}$
<b>Snack</b>	
Calcium enriched soya yoghurt (125g)	1 $\frac{1}{2}$
<b>Lunch</b>	
Wholemeal bread (2 Slices)	1
Emmental cheese (30g) and salad	3
<b>Snack</b>	
Apple and bag of Popcorn	0
<b>Dinner</b>	
Potato (2 medium)	0
Mixed vegetables	0
1 salmon fillet (210g)	$\frac{1}{4}$
<b>Total Calcium Intake = 1150mg</b>	<b>11.5</b>

Food Type	Calcium Portions
<b>Formula</b>	
210ml - 7oz SMA Wysoy Soya Infant formula	1½
<b>Soya Milk</b>	
100ml Alpro Soya /Light Soya Milk/ No Sugars/ Barista/ High Protein/ Growing Up Milk	1¼
100ml Alpro My Cuppa	0
100ml Organic / Non calcium enriched	0
100ml M&S Plant Kitchen	1¼
100ml Tesco Soya Sweetened/Unsweetened Milk	1¼
100ml Aldi Actileaf Soya	1¼
100ml Lidl Just Free Soya	1¼
<b>Nut &amp; Coconut Milks</b>	
100ml Alpro Almond Original/ Roasted/ Unroasted/ Barista/ Hazlenut/ Cashew/ Coconut original/ Creamy/ No sugars	1¼
100ml Aldi Actileaf Almond	1¼
100ml Dunnes Stores Almond/ Coconut	1 ¼
100ml Tesco Almond/ CoconutDrink	1 ¼
100ml Lidl Just Free Almond/ Almond Barista	0
100ml M&S Plant Kitchen Almond/Coconut	1¼
100ml Koko Original/ Unsweetened	1¼
100ml Koko Super Milk/ Life Milk	1¾
Califia Farm Almond	2
<b>Other Milk</b>	
100ml Mighty Whole/Semi	1 ¼

Food Type	Calcium Portions
<b>Oat Milk</b>	
100ml Oatly Classic Calcium/ Foamable	1¼
100ml Alpro Oat/ No Sugars/ Barista/ Growing up	1¼
100ml Aldi Actileaf Oat	1¼
100ml Dunnes Stores Oat	1 ¼
100ml Flahavans Vitamin Enriched Oat Drink	1 ¼
100ml Lidl Just Free Oat/ Oat Barista	0
100ml M&S Plant Kitchen Whole Oat/Semi Oat/ Barista Oat	1¼
100ml Mighty Protein Oat	1¾
100ml Moma Original/Barista	1¼
<b>Rice Milk</b>	
100ml Rice Dream Original + Calcium	1¼
100ml Alpro Rice Milk Original	1¼
<b>Soya/ Coconut Yoghurt</b>	
125g Alpro Soya Yoghurt	1½
125g Aldi Soyummy	1½
125g Lidl Just Free Soya Yoghurt	1½
125g Lidl Just Free Coconut Yoghurt	0
125g Organic Dairy Free	0
125g Koko Plain/ Fruit Flavours	1½
125g Koko Plain Unsweetened/Greek Style	2

Food Type	Calcium Portions
<b>Soya, Coconut and Oat Desserts</b>	
250ml Alpro Vanilla Custard (½ carton)	3
250ml Oatly Vanilla Custard	0
1 pot Alpro Dessert (Caramel, Chocolate, Vanilla)	1½
The Coconut Collaborative/ All and More Coconut Desserts	0
All Brands Dairy Free Ice cream	0
<b>Cheese</b>	
30g Jarlsberg	2
30g Italian Parmesan/Grana Padano	3 ½
30g Gruyere	3
30g Emmental	3
30g Comte	2 ½
30g Pecorino Romano	2 ¼
20g Babybel Original	1½
30g Mature/Vintage Cheddar	2
30g Low Fat Mature/Vintage Cheddar	2 ½
30g Tesco Free From Coconut Oil Cheese	½
30g M&S Plant Kitchen Non-Dairy Cheese	½
30g Koko Cheddar Cheese Alternative	2
30g Dairygold Plant Based White Cheese	½
30g Violife Cheese	0

Food Type	Calcium Portions
<b>Bread and Cereals</b>	
2 Medium Slices White Bread	1 ¼
2 Medium Slices Wholemeal Bread	1
1 Average Bowl Readybrek (30g)	4
1 Average Bowl All Bran (45g)	1½
1 Average Bowl Cheerios (45g)	2
1 Average Bowl Coco-pops (45g)	2
1 Average Bowl Frosties (45g)	2
<b>Meat, Fish and Eggs</b>	
1 Average tin Sardines in Brine (120g)	8
1 Average tin Sardines in Oil (120g)	6
1 Average tin Sardines in Tomato Sauce (120g)	5½
1 Small Tin Anchovies (50g)	1 ½
Tinned Pink Salmon (50g)	½
1 Average Salmon cutlet (210g)	¼
1 Average Portion Prawns (100g)	½
1 Average Portion Scampi* (150g)	1½
½ Tin Crab meat (85g)	1
3 Pork Sausages*	1
2 Medium Eggs Boiled	½

*\*Check brand and product to ensure lactose free*

Food Type	Calcium Portions
<b>Fruit</b>	
7 dried Apricots (54g)	$\frac{1}{2}$
1 Medium Orange (160g)	$\frac{1}{4}$
1 Bowl Blackcurrants (stewed) - 100g	$\frac{1}{2}$
1 Dried Fig	$\frac{1}{2}$
Mixed Dried Fruit 55g	$\frac{1}{2}$
<b>Vegetables</b>	
1 small can baked beans	1
$\frac{1}{2}$ can chick peas (100g)	$\frac{1}{2}$
60g Spinach	1
70g Curly kale	1 $\frac{1}{2}$
85g Pak Choy/ Bok Choy	$\frac{1}{2}$
80g Okra	$\frac{3}{4}$

Food Type	Calcium Portions
<b>Nuts and Seeds</b> <b>Warning: Whole nuts should not be given to children under 5 years old due to the risk of choking.</b>	
18 Whole Almonds (36g)	1
20 Hazelnuts (35g)	$\frac{1}{2}$
13 Walnuts	$\frac{1}{4}$
3 Whole Brazil Nuts	$\frac{1}{4}$
Peanuts (100g)	$\frac{1}{2}$
Mixed Nuts (50g)	$\frac{1}{4}$
1 Tbsp.* Sesame seeds (15g)	1
1 Heaped Tsp.* Tahini (10g)	$\frac{1}{2}$

\* Tbsp. = tablespoon; Tsp = teaspoon

# Bone Health: Vitamin D

Vitamin D is also necessary for good bone health. It helps the body to absorb calcium and prevents your bones from becoming brittle. Vitamin D is often added into calcium supplements for this reason.



There are a few foods that contain vitamin D such as oily fish, egg yolks, spreads and fortified foods for example certain milk alternatives.

It is recommended that a vitamin D supplement is taken by the general population including those with Galactosaemia from October to March and for older adults all year round\*. Remember to check the brand and product to ensure it is lactose free.

\* Refer to [www2.HSE.ie](http://www2.HSE.ie) and [www.fsai.ie](http://www.fsai.ie)





## Vitamin D requirements

The table below shows the amount of vitamin D recommended per day. If you or your child is diagnosed with a vitamin D deficiency, they may require a higher dose of vitamin D. This can be discussed with your doctor.

Age	Vitamin D requirement (µg/day)
<b>Infants 7 - 12 months</b>	10
<b>1-17 years</b>	15
<b>Adults: &gt;18 years</b>	15
<b>Pregnancy and Lactation</b>	As per Adult

EFSA Guidelines 2017

# Do I Need a Vitamin and Mineral Supplement?

If you or your child are not taking enough calcium enriched foods or drinks, a calcium supplement may be recommended. Your dietitian may recommend a vitamin D or other vitamin and mineral supplement if they feel it is needed.



Always check your supplements and medication. They may contain lactose as a filling or bulking agent and so your doctor or pharmacist can check this for you. Capsules and syrups are not usually a problem but still need to be checked for added lactose.



# Iodine

Iodine is an essential mineral for health. It helps to produce thyroid hormones. It is important for your child's brain development and growth. It supports a healthy metabolism. People with galactosaemia are at risk of iodine deficiency due to the lack of dairy products in their diet.

## How much iodine is needed?

EFSA Guidelines 2017

Age	Recommended Intake (µg/day)
<b>Infants</b>	
<b>7 - 11 months</b>	70
<b>1-10years</b>	90
<b>11-14 years</b>	120
<b>15-17 years</b>	130
<b>18+</b>	150
<b>Pregnancy and Lactation</b>	200

## Which foods are high in Iodine?

- Iodine fortified dairy alternative milk
- White fish
- Eggs
- Some permitted cheese

### White fish:

Fish/Seafood	Iodine Content
Hake	11
Plaice	24
Pollock	58
Breaded cod	59
Crab white meat	62
Fresh cod	97
9 Mussels	148
Haddock	198
Crab brown meat	200



60g



60g

Fish	Iodine Content (µg)
1 Fish finger	23



1 fish finger

## Permitted cheeses:

Cheese 30g	Iodine Content (µg)
Emmental	6
Vintage/Extra Mature cheddar	9.6
Jarlsberg/Comte/Gruyere	12
Parmesan	21.6



## Eggs:

Food	Iodine Content (µg)
1 medium egg	31



## Iodine fortified dairy alternatives:

Ask your dietitian for the latest copy of 'Lactose and Galactose Free Alternatives to Dairy' to see what dairy alternative products are available in Ireland with iodine.



Drinking fortified milk will help you or your child with their vitamin D and calcium requirements as well as iodine.

**Ways to include more dairy alternatives in your or your child's diet:**

By adding to

- Cereal
- Mashed potatoes and pasta
- Homemade smoothies
- Hot chocolate as a treat
- Homemade custard
- Homemade milk lollipops
- Homemade milk puddings

If it is a struggle for your child to eat these high iodine foods please discuss this with your dietitian as a supplement might be required.

## Recipe Information

For a selection of dairy free recipes ask your dietitian. Also visit the recipe corner of our website [www.metabolic.ie](http://www.metabolic.ie) or check out our QR codes on our notice board.



You could also try the following websites:

[www.alprosoy.co.uk](http://www.alprosoy.co.uk)

[www.godairyfree.org](http://www.godairyfree.org)

[www.dairyfreecooking.about.com](http://www.dairyfreecooking.about.com)



The following two pages contain useful resources to cut out and keep:

- A summary table of calcium, vitamin D and iodine requirements with reminders of good food sources for them
- A wallet sized shopping card to help with label reading. Further copies of this can be supplied by the metabolic team.



Age	Calcium requirement (mg/day)	No. of portions	Vitamin D requirement (µg/day)	Iodine requirement (µg/day)
Infants				
7 - 12 months*	280	3	10	70
1-3 years	430	4 ½	15	90
4-10 years	800	8	15	90
11-14 years	1150	11 ½	15	120
15-17 years	1150	11 ½	15	130
Adults:				
18-24 years	1000	10	15	150
>25 years	950	9 ½	15	150
Pregnancy and Lactation	As per Adult		As per Adult	200
100mg of calcium = 1 portion				Iodine fortified dairy alternatives White fish Eggs Some permitted cheeses
				Oily Fish Egg Yolks Fortified spreads Fortified foods



## Cut out, fold and keep



### Reading Food Labels for Galactosaemia



#### READ THE LABEL EVERY TIME

Even if a product is suitable the first time you buy it, always **recheck** the label. Ingredients can change even if the appearance of the product looks the same.

'Lactose-free' products are **NOT** suitable for galactosaemia as they contain galactose



Products that state:

"made in a factory where milk products are made" or "may contain traces of milk" - are **safe** to use



The following list of ingredients are **NOT** suitable:

- |                       |                           |                      |
|-----------------------|---------------------------|----------------------|
| - Milk                | - Milk proteins           | - Hydrolysed casein  |
| - Skimmed milk        | - Non-fat milk solids     | - Cheese (unless     |
| - Skimmed milk powder | - Separate milk solids    | known to be          |
| - Yoghurt             | - Shortening (containing  | suitable)            |
| - Butter              | skimmed milk or whey)     | - Cheese powder      |
| - Cream               | - Whey                    | - Buttermilk         |
| - Margarine (unless   | - Hydrolysed whey sugar   | - Artificial cream   |
| dairy free)           | - Hydrolysed whey protein | - Tagatose and       |
| - Lactose             | - Whey syrup sweetener    | Lactitol (Artificial |
| - Milk solids         | - Vegetarian whey         | Sweeteners)          |
|                       | - Casein                  |                      |





**Notes:**



**Notes:**







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