

MILK

Nutritional Value

	Amount	Type	Function
PROTEIN	3.5%	High Biological Value	Growth of new cells & repair of old /damaged cells
FAT	4% (whole) 0.5% (low fat)	Saturated Fat	Fat is easily digestible and is used for heat and energy.
CARBOHYDRATE	4.5%	Sugar in the form of lactose	Provides heat & energy
VITAMINS	Vitamins B, A, D (whole milk) A & D (fat soluble vitamins) removed when fat is removed (low fat milk)		B - Helps to maintains a healthy nervous system D - healthy bones & teeth
MINERALS	Calcium		Healthy bones & teeth
WATER	87%		Water is needed to carry nutrients around the body - it also helps to get rid of waste

Nutrients not found in milk:

Vitamin C - Iron

Value of milk in the diet / Why should we include milk in our diet?

- Milk is an important source of protein and calcium
- It is relatively inexpensive
- Easily digestible food suitable for young growing children, teenagers, adults and the elderly



Culinary Uses of Milk:

- As a drink, alone or in tea, coffee etc
- With breakfast cereals
- In puddings, sweets etc
- In sauces and soups
- In savoury dishes e.g. Quiche
- In baking eg Bread
- Milk products e.g. Yoghurt & Cheese

Types of Milk

<ul style="list-style-type: none">• Whole milk• Low fat milk• Skimmed milk• Fortified milk• Buttermilk	<ul style="list-style-type: none">• Dried milk• Condensed milk• Long life Milk• Soya Milk
--	--

WHOLE MILK	<ul style="list-style-type: none"> • Standard milk (3.5% fat) • Homogenised and pasteurised • Contains all nutrients 	
LOW FAT MILK	<ul style="list-style-type: none"> • Also called 'semi-skimmed' or 'light' • Half of the fat is removed (1.7% fat) • Used by slimmers and people on low cholesterol diets 	
SKIMMED MILK	<ul style="list-style-type: none"> • Fat is removed (0.2% fat) • Lacks Vitamins A & D (fat soluble vitamins) • Slimmers and people on low cholesterol diets use it 	
FORTIFIED MILK	<ul style="list-style-type: none"> • Low fat milk with extra vitamins and minerals added e.g. Vitamins A & D and Calcium 	
BUTTERMILK	<ul style="list-style-type: none"> • This is the liquid leftover after butter is made • Used for baking 	
DRIED MILK	<ul style="list-style-type: none"> • Milk powder • All water is removed • Useful in emergencies and when camping 	
CONDENSED MILK	<ul style="list-style-type: none"> • Canned milk • Some water is removed • Used in desserts • Condensed milk contains extra sugar 	

LONG LIFE MILK (UHT)	<ul style="list-style-type: none"> • UHT - Ultra Heat Treated • Heated to 132°C • Keeps for months without refrigeration • Individual portions e.g. in restaurants 	
SOYA MILK	<ul style="list-style-type: none"> • A vegetable protein milk • Made from soya beans • Used by people who cannot use dairy products and vegetarians 	

Effects of cooking/heat on meat:

- Bacteria are destroyed
- Loss of Vitamins B & C
- Protein coagulates (sets) and forms a skin on the milk
- Flavour changes

Buying & Storing Milk

- Check the use by date before buying and using
- Do not mix milk from different cartons with different dates
- Never leave milk in the sun (destroys Vit B & makes it go sour)
- Cover milk and keep away from strong smelling food
- Use a clean jug each time, do not top up jug (rinse in cold water)
- Store in a refrigerator

Milk Processing

After the milk is got from the animal it is processed before you buy it in the shop. First it is homogenised, then it is pasteurised

Homogenisation -

- Milk is forced through tiny valves
- This distributes the fat by making the fat smaller
- It makes the milk creamier

Pasteurisation -

- Milk is heated to 72°C for 15 seconds
- It is then cooled and put in bottles or cartons
- This kills the harmful bacteria
- Unfortunately it also kills Vitamin C

Milk Products:

- Cream
- Butter
- Yoghurt
- Cheese

Cream

- The fat which rises to the top of milk can be removed in the dairy
- Contains fat soluble vitamins A & D

Types of Cream

- Standard cream in Ireland has 40% fat
- Double cream has 48% fat
- Sour cream (18% fat) has lactic acid added to give it a tangy taste (used as salad dressing, dips etc)
- Light or Low Fat cream has 30% fat
- Crème Fraiche similar to sour cream (30% fat)
- Aerosol cream less fat due to high air content



BUTTER

- Butter is made from the cream of milk
- The cream is churned (mixed) until the fat sticks together.
 - The milk that is leftover is called buttermilk
 - Salt may be added to flavour and preserve the butter
 - Butter has 80% fat
 - 'Low Fat' or 'Light' butter has 40% fat
 - Most butter is salted. Unsalted is used for sweet dishes
 - Butter may be treated to be spreadable
- Dairy Spreads contain about 50% fat and 50% soya oil but have the same Kcal as butter



YOGHURT

- Yoghurt is a form of thickened milk.
- It is made by adding a culture of lactic acid bacteria which thickens it
- These bacteria are harmless
- Plain yoghurt has the same food value as milk
- If fruit, sugar etc are added the Kcal will be higher

Types of Yoghurt

- **Natural yoghurt:** unflavoured ade from whole milk
- **Fruit yoghurt:** whole milk yoghurt, with added fruit, sugar & skimmed milk powder
- **Set yoghurt:** a thicker version of fruit yoghurt
- **Low fat yoghurt:** made from skimmed milk
- **Drinking yoghurt:** has added milk. Usually flavoured and sweetened
- **Greek yoghurt:** thick, creamy, unflavoured yoghurt

Culinary Uses of Yoghurt

- As a snack
- On breakfast cereals
- For dessert with fruit
- As an accompaniment to curries
- On salads as a dressing
- Mixed with milk and fruit as a drink

CHEESE

- Contains all the nutrients of milk in a concentrated form
- Usually made from cows milk, but may also be from goat and sheep's milk
- Very nutritious and good value for money

How Cheese is Made

- Milk is pasteurised
- A culture (harmless bacteria) is added
- Milk is warmed and rennet (natural enzyme found in stomach lining) is added
- Milk separates into curds (solid) and whey (liquid)
- Curds are drained, chopped and salted
- Whey is removed
- Curds are put into moulds and pressed
 - lightly for soft cheeses
 - firmly for hard cheeses
- Cheese is left to mature for 3-12 months

Classification of Cheese/Types of Cheese:

TYPE	Soft	Semi-Soft / Semi-Hard	Hard	Processed
EXAMPLES	Cottage Brie	Edam Gouda	Cheddar Parmesan	Cheese spread Cheese slices

Nutritional Value of Cheese

	Amount	Type	Function
PROTEIN	27% (cheddar) 14% (cottage)	High Biological Value	Growth of new cells & repair of old /damaged cells
FAT	33% (cheddar) 4% (cottage)	Saturated Fat	Most cheeses have a high % of fat which is used for heat and energy. Cottage cheese is made from skimmed milk so has less fat
CARBOHYDRATE	0% (cheddar) 1.5% (cottage)	Sugar in the form of lactose	As there is little or no carbohydrate found in milk it should be served with food containing carbohydrate eg cheese on toast
VITAMINS	Vitamins A, B		B - Helps to maintain a healthy nervous system A - good eyesight
MINERALS	Calcium		Healthy bones & teeth
WATER	35% (cheddar) 78% (cottage)		Water is needed to carry nutrients around the body - it also helps to get rid of waste

Value of Cheese in the Diet/ Why should we include milk in our diet?

- Important source of protein and calcium
- Many different types available
- Versatile (has many uses)
- Ideal for lunches and picnics - easily packed
- Reasonably cheap with little waste
- Little preparation or cooking required
- Should be eaten in small quantities due to high fat content
- May be difficult to digest for elderly due to fat

Culinary Uses of Cheese:

- As a snack by itself or with crackers
- In sandwiches - plain or toasted
- In salads - grated or sliced
- As part of a main dish eg quiche, pizza
- Sauces - for vegetables eg cauliflower
- Garnishing - grated on soup or spag bol
- Final course of meal - cheeseboard

Buying & Storing Cheese

- Should be bought in small amounts as it goes off quickly
- Check the use by date
- Wrap loosely, in greaseproof paper. Then overwrap in tin foil
- Store in a refrigerator
- Remove from refrigerator 1 hour before use to improve flavour
- Once opened, use up quickly

Effects of Cooking

- Protein coagulates (sets) and shrinks
- Fat melts
- Long cooking and high temperatures causes cheese to become tough and indigestible

Guidelines for Eating Cheese

- Eat uncooked where possible
- If cooking, cook for shortest possible time. Slice or grate to speed up melting time
- Season well - mustard helps digestion of cheese
- Chew thoroughly

How to Increase Dairy in the Diet

- Drink milk instead of fizzy drinks
- Add yoghurt & yoghurt drinks to smoothies
- Snack on dairy eg yoghurt, cheese
- Serving dishes eg shepherds pie (cheese on top)
- Add grated cheese to salad and
- use yoghurt based salad dressing