

Many people know that dairy foods are high in calcium, which is important for building and maintaining strong bones. However calcium is just one benefit of eating dairy foods. Dairy foods also provide a unique package of over 10 essential nutrients which provide a wide range of benefits.

Nutrient	Function
<b>Vitamin A</b>	<ul style="list-style-type: none"> <li>• Important for growth (particularly in children)</li> <li>• Essential for healthy eyesight</li> </ul>
<b>Vitamin B12</b>	<ul style="list-style-type: none"> <li>• Helps keep blood healthy</li> <li>• Assists in the formation of nerve cells</li> </ul>
<b>Riboflavin</b>	<ul style="list-style-type: none"> <li>• Helps release energy from food</li> <li>• Helps cells to function properly</li> </ul>
<b>Calcium</b>	<ul style="list-style-type: none"> <li>• Essential for strong bones and teeth</li> <li>• Needed for normal muscle and nerve functioning, and may help control blood pressure</li> </ul>
<b>Potassium</b>	<ul style="list-style-type: none"> <li>• Helps with blood pressure control</li> <li>• Important for nerve impulse transmission</li> </ul>
<b>Magnesium</b>	<ul style="list-style-type: none"> <li>• Important component in bone structure</li> <li>• Essential for energy transfer around the body</li> </ul>
<b>Zinc</b>	<ul style="list-style-type: none"> <li>• Aids wound healing</li> <li>• Essential for normal growth and development of bones, the brain and many other parts of the body</li> </ul>
<b>Phosphorus</b>	<ul style="list-style-type: none"> <li>• Important part of the mineral structure in bones and teeth</li> <li>• Works with B vitamins to release energy from food</li> </ul>
<b>Carbohydrate</b>	<ul style="list-style-type: none"> <li>• Provides energy for the body</li> </ul>
<b>Protein</b>	<ul style="list-style-type: none"> <li>• Needed for growth and development</li> <li>• Helps repair damaged body tissues</li> <li>• Forms part of many enzymes and blood components</li> <li>• Essential for maintaining muscles</li> </ul>

Three serves of dairy should be consumed every day as part of a balanced diet to get the calcium and other essential nutrients your body needs. One serve of dairy is equal to:

- 1 glass (250mL) of milk;
- 1 tub (200g) of yogurt; or
- 2 slices (40g) of cheese.

In more recent years, there has been rising interest in the health benefits that food can provide. Research has identified a number of components in dairy foods that offer potential benefits over and above their basic nutritional value. Evidence to support such exciting possibilities is growing every day.

## Protein

### Whey

Whey protein is a high-quality protein derived from cow's milk. Whey has traditionally been a by-product of cheese making; however, it has become a valuable food ingredient in its own right based on a growing weight of evidence.

Whey protein contains a high amount of essential amino acids (the building blocks of protein which the body cannot make itself) which makes it more nutritionally desirable compared to many other protein sources. Further research, including human clinical trials, is expected to increase our understanding of its health benefits.

Whey protein	Function
<b>Branched chain amino acids (isoleucine, leucine, valine)</b>	<ul style="list-style-type: none"> <li>• Branched chain amino acids are specific amino acids which are metabolised by muscle rather than the liver</li> <li>• Branched chain amino acids may aid muscle recovery and growth, and therefore be beneficial for athletes</li> </ul>
<b>Beta-lactoglobulin</b>	<ul style="list-style-type: none"> <li>• Thought to play a role in the transport of retinol (vitamin A) around the body</li> </ul>
<b>Alpha-lactalbumin</b>	<ul style="list-style-type: none"> <li>• Used commercially to make infant formulas more similar to human breast milk</li> <li>• Binds calcium, zinc and other minerals</li> <li>• May enhance immunity</li> <li>• May reduce the risk of some cancers</li> </ul>
<b>Lactoferrin</b>	<ul style="list-style-type: none"> <li>• Increases iron uptake in the intestine</li> <li>• May protect against bacteria and viruses</li> <li>• May enhance immunity</li> <li>• May play a role in the treatment of cancer</li> <li>• Used commercially in some infant formula, chewing gum and toothpastes or mouthwashes</li> </ul>
<b>Lactoperoxidase</b>	<ul style="list-style-type: none"> <li>• Has antibacterial properties</li> <li>• Used in dental products such as toothpaste to inhibit the development of dental caries</li> </ul>
<b>Immunoglobulins</b>	<ul style="list-style-type: none"> <li>• Have a potential role in protecting against gastrointestinal infections</li> </ul>
<b>Glycomacropeptide</b>	<ul style="list-style-type: none"> <li>• Protects against viruses, bacteria and toxins</li> <li>• May play a role in regulating the immune system</li> <li>• Adding to chewing gum or toothpaste may reduce tooth decay by preventing bacteria from sticking to the surface of teeth</li> </ul>

# Dairy Nutrients

## Casein

Casein is the other major type of protein found in dairy foods. Casein can be broken down to a number of smaller proteins (peptides) which have been shown to have specific benefits.

## Fat

While excess fat in the diet can have negative effects on our health, we still need a certain amount of fat in our diet to perform important functions in our body. Fat provides the structure for our cells, protection for our nerves and delivers fat soluble vitamins such as vitamins A and D and essential fatty acids. Approximately 30% of our energy should come from dietary fat. Dairy fat is made up of a mix of saturated (62%), monounsaturated (30%) and polyunsaturated (4%) fatty acids.

Dairy fat may also provide additional benefits. New research has identified individual fatty acids with specific biological activity.

## Carbohydrate

Carbohydrate provides the body with energy. The main carbohydrate in dairy foods is lactose. Cow's milk contains approximately 5% lactose, compared with 7% in human milk.

Dairy foods are a truly unique package of nutrients and benefits. Now there are even more reasons to consume 3 serves of dairy every day.

Casein protein	Function
<b>Casein phosphopeptides (CPP)</b>	<ul style="list-style-type: none"><li>• Can help prevent tooth decay by reducing demineralisation (loss of tooth mineral after an acid attack) and promoting remineralisation (replacement of tooth mineral) by binding to the dental plaque</li><li>• Used commercially in oral care products and chewing gum</li></ul>
<b>ACE inhibitors</b>	<ul style="list-style-type: none"><li>• ACE inhibitors are drugs that lower blood pressure. A number of naturally-occurring peptides derived from casein have been shown to act as ACE inhibitors</li><li>• A milk high in these peptides was shown to lower blood pressure in a study of people with high blood pressure</li></ul>

Fatty acid	Function
<b>Conjugated linoleic acid (CLA)</b>	<ul style="list-style-type: none"><li>• Has been shown to inhibit the growth of some cancers including prostate, stomach and particularly breast cancer in animals</li><li>• Studies comparing CLA intake in women diagnosed with breast cancer also suggest CLA may play a role in protecting against breast cancer in humans. Further human studies are required to confirm this association</li></ul>
<b>Sphingomyelin</b>	<ul style="list-style-type: none"><li>• Animal studies have demonstrated a reduced risk of colon cancer</li></ul>
<b>Butyric acid</b>	<ul style="list-style-type: none"><li>• May play a role in preventing colon cancer</li></ul>

Carbohydrate	Function
<b>Lactose</b>	<ul style="list-style-type: none"><li>• Provides energy</li><li>• May help calcium absorption</li></ul>
<b>Oligosaccharides</b>	<ul style="list-style-type: none"><li>• Act as prebiotics. Prebiotics are food ingredients that encourage the growth of beneficial probiotic (health promoting) bacteria</li><li>• Levels of oligosaccharides are higher in colostrum than mature milk and drops to trace amounts after the cow gives birth</li></ul>

