Let’s do Dairy

Milk Matters

by

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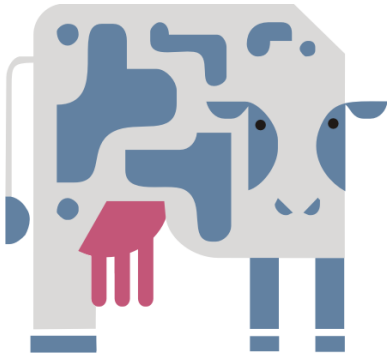


Why Milk Matters?

- The production and consumption of **milk and dairy products** play an important role in human development and well-being
- Milk is a good source of **high quality protein** containing all the essential amino acids specifically **lysine**
- Milk can be used to complementing foods such as maize and wheat that are lysine-deficient
- Milk, maas and yoghurt have many other attributes that may be **protective against some NCDs**, including hypertension, overweight and obesity.
- Adequate **calcium intake** is difficult to achieve with dairy-free diets, even when other nutrient recommendations are met
- Milk is a good source of the "**shortfall nutrients**" of many SA consumers.
- To meet calcium requirements and benefit from the other health attributes of milk, it is necessary to promote an increased consumption of milk and maas in South Africa.

Why Milk Matters?

Milk worldwide recognised as an essential part of a Healthy diet

America Part of the Eat well Plate

UK Eat some dairy, preferably low-fat varieties everyday

Australia Enjoy a wide variety of nutritious foods from these five food groups every day:

…. Milk, yoghurt, cheese and/or their alternatives, mostly reduced fat

Why Milk Matters?

DAIRY has specific benefits in all the different life stages

Health authorities throughout the world recommend three servings of dairy a day.

dairy™ 3-A-DAY EVERY DAY

In South African the food-based dietary guidelines recommend that you should

Have milk, maas and yoghurt every day.

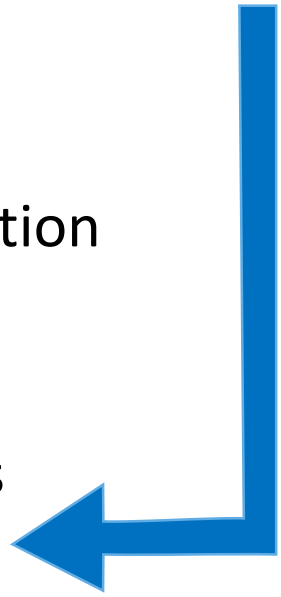
Why Milk Matters?
South African Food-based Dietary Guidelines

- In 2003 – FBDG of SA established for the first time.
  - Milk and dairy products were part of the guideline on animal foods

    Have meat, chicken, fish, eggs, milk and other dairy products.
- In 2012/13 – FBDG revised
  - Due to consistent reports of
    - ↓ calcium and potassium intakes of the SA population
    - ↑ prevalence of hypertension and other non-communicable diseases (NCDs)

    recommended a separate milk guideline for SA's

    Have milk, maas or yoghurt every day



The official Food-Based Dietary Guidelines of South Africa state:

Enjoy a variety of foods

Make starchy food part of most meals

Fish, chicken, lean meat or eggs could be eaten daily

Have milk, maas or yoghurt every day

Eat plenty of vegetables and fruit every day

Eat dry beans, split peas, lentils and soya regularly

Use salt and food high in salt sparingly

Use fat sparingly; choose vegetable oils rather than hard fats

Use sugar and food and drinks high in sugar sparingly

Drinks lots of clean, safe water

Be active!

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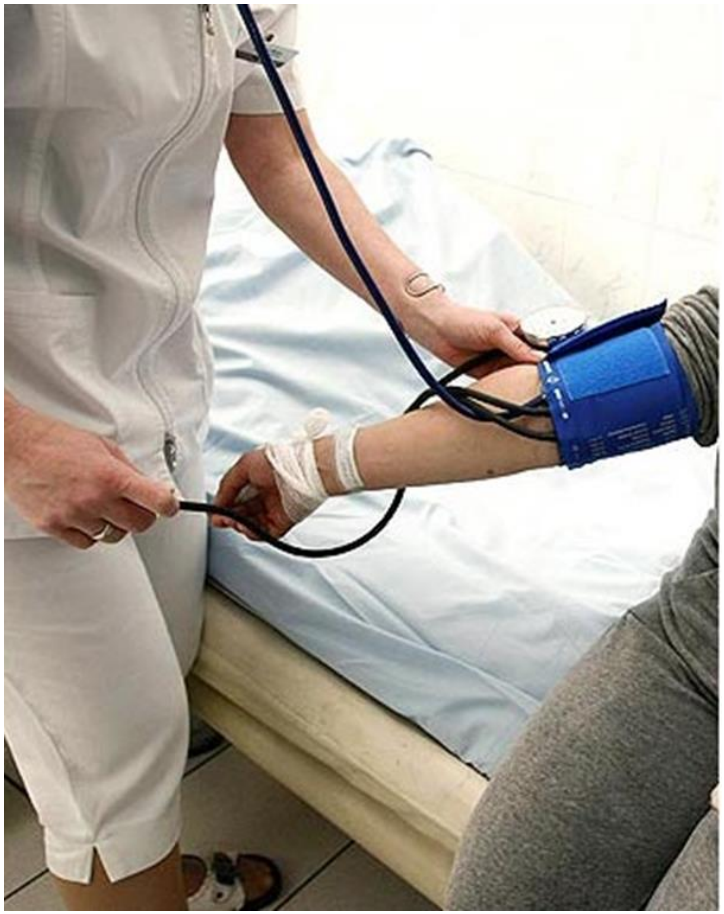
Health problems or risks in Africa

- Lack of
  - iron
  - **calcium**
  - **potassium**
  - **vitamin A**
- High prevalence of
  - **hypertension**
  - **overweight & obesity**
  - **diabetes**



Overweight and Obesity in SA

7 out of 10 women

4 out 10 men

Highest incidence of overweight and obesity in South Sharan Africa

One of the highest in the world

More than 37% of the world population (2.1 billion people) are overweight or obese

Heart disease in South Africa

An estimated **6.3 million people** live with high blood pressure in SA
This is one of the highest rates worldwide

130 heart attacks and

240 strokes occur in SA daily

10 people will suffer a **stroke** every hour

5 people will have a **heart attack** every hour

Fatal heart attacks are twice as common among men as among women.

Diabetes

415 million people worldwide have diabetes

14 million Diabetics in Africa

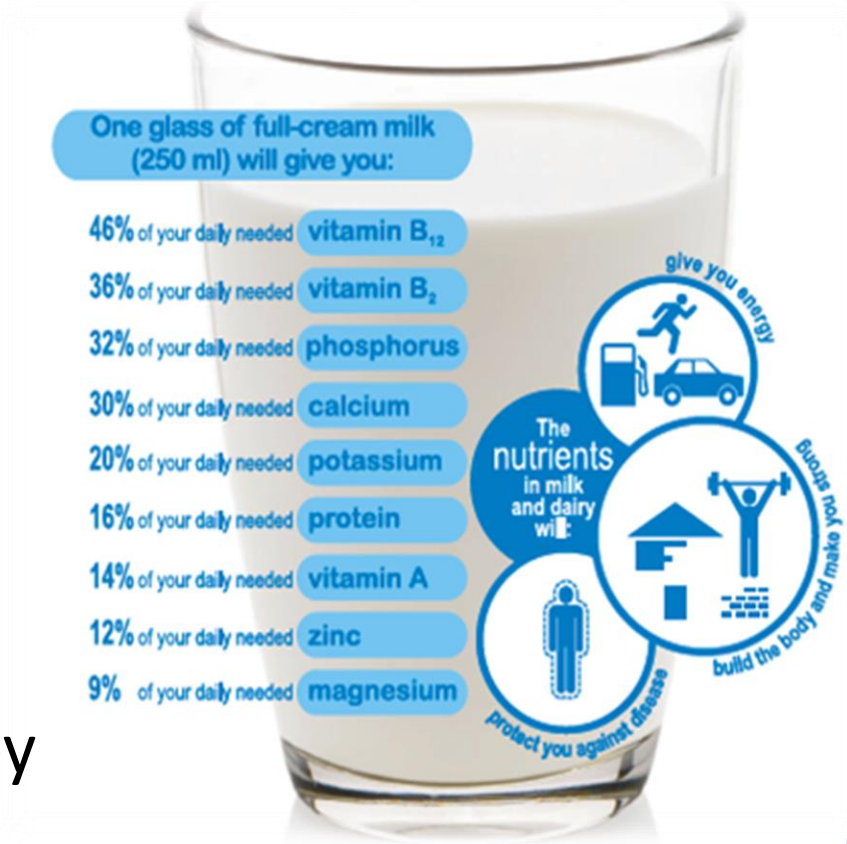
It is predicted that this figure will be more than double by 2040

In 2015: 2.28 million cases of diabetes in Sub-Saharan Africa

Of these - 90% have type 2 diabetes

Milk Matters because….

- Milk is more than calcium.
- It naturally provides a unique 'package' of many essential nutrients that contribute to the proper functioning of the body and are relevant for maintaining good health during all ages and stages of life.
- This makes milk nutritious by nature



Milk Matters because…

The nutrients naturally present in milk perform important functions in the body

- The well-known favourable effects of calcium on bones and teeth
- The role of B vitamins in psychological function and in reducing tiredness and fatigue.
- Nutrients in milk also play a part in
  - nerve and muscle function
  - energy release
  - vision
  - blood clotting and red blood cell formation
  - digestive enzymes
  - blood pressure
  - skin health
  - the immune system
  - growth

Milk and dairy make a significant contribution to nutrient intakes and diet quality and have been linked to a variety of health benefits

Bone health
Blood pressure
Weight control
Type 2 diabetes
Cardiovascular disease
Colorectal cancer
Muscle mass maintenance in older people
Recovery after exercise

Bone health

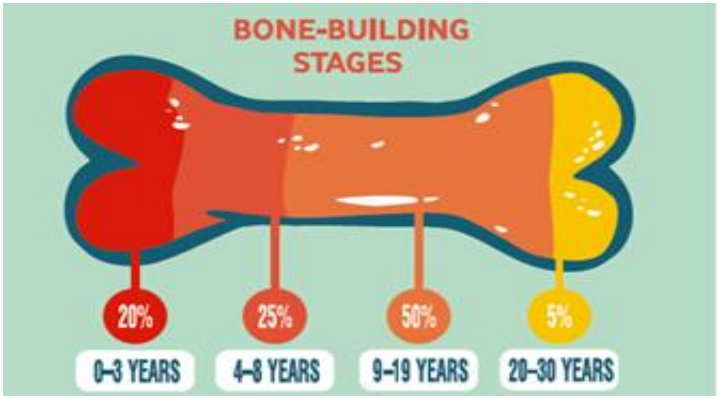
The nutrient **calcium** in milk, maas, yoghurt and cheese help you to form strong bones.

We need strong bones

For a good posture as our skeleton is what keep us up straight

All muscles are attached to our skeleton to enable movement

- Bone develops and grows from birth until early adulthood.
- The most important stage for bone development is adolescence **50% of bone mass** is acquired



- Neglecting to consume enough calcium-rich foods increase the risk of developing osteoporosis later in life

Calcium and Bone Health

Bone mass is a key determinant of fracture risk

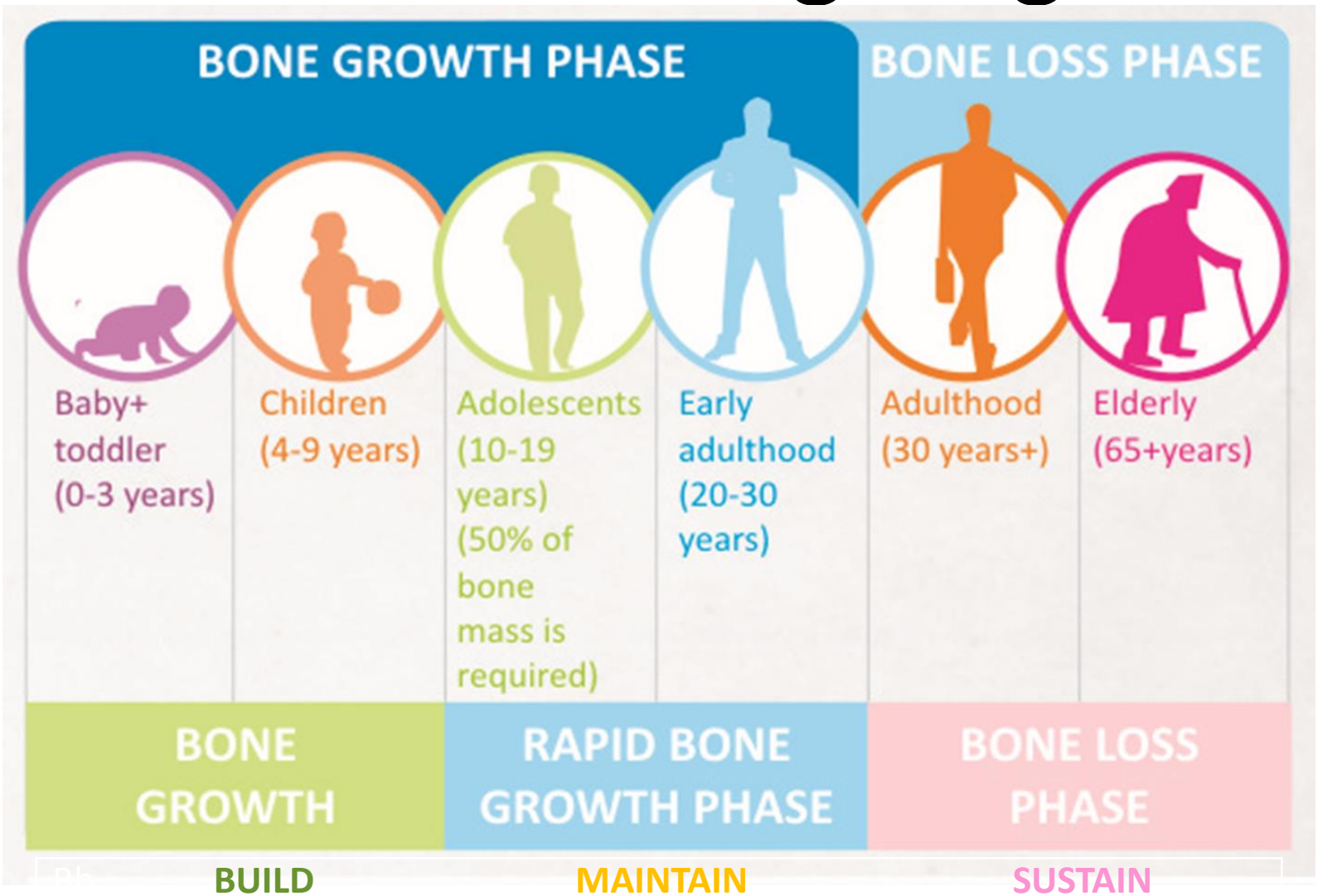
Maximising bone mineral mass during childhood and adolescence ➡ fracture risk reduction in adolescence and in the elderly

Peak bone mass in the skeleton is

60% ➡ genetically determined

40% ➡ influenced by dietary & lifestyle intervention

Bone building stages



BUILD
Maximum peak bone mass

MAINTAIN
Healthy bones

SUSTAIN
Sustain mobility and independence

Blood pressure

Dietary intervention can effectively **lower blood pressure** to the same effect or more as single drug-therapy

A diet rich in fruit, vegetables and **low-fat dairy products** combined with a low saturated fat intake resulted in a significant decrease in blood pressure (DASH diet)

50% of the reduction in blood pressure associated with the DASH diet has been attributed to dairy.

Dairy product are **low in sodium** and **rich in protein** and the

- **minerals** - calcium, potassium, magnesium, phosphorous
- **vitamins** - vit B_{12} and B_2
- **trace elements** - iodine, zinc, selenium

contribute to reduced blood pressure

The **bioactive milk peptides** in dairy also contribute to the protective effect of dairy on blood pressure

Weight control

Dairy intake and **calcium from dairy** have desirable links with weight management

Protection against weight gain and lower total and central fat

Possible mechanisms:

- Reduce fat absorption
- Regulates energy metabolism
- Affects fat metabolism
- Increase satiety and stimulates food intake regulation

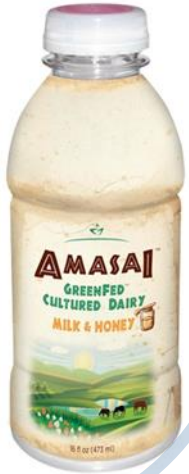
Weight control

Fermented dairy or cultured dairy foods such as **yoghurt and maas** have been fermented with lactic acid bacteria

Fermented milks have high nutritional biological and dietetic value

The low pH of fermented milk may help to delay gastric emptying

glycemic response and **appetite regulation**



Type 2 Diabetes

Dairy products has been inversely associated with reducing DM risk

Positive association found between dairy consumption and reduced risk of DM could be due to:

- the higher intake of protein and amino acids as well as
- the nutrient components of dairy

Possible mechanisms:

- manipulation of insulin receptor sensitivity
  insulin secretion and/or reducing insulin resistance
- lifestyle associated risk factors
  - decrease in weight or prevention of weight gain
  - drop in blood pressure
  - increasing satiety

Muscle maintenance in older people

Sarcopenia is defined as age-related loss of skeletal muscle mass which in turn leads to a loss of muscle strength

When the elderly become
weak
less agile and are
robbed of their independent living

Milk contains 3 important component that counteract **Sarcopenia**

- whey
- casein
- amino acid – Lysine

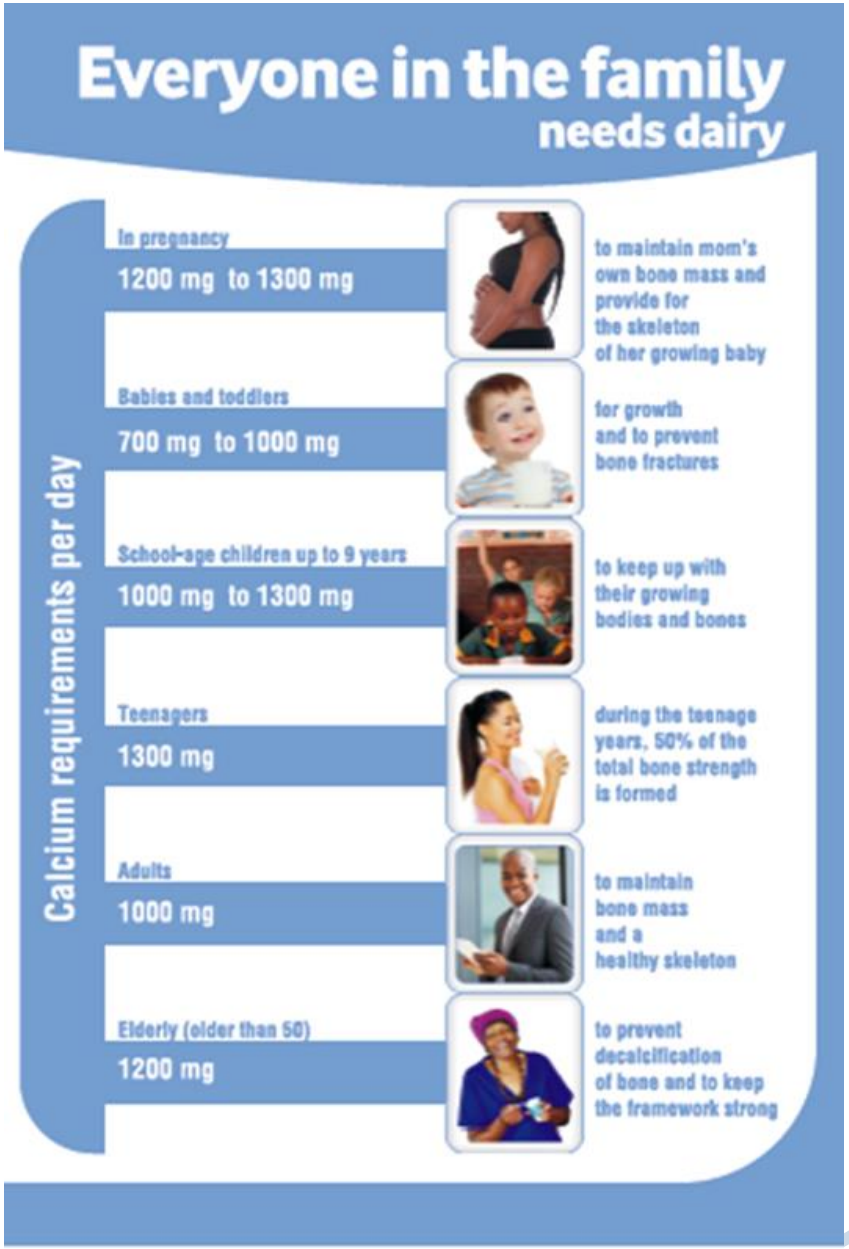
to keep the elderly strong

Dairy is important

Throughout the life cycle

- Pregnancy
- Babies and toddlers
- School children
- Teenagers
- Adults
- Elderly

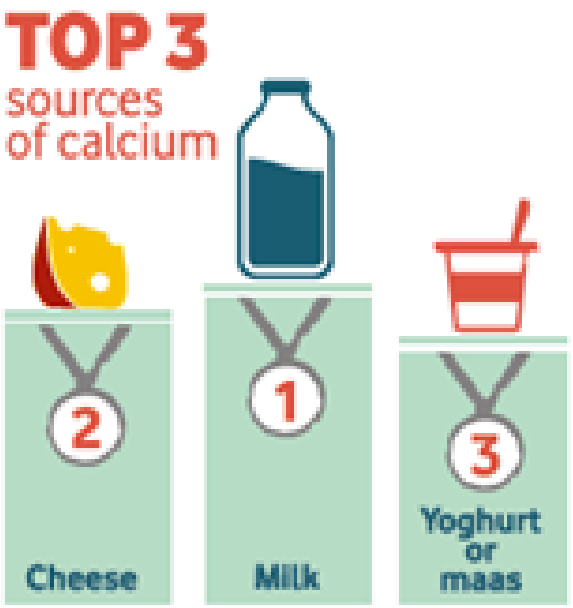
How much Calcium?

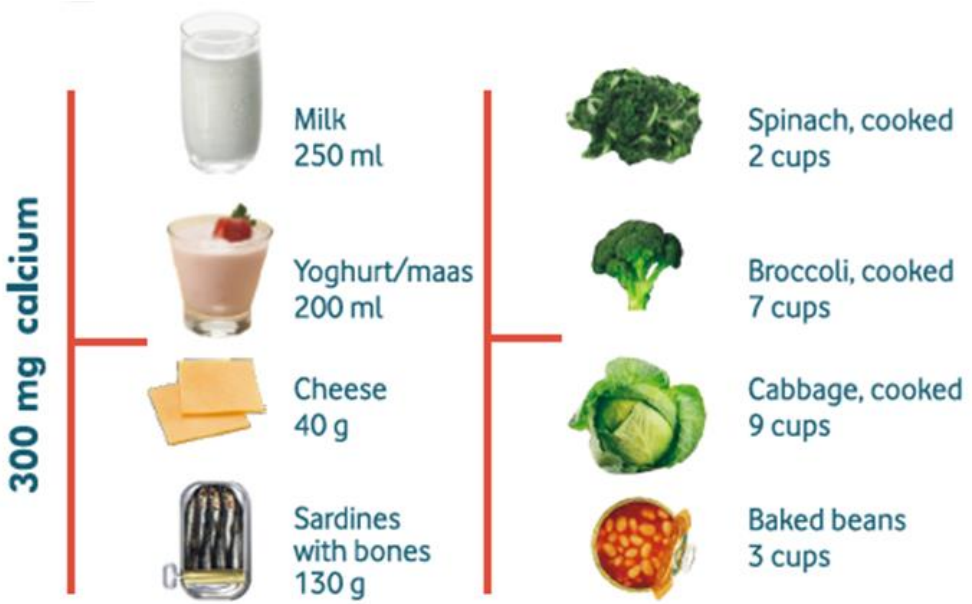


Why calcium from Dairy

Milk and dairy is a significant source of calcium

The Calcium in dairy is particularly well absorbed and bioavailable





How much Dairy do we need?

- 1000 mg calcium per day
- 1 serving = 300 mg calcium
- 3 servings of dairy a day

dairy™ 3-A-DAY EVERY DAY

What is a serving?

1 serving = 300mg calcium

- 1 cup milk (250ml)
- 1 cup amasi (200ml)
- 2 small tubs yoghurt (200ml)
- 2 slices of cheese (40g)
- 1 container drinking yoghurt or flavoured milk

Your dairy 3-A-DAY EVERY DAY

The value of just adding dairy

 and  is the staple food of many SA's

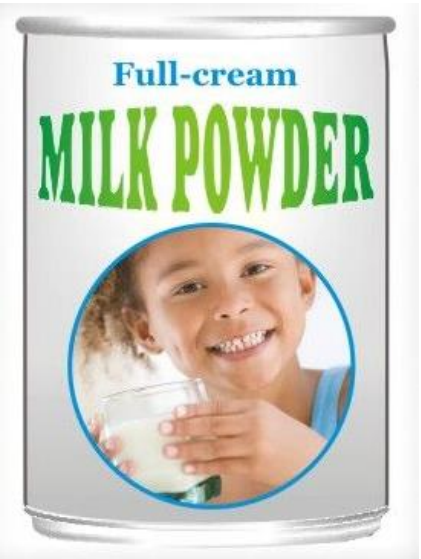
This can lead to **nutrient deficiencies**, specifically of the protein building block **lysine**

By adding dairy to your diet, you can **improve the nutrient status** of your meal.

Your Dairy options

You can buy fresh milk, long-life (UHT) or powder milk.
All these products are equally nutritious and will provide you with the same nutrients.

Choose between:



Be smart and choose wisely!

When the fat is removed from milk, the only nutrient lost is vitamin A

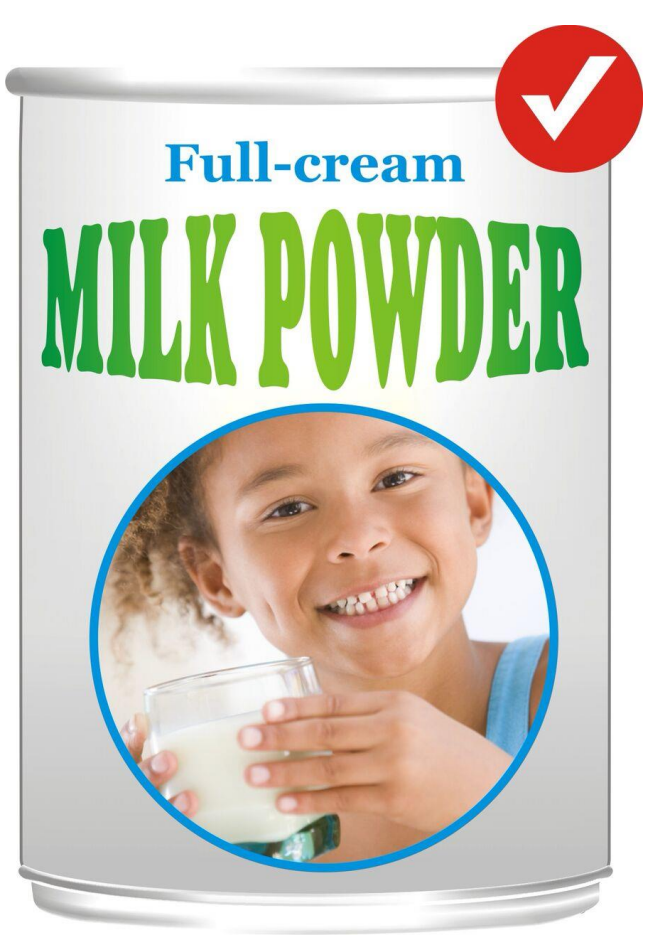
Full-cream milk – good choice for

- children
- people with a low immunity
- the elderly

Low-fat and fat-free milk – good choice for

- weight loss
- diabetes
- hypertension or heart disease

Milk Powder vs Coffee creamer



Barriers of dairy consumption

Lactose Intolerance

More than 80 percent of pediatricians and dietitians agree that lactose intolerance is a major reason some people avoid milk and milk products

Lactose intolerance is most often self diagnosed or passed on in family from one generation to the next

Barriers of dairy consumption

Varying Degrees of Lactose Sensitivity

Lactose Maldigestion

- Incomplete digestion of *lactose*, the natural sugar in milk, due to low activity of the *lactase* enzyme
- may be asymptomatic

Lactose Intolerance

Gastrointestinal disturbances following the consumption of an amount of *lactose* > than the body's ability to digest and absorb lactose

Barriers of dairy consumption

The enzyme lactase is reduced by 90 – 95% in individuals with lactase non-persistence

↓

cannot digest lactose in the small gut

↓

fermentation of lactose by bacteria in the large gut

↓

flatulence, diarrhea, abdominal bloating, pain

Barriers of dairy consumption

Lactose intolerance

Prevalence

May occur at any time during the life cycle,
but is more common under African and older people

No reason to omit dairy from the diet

How to tolerate **LACTOSE** better

sip

Build up your tolerance. Start small and gradually increase your milk consumption.

stir

Use milk together with other foods, like milk with cereal or pap, rather than alone on an empty stomach.

slice

Cheeses such as Cheddar and Gouda contain very little lactose and are generally well tolerated.

spoon

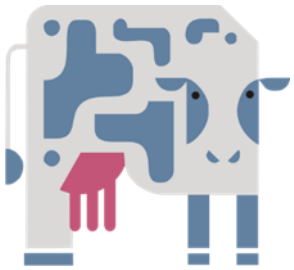
Yoghurt and maas have less lactose and are better tolerated than milk.

try

Full-cream milk may be better tolerated than low-fat or fat-free milk, or try lactose-free milk.

Milk matters
Take home message

1. Milk contains a unique package of many nutrients
2. Milk and dairy is a significant source of calcium and the calcium in dairy is particularly well absorbed and bioavailable
3. Milk is a good source of energy and high quality protein
4. Milk and dairy products help to maintain a health body
5. Remember you need 3 servings of dairy every day



dairy™ 3-A-DAY EVERY DAY

Thank you for listening

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