

South African guidelines for healthy eating

for adults and children over the age of seven years



Department of Health

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Department of Health; Directorate: Nutrition

Private Bag x 828; Pretoria 0001

Tel: 012 312 0000

Preface and Acknowledgements

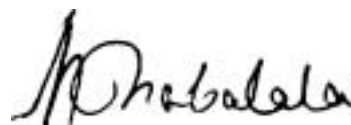
The Department of Health has approved a set of Food Based Dietary Guidelines (FBDG's) to be used as the basis for a healthy eating plan to help combat the growing burden of chronic diseases namely cardiovascular diseases, certain cancers, diabetes and dental caries, as well as existing nutritional disorders associated with poverty and undernutrition. The guidelines will form the core of Government's nutrition education messages with a view to promoting healthy lifestyles among all South Africans.

The guidelines described in this brochure are based on the best currently available scientific evidence on the relationship between nutrition and disease. I believe that implementation of these guidelines will have a major impact on the health of all people living in South Africa.

The FBDG's are the result of a wide consultative process throughout the country. These guidelines are also in line with the recommendations of the World Health Organisation (WHO) and the Food and Agriculture Organisation (FAO).

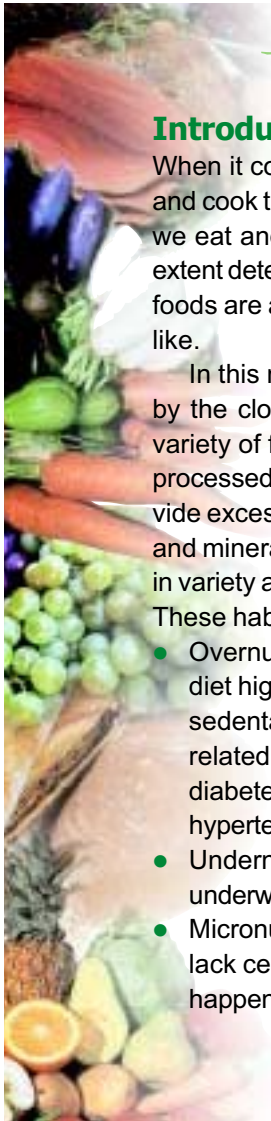
The Department of Health would like to thank Dr Penny Love, the Chairperson of the SAFBDG working group and the following stakeholders who had representatives in the working group: UNICEF, academics from various universities, Dry Bean Producers Organisation, the South African Sugar Association, Unilever, the Association for Dietetics in South Africa, the Nutrition Society of South Africa, and the Medical Research Council. Their commitment towards the development of the FBDG's and their technical contributions and comments have been invaluable.

The Department of Health would also like to thank all those persons who contributed to the development of this brochure.



Dr M E Tshabalala-Msimang
MINISTER OF HEALTH





Introduction

When it comes to eating, South Africans usually eat and cook the way their parents ate and cooked. What we eat and how we prepare our food are to a large extent determined by our traditions and customs, what foods are available, what we can afford and what we like.

In this modern age some peoples' lives are ruled by the clock and meeting deadlines. In this rush a variety of freshly prepared food is often replaced by processed or convenience foods that sometimes provide excess energy and fats, but insufficient vitamins and minerals. In other instances, food may be limited in variety and amount by those who have little money.

These habits can result in:

- Overnutrition: Too much food intake in total, a diet high in fat and sugar, and/or a more sedentary lifestyle, may lead to overweight and related chronic diseases of lifestyle such as diabetes, cardiovascular heart diseases and hypertension.
- Undernutrition and too little food intake, lead to underweight people.
- Micronutrient deficiencies mean that people lack certain nutrients in their diet. This can happen even when people have enough to eat.

South African nutrition experts have developed food-based dietary guidelines (FBDG's) for healthy South Africans older than 7 years, to promote healthy eating habits among South Africans. These guidelines aim to address the aforementioned common nutrition challenges we face in South Africa.

The FBDG's for healthy eating for South Africans older than 7 years are:

- Enjoy a variety of foods
- Be active
- Drink lots of clean, safe water
- Make starchy foods the basis of most meals
- Eat plenty of vegetables and fruits every day
- Eat dry beans, peas, lentils and soya regularly
- Chicken, fish, meat, milk or eggs can be eaten daily
- Eat fats sparingly
- Use salt sparingly
- Use food and drinks containing sugar sparingly and not between meals
- If you drink alcohol, drink sensibly

The focus of these dietary guidelines is on healthy eating habits, rather than on individual nutrients. There are no good or bad foods, only good and bad eating habits such as eating too many high-fat foods or skipping meals.

There is strong scientific evidence available that shows that following a healthy lifestyle with a good eating plan, regular physical activity, management of stress and non-smoking are essential to promote good health and prevent and manage chronic diseases.

Unless we have a severe illness or health problems, we seldom consider whether our eating plan is healthy or not. The fact that the marketplace offers a variety of options to make eating and cooking easier and more convenient (e.g. fast foods, instant foods, processed foods, pre-prepared foods) contributes to eating unwisely.

Eating patterns have to be adapted to ensure healthy eating habits. The dietary guidelines are designed to promote healthy eating habits and a healthy lifestyle.

A Healthy Body Weight

Each individual should maintain a healthy weight for age, height and gender. We can maintain a healthy weight by eating the correct amounts of a variety of foods and by being physically active.

There are several ways to evaluate the appropriate weight of an individual. The two most common methods used are the Body Mass Index (BMI) for adults and the weight for height index for children.

BMI

The index is a measure of thinness or fatness, and is calculated by dividing one's weight in kilograms by height squared in metres.

The formula is:

$$\text{BMI} = \frac{\text{weight in kg}}{(\text{Height in metres})^2}$$

$$\text{e.g.} = \frac{75}{1.7 \times 1.7} = \frac{75}{2.89} = 26$$

Weight /height (kg/m²)

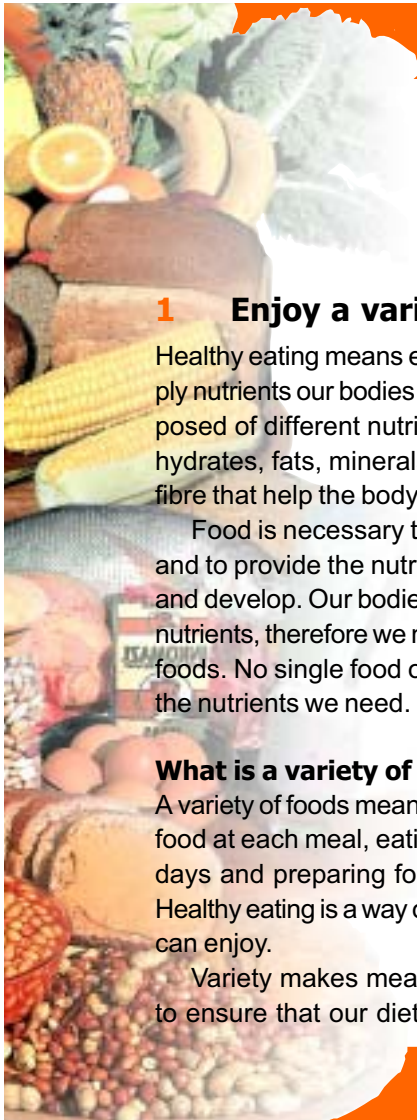
Below 18.5
19-24.9
25-30
More than 30

Classification

Underweight
Healthy
Overweight
Obese

Care needs to be taken when interpreting the BMI to determine the desirable weight for an individual, as this is related to age, gender and height. Men usually have more muscle than women and a larger bone structure. Genetics also play a major role in our shape and size. Concentrate on developing correct eating habits. The total energy intake of the diet should be adapted to achieve/maintain reasonable weight.





The following three guidelines provide general health messages to promote a healthy lifestyle. They are:

- Enjoy a variety of foods
- Be active
- Drink lots of clean, safe water

1 Enjoy a variety of foods

Healthy eating means eating a variety of foods to supply nutrients our bodies need. Different foods are composed of different nutrients such as proteins, carbohydrates, fats, minerals, vitamins, water and dietary fibre that help the body to function properly.

Food is necessary to stay alive, to give us energy and to provide the nutrients our bodies need to grow and develop. Our bodies need a variety of different nutrients, therefore we need to eat a variety of different foods. No single food or meal can provide us with all the nutrients we need.

What is a variety of foods?

A variety of foods means eating more than one type of food at each meal, eating different foods on different days and preparing food in different, healthy ways. Healthy eating is a way of eating which the *whole* family can enjoy.

Variety makes meals more interesting and helps to ensure that our diets contain sufficient nutrients.

Mixed meals are usually eaten three times a day (breakfast, lunch and supper). It is wise to eat regular meals if possible – this will help to maintain blood glucose levels throughout the day and prevent feelings of dizziness, listlessness and poor concentration.

A starchy food (such as potatoes, rice, and maize meal) should form the main or larger part of mixed meals.

However, starchy foods cannot provide all the nutrients needed by the body. We need to balance our eating pattern by adding other foods such as vegetables, fruit, dry beans, split peas, lentils, soya, meat, fish, chicken, eggs, milk or milk products. One, two or more of these foods can be added to the meal.

By eating mixed meals we add variety to our plates, make the meal more enjoyable and we get all the nutrients we need.





Do snacks add variety?

Snacks, such as cakes, chocolates, biscuits, sweets, chips, ice-cream and cold drinks (all containing lots of fats and/or sugar) should not replace a mixed meal. Keep them as a special treat after a mixed meal or for special occasions.

Snacks are often important to meet the higher energy and nutrient needs of very active people, teenagers and growing children. Unsalted peanuts and raisins, whole-wheat crackers and cheese, any type of fruit, raw carrots or yoghurt are good choices of snack foods.

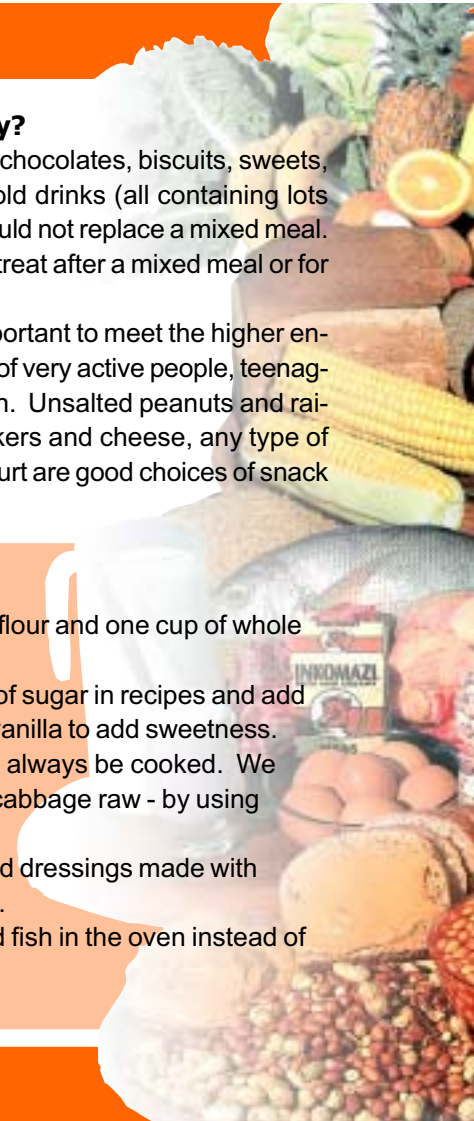
Prepare food the healthy way

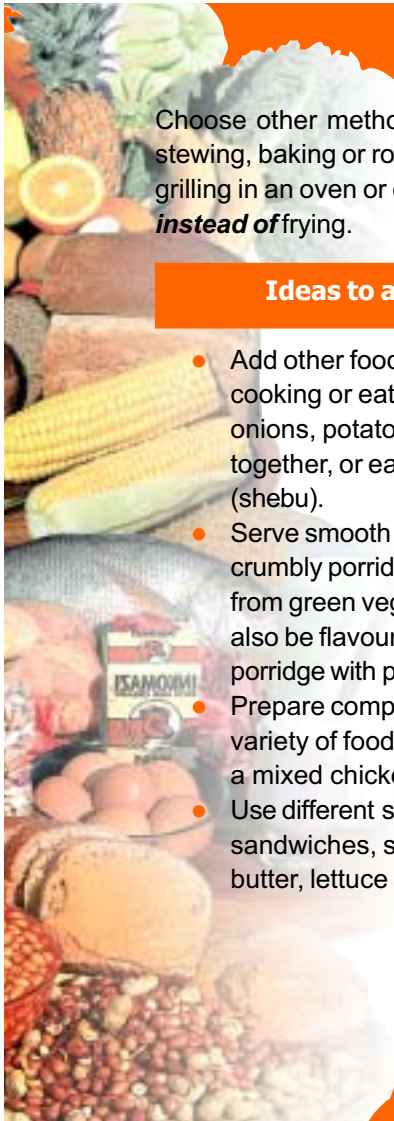
The same food cooked the same way all the time becomes boring. Here are some ideas for healthier cooking:

- Try new recipes to prepare food differently. Use olive, canola or vegetable oil or soft 'tub' margarine in recipes instead of butter.
- Sour cream can be replaced with low fat yoghurt or low fat cottage cheese, sour milk or maas.
- Enhance the flavour of vegetables with herbs and spices instead of butter and other fats.
- Make use of whole wheat flour to increase fibre in your diet. If a recipe requires 2 cups of flour,

use one cup of cake flour and one cup of whole wheat flour.

- Reduce the amount of sugar in recipes and add flavourings such as vanilla to add sweetness.
- Vegetables need not always be cooked. We can eat carrots and cabbage raw - by using them in a salad.
- Use homemade salad dressings made with more vinegar than oil.
- Grill potato chips and fish in the oven instead of frying them in oil.





Choose other methods of cooking such as boiling, stewing, baking or roasting in an oven, steaming, grilling in an oven or on a grid, or over hot coals, **instead of** frying.

Ideas to add variety to meals

- Add other foods to the staple food during cooking or eating, e.g. samp and beans with onions, potatoes, or chillies simmered together, or eat with tomato and onion relish (shebu).
- Serve smooth maize meal porridge and crumbly porridge (phutu) with savouries made from green vegetables (wild spinach) that can also be flavoured with chillies, or serve porridge with peanuts.
- Prepare complete meals that contain a variety of foods, e.g. rice and lentil curry; or a mixed chicken salad.
- Use different sandwich fillings when making sandwiches, such as pilchards, peanut butter, lettuce and tomato or avocado.

Enjoy your meals

Eating is something you should enjoy. Eating with friends and family should be a happy event. Make it enjoyable by adding variety to your meals. By adding variety, you and your loved ones will also stay healthy.

PASTA WITH SPRING VEGETABLES

Recipe

4 Portions

12,5 ml olive oil; 1 onion, chopped;
2 carrots, sliced; 12,5 ml chopped fresh ginger;
5 ml fresh basil; 1 green pepper, diced;
375 ml chicken stock, heated; 1 head broccoli,
washed and broken in florets; 12,5 ml corn flour
(maizena); 1 packet tagliatelle pasta, cooked; salt
and black pepper to taste.

METHOD

Heat oil in frying pan over moderate heat. Add chopped onion and carrots and fry for 3 minutes. Add ginger, basil, green pepper. Mix and cook for 3 minutes. Dissolve corn flour in cold water and stir into sauce. Cook for 1 minute. Add seasoning to taste. Serve over hot pasta.

Variation: Use spaghetti instead of tagliatelle.

2 Be Active

Regular physical activity has many benefits, including the following:

- Increases blood supply to the heart and other muscles.
- Reduces risk of cardiovascular diseases (CVD's), high blood pressure and diabetes.
- Burns up energy which helps with weight control.
- Strengthens bones, reduces osteoporosis (bone loss).
- Makes us stronger and more flexible and reduces backache.
- Helps us relax and sleep better and relieves anxiety.
- Makes us feel better – keep us in good shape with bright eyes and healthy skin.

Try to be active in every day life

We don't have to join a gym or buy expensive equipment to be physically active. Simple alternatives to our daily routine can increase our level of activity. Exercise at a gym is good, but not essential. Cleaning the house, mowing the lawn, working in the garden or walking the dog are all examples of physical activity, as is walking to the nearest shop instead of using the car. Use stairs instead of the lift whenever you can.

Get off one bus stop earlier and walk home after work.

Physical inactivity and a sedentary lifestyle combined with poor eating habits may lead to overweight and increased risk of developing some chronic diseases, including CVD's and diabetes.

If your job does not involve exercise you need less food than someone who walks to work, takes the stairs and runs errands.

To be active helps to keep our bodies and minds healthy.

Is it fun to be active?

Of course it can be fun, and it need not cost a lot of money either. There are so many activities that we can enjoy. One or more will suit our lifestyle and age.

- To become physically active, start a support group. It is always more fun to jog or walk in a group. If your neighbourhood is not walking or running friendly, create a lunchtime walk-team in the park or at a shopping mall.
- Encourage your children to watch less TV and to play more or to exercise. Join them to make it more fun.

Aim to do at least one 30 - 45 minute physical activity session every day, or three short 10-minute sessions, over the course of the day.





When participating in sport it is not necessary to be 'in front of the pack' to reap the benefits of exercise. Exercising at a 'brisk but comfortable pace' is enough to improve cardiovascular fitness.

Remember to drink more water than usual when you are active, especially in hot weather.

The following recipe is a good source of high energy and high fibre, which sports people can eat 30 minutes before exercising to maintain energy levels.

Recipe

SUPER MUESLI BARS

Makes 20 bars

50 g tub margarine or 50 ml sunflower oil; 125 ml honey; 62,5 ml peanut butter; 250 ml oats, toasted; 125 ml wheat germ, toasted; 125 ml roasted sesame seeds; 125 ml toasted sunflower seeds; 62,5 ml dried apricots, chopped

METHOD

Heat the oven element. Combine the oats, wheat germ, sesame seeds and sunflower seeds in a roasting pan and grill under the element. Stir often to prevent



Photograph: UNICEF/Giacomo Pirozzi

burning. Chop the dried apricots finely and mix with the other dry ingredients. Combine the margarine or oil, honey and peanut butter in a pot. Bring to boil, stirring to blend the ingredients. Turn the heat to low and simmer until it forms a firm ball when a little is dropped into cold water and left for about 1 minute. Stir into dry ingredients. Press mixture into a lightly greased 20cm square pan and leave to cool until it is firm, but not hard. Turn it out and cut with a serrated knife into two halves, then cut each half into ten fingers. Store in a completely airtight container.

3 Drink lots of clean, safe water

Did you know that almost every part of our body contains large amounts of water? Because our body loses water throughout the day, we have to drink water every day. We can go without food for some time, but we cannot go without water.

What does water do in the body?

Water constitutes the major portion of the human body (50-70% or about two-thirds).

One of the main functions of water in the body is to regulate the body temperature.

Many nutrients, including certain vitamins and minerals, are dissolved in water in the body. We need to absorb nutrients from food and transport them around in the body.

Water also removes waste products from the body when we urinate.

Thirst results when water evaporates by means of sweat, therefore we need to replenish these losses on a daily basis.

Risk of dehydration

The body has no storage system for water and lost water must be replaced every 24 hours if health is to



be maintained. If we lose too much water, the urine becomes concentrated and there is reduced perspiration, constipation and oedema (water retention). The body will try to hold onto water if water intake is low. When swelling is present, eat salt and salty foods sparingly.

Water deficiency is called dehydration and can be harmful to the body. This can also increase the risk of developing kidney stones.

Should we only drink water or can we drink something else?

- Water is the best and cheapest drink. Clean water is essential, therefore we should drink as much as we can.
- Milk is a healthy drink – for adults it is preferable to drink low fat or fat-free milk.
- Pure fruit juice is also a good choice.
- Drink tea and coffee in moderation. They contain caffeine (a stimulant that keeps one awake) and taking too much caffeine is not healthy.
- Drink cold drinks sparingly since they contain too

much sugar and can lead to becoming overweight. In addition, they contain no vitamins and minerals as are found in fruit and vegetable juices.

- Alcohol makes the body lose its water faster and should not be drunk to quench one's thirst.
- Add a drop or two of lemon juice or a few slices of lemon or mint to a jug of water. This makes a refreshing thirst quencher.
- When drinking wine with food, also drink water in between. The water dilutes the effects of the wine and prevents one from becoming dehydrated.

What does 'lots' mean?

Every person should drink six to eight glasses of clean, safe water every day.

People need extra water when:

- they sweat a lot during hot weather and when they work in the sun or do physical work on hot days;
- they do strenuous exercise;
- they have a fever,
- they lose water as a result of diarrhoea or vomiting.

Water becomes unsafe when harmful bacteria reach our water supplies. Boil drinking water for the whole family if there is an outbreak of diarrhoea or cholera in

the area. Drink tap water and not water from dams and rivers if tap water is available.

In many areas in South Africa, tap water is a good source of fluoride for strong teeth and bones.

Water leaves our body through sweating and urinating. It is important to continually replenish the water in our bodies.



The following food-based dietary guidelines help us to plan good mixed meals:

- Make starchy foods the basis of most meals
- Eat plenty of vegetables and fruit every day
- Eat dry beans, split peas, lentils and soya regularly
- Chicken, fish, meat, milk or eggs can be eaten daily

4 Make starchy foods the basis of most meals

Starchy foods provide the body with energy and other important nutrients. Starchy foods, such as maize meal, samp, bread, rice, pasta, potatoes and sweet potatoes should therefore form the central or largest part of each meal. These foods are usually the staple food in the diet. Starchy foods should be eaten in larger amounts than the other foods at a meal.

Why are starchy foods so important?

- Starchy foods are rich in carbohydrates – the main source of energy for the body.
- Unrefined and fortified starchy foods (whole-wheat or brown bread, brown rice, whole-wheat pasta, coarse maize-meal) contain vital vitamins,

such as the B-complex vitamins, fibre and minerals.

- Unrefined starchy foods are rich in nutrients that fight cancer, such as antioxidants, vitamin E, folic acid, zinc, selenium and magnesium.
- Unrefined starchy foods let us 'feel full' longer than refined grains do. They are rich in fibre and support healthy bowel functioning. They also help to lower the risk of developing chronic diseases such as overweight and cardiovascular diseases.
- Starchy vegetables, for example sweet potatoes, provide useful amounts of vitamins A and C.
- Starchy foods are low in fat depending on how they are prepared and what is added when eaten.





What is meant by Fortified Food?

Micronutrients are vitamins and minerals that people need to keep their minds alert, their bodies healthy to fight diseases and have healthy babies. If we do not have enough of even one micronutrient, we may develop a deficiency (having too little) and become ill. Many South Africans do not eat a wide variety of foods to provide all the micronutrients they need. One way of obtaining extra micronutrients is to eat foods that have been fortified (strengthened). All maize meal and white and brown bread flour (and bread baked with this flour) are fortified with the following micro-nutrients: vitamin A, riboflavine, thiamine, niacin, pyridoxine, folic acid, iron and zinc.



Starchy foods are economical, widely available foods that contribute significantly to a nutritious eating pattern, particularly when unrefined varieties are chosen.

Mix starchy foods with other foods

To make a good mixed meal, other foods, such as vegetables, fruits, dry beans, soya, meat, fish, chicken, eggs, milk or milk products should be eaten with starchy foods. This will provide the nutrients that the starchy foods lack and will make the meal more tasty and interesting.

One serving = 1 slice of bread (30 g);
1/2 cup cooked soft maize porridge or rice or pasta;
1 small potato.

Recommended Number of Servings per day	Children >7-13 years	Adolescents 14-25 years	Adults 25-60 years	Elderly people >60 years
Starchy foods	6-8 servings	9-11 servings	6-8 servings	6-8 servings

5 Eat plenty of vegetables and fruit every day

Most people are aware of the fact that eating vegetables and fruit is good for one's health. Sadly though, many people in South Africa do not achieve the daily goal of at least 5 portions of vegetables and fruit. We are fortunate in having a wide selection of vegetables and fruit available throughout the year, so we should try to reach this goal.



There are many good reasons for eating plenty of vegetables and fruit every day

- Vegetables and fruit are high in vitamins and minerals, which help to strengthen the body's immune system to resist illnesses such as infections, diarrhoea, colds and tuberculosis.
- All types of vegetables and fruit are good for us and can be eaten (preferably unpeeled) as part of a healthy eating plan. They may be eaten as part of main meals and/or snacks.
- Most fresh vegetables and fruits (broccoli, Brussels sprouts, green peppers, tomatoes, oranges, guavas, pawpaw and mangoes) are rich in vitamin C. Vitamin C is essential for the formation and maintenance of body tissue. It

promotes the absorption of iron and calcium as well as the healing of wounds and increases the body's resistance to infections. Vegetables and fruit, such as carrots, sweet potatoes, spinach, broccoli, butternut, mangoes and pawpaw are good sources of vitamin A. Vitamin A is essential for our health and well-being. Vitamin A is especially important for good vision, protecting the body against infections and ensuring adequate growth and development.

- Vitamin A, C and E are antioxidants. We are still learning about the role of anti-oxidants that help to 'mop up' potentially harmful substances produced in the body processes. Antioxidants are certain vitamins and minerals that help to prevent

damage done by free radicals, which are implicated in diseases of lifestyle such as CVD's and certain cancers.

- Vegetables and fruit are high in fibre (roughage), which helps proper bowel functioning and helps to prevent some conditions associated with a low fibre intake (such as constipation).
- Vegetables and fruit could help to prevent certain types of cancer.
- All vegetables and fruit contain a lot of water, which is healthy for our bodies.
- Vegetables are generally low in energy. Eating plenty of vegetables and fruit therefore reduces the risk of overweight and coronary heart disease.
- Vegetables and fruit taste good, and provide colour and texture to meals.

What does 'plenty' mean?

Plenty means that you should eat at least five portions of vegetables and/or fruit per day. For example:

- 1 Eat a fruit with breakfast e.g. grapefruit or an apple.
- 2 Add raw vegetables such as carrots or shredded cabbage to your lunchbox. You can also eat a fresh fruit or fresh vegetables as a snack between meals.

- 3 Eat a yellow vegetable (carrots, pumpkin, squash) and a green vegetable (broccoli, spinach, cabbage, green beans) with your main meal of the day.
- 4 Add extra vegetables to recipes such as stews, curries or pasta dishes.
- 5 Eat a fruit after dinner.

Raw or cooked?

Raw vegetables contain more nutrients than cooked vegetables. During cooking some water-soluble vitamins (such as vitamin C and the B-complex vitamins) are lost as they are sensitive to heat.

Vegetables should be cooked in a little water for short periods of time, until just tender to preserve nutrients and flavour. Include both cooked vegetables and salads in your meals. Variety is essential for good nutrition.

Always wash vegetables and fruit well before preparing, cooking and eating.



Grow your own vegetables and fruit

If you have a garden and enough water, start your own vegetable garden. A patch of land, the size of a door, is enough to make a vegetable garden.

Mix vegetables and fruit with starchy foods, dry beans, split peas, lentils and/or chicken, fish, meat, milk and eggs.

Remember to eat a variety of foods. This will ensure that you get all the nutrients in adequate amounts to stay healthy.

Ideas for eating more vegetables and fruit

- Double your normal serving of vegetables.
- Add extra vegetables to salads, soups, stir-fries, stews and curries.
- Add vegetables to rice and pasta.
- Eat a vegetarian meal at least once a week.

Recommended Number of Servings per day

Children, Adolescents, Adults and Elderly people
5 servings of vegetables and fruit

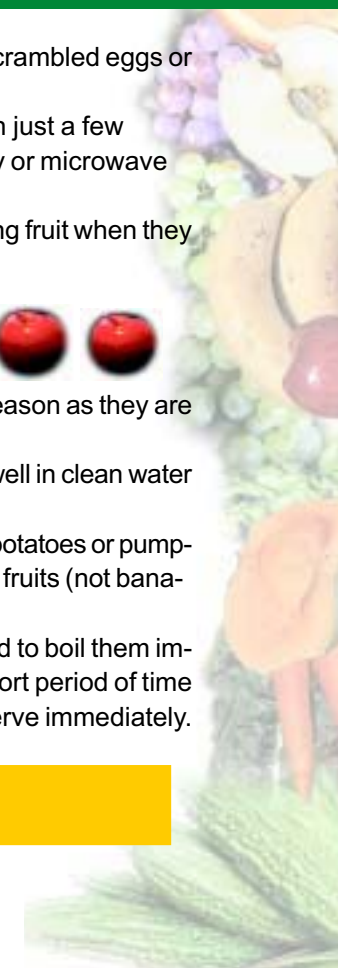
One serving = 1 medium fruit (± size of tennis ball)
½ cup fruit or vegetables

- Add vegetables to egg dishes (scrambled eggs or omelettes).
- You can cook most vegetables in just a few minutes if you boil, steam, stir-fry or microwave them.
- Get children into the habit of eating fruit when they are hungry between meals.

TIPS



- Choose vegetables and fruit in season as they are cheaper.
- Wash fresh vegetables and fruit well in clean water before using them.
- Keep most fresh vegetables (not potatoes or pumpkin) in the refrigerator, as well as fruits (not bananas). They will stay fresh longer.
- Once we cut vegetables, we need to boil them immediately in a *little* water for a short period of time to retain most of the nutrients. Serve immediately.



6 Eat dry beans, split peas, lentils and soya regularly

These foods are also known as plant proteins or legumes and should be eaten two to three times per week. Foods included in this category are, dry beans, baked beans, butter beans, kidney beans, split peas, chick peas, lentils, soya beans and products made from soya, seeds, unsalted nuts and peanut butter. However, they are not only important for their protein content, but also for providing energy. They are rich in minerals.

Benefits of eating dry beans, split peas, lentils, and soya

- They can be used instead of meat, or added to meat as a meat extender. They are also more economical than meat.
- When dry beans, split peas or lentils are combined with a starchy food, the proteins from the two foods complement each other and make a better quality protein.
- The soluble fibre in legumes keeps blood

cholesterol low, thereby helping to prevent cardiovascular and other diseases of lifestyle.

- Plant proteins contain very little fat.
- Eating plant proteins, such as legumes, regularly will ensure proper bowel functioning (prevent constipation).

Ideas to include dry beans, split peas, lentils or soya in our meals

In the past, legumes were a part of most people's eating patterns. Today they are eaten less often, which is a pity, as they are tasty foods that can easily be incorporated into meals.

- Include beans, split peas and lentils in soups, pasta dishes or rice dishes.
- Use a variety of herbs to improve the flavour of beans.
- Add a *little* salt to bring out the true flavour of beans.
- Eat beans with chakalaka, samp or rice.
- Use soya mince and dry beans to make mince meat go further.
- Mix different kinds of dry beans to make a bean salad.



Photograph: UNICEF/Giacomo Pirozzi

What does 'regularly' mean?

Regularly means at least three times a week. If you are unfamiliar with legumes, add them to your eating pattern gradually. Dry beans, lentils and split peas should be cooked until soft before eating. Once cooked, beans can be kept in a covered container in the refrigerator for up to five days. In the freezer they can be kept, in an airtight container, for up to six months.

How should we cook dry beans, split peas and lentils?

- 1 Before cooking, pick through the beans and remove any grit and broken beans.
- 2 Soak overnight in water to soften the beans; or place beans in a large pot and cover with fresh

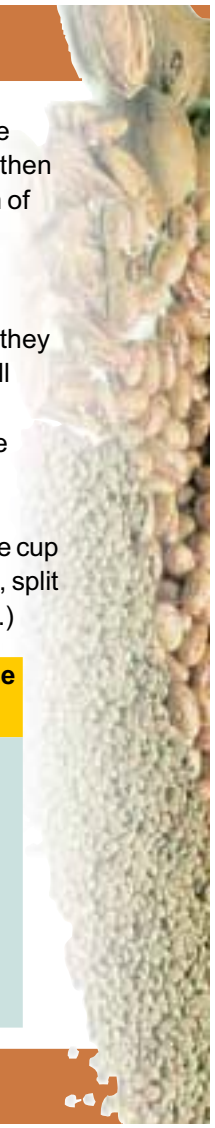
water. Water should be three to six times the volume of beans. Bring water to the boil and then turn off the heat. Leave beans for a minimum of two hours before cooking.

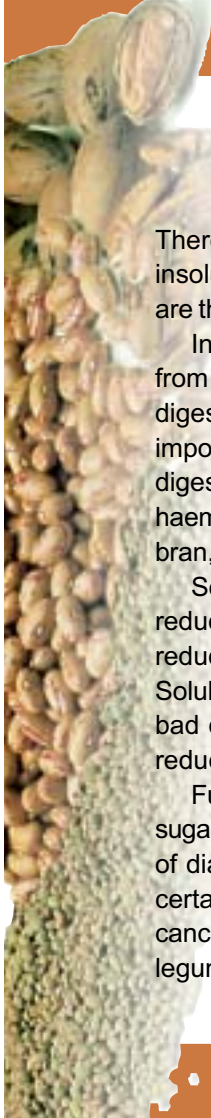
- 3 Don't add salt at the beginning. It will make beans dry. Add salt when beans are soft.
- 4 Simmer beans slowly. If they boil too fast the skins will break. **NB:** Lentils and black-eyed beans can be boiled straight from the packet.



One serving = one cup of cooked dry beans, split peas, lentils or soya.)

Recommended Number of Servings per day	Children >7-13 years	Adolescents 14-25 years	Adults 25-60 years	Elderly people >60 years
Chicken, meat fish, eggs; And/or Dry beans, split peas, lentils and Soya	2 -3 servings	2 -3 servings	2-3 servings	2-3 servings
And Milk	500-750ml (2-3 cups)	250ml-500ml (1-2cups)	250ml (1 cup)	250ml (1 cup)





DID YOU KNOW?

There are two different families of fibre – soluble and insoluble fibre. Insoluble fibres are indigestible. They are therefore not absorbed into the bloodstream.

Instead of being used for energy, fibre is excreted from our bodies. Insoluble fibre passes through our digestive tract largely intact. Both types of fibre are important in the diet and provide benefits to the digestive system by preventing constipation and haemorrhoids. Examples include whole-wheat bread, bran, fruit and vegetables.

Soluble fibre has been scientifically proven to reduce blood cholesterol levels, which may help reduce the risk of cardiovascular heart disease. Soluble fibre may help lower the LDL cholesterol (the bad cholesterol) and the total cholesterol - thereby reducing the risk of arterial disease.

Furthermore, soluble fibre can help to lower blood sugar levels - thereby assisting in better management of diabetes. Fibre is also linked to the prevention of certain types of cancers, especially colon and breast cancer. Soluble fibre is found in oats, oat bran, barley, legumes, prunes, apples, carrots and oranges.

Recipe

Five-star restaurants and family recipes include legumes. White bean and tuna salad is an example of a quick prepared meal.

WHITE BEAN AND TUNA SALAD

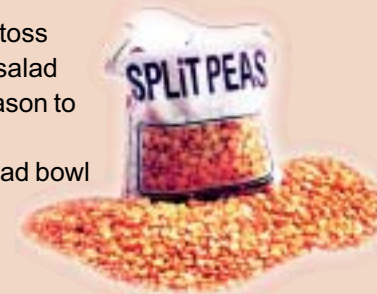
4 portions

1 tin white kidney beans, drained
2 tins (185 g) tuna in brine, drained
1 medium onion, chopped
60 ml light mayonnaise
15 ml lemon juice
chopped parsley

METHOD

In a large bowl, toss together all the salad ingredients. Season to taste.

Spoon into a salad bowl and garnish with chopped parsley.



7 Chicken, fish, meat, milk or eggs can be eaten daily

Chicken, fish, meat, milk and eggs are all animal-based foods and are all sources of good quality protein.

Protein is needed for the growth, maintenance and repair of body tissue. Dairy products such as milk and meat and the soft edible bones of fish (pilchards, sardines) are good sources of calcium, essential for healthy bones and teeth, blood clotting and for healing wounds.

Chicken, fish, meat and egg yolks are good sources of iron, in a form that is well absorbed, as well as vitamin B12 and zinc, necessary for the prevention of anaemia. Anaemia is caused by too little iron in the blood, which can lead to tiredness, a reduced ability to work and lower resistance to infection.

Must these foods be eaten daily?

No, small portions of these foods can be eaten every day, (such as a chicken thigh or fish fillet), but need not be eaten every day. People who choose not to eat animal-based food, can obtain protein from plant-based foods such as beans, split peas, lentils, soya products, nuts and seeds. Try to have 2 to 3 meatless days per week by substituting meat with dry beans,

split peas, lentils or soya.

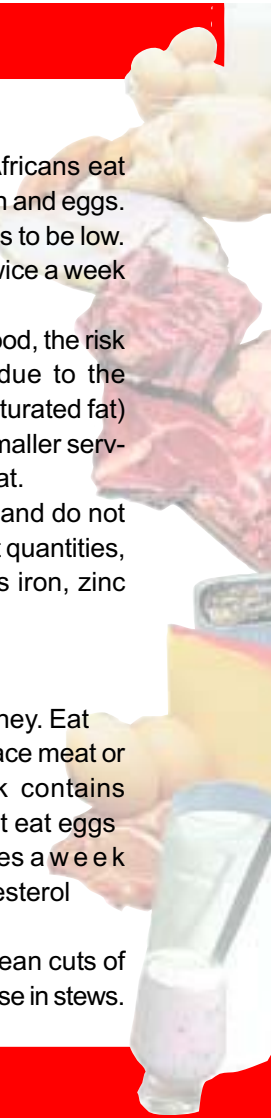
Nutrition studies indicate that South Africans eat sufficient and often too much meat, chicken and eggs. Fish and milk consumption, however, tends to be low. We should make it a habit to include fish twice a week in our eating plan.

When we eat too much animal-based food, the risk of CVD's is increased. This is mainly due to the amount and type of fat (cholesterol and saturated fat) found in red meat. Therefore, rather eat smaller servings of lean red meat and remove visible fat.

If we eat too little animal-based foods and do not eat a variety of nutritious foods in sufficient quantities, we develop nutrient deficiencies, such as iron, zinc and vitamin A deficiencies.

Choose animal-based foods wisely

- Buy eggs. They are good value for money. Eat about three to four eggs a week to replace meat or chicken. Egg yolk contains some fat, so do not eat eggs more than four times a week if you have a cholesterol problem.
- Choose cheaper, lean cuts of meat with little bone to use in stews.





- Chicken is a cheaper alternative to red meat and contains less fat. Do not eat the skin of the chicken, as this is where most of the fat is found.
- Offal is also rich in protein and iron. It is usually cheaper and can sometimes be used instead of expensive cuts of meat. Because it is high in fat and cholesterol, people with heart disease or high cholesterol should not eat this too often.
- Liver and kidneys are very good sources of good quality iron, but should not be eaten more than once a month by people with high cholesterol levels, since they contain a lot of fat and cholesterol.
- Cook meat or chicken at home because it is healthier and cheaper than a take-away or restaurant meal.
- Make small portions of lean meat go further in stews and minced meat dishes by adding extra vegetables, dry beans, split peas or lentils, soya or pasta.
- It is healthier to prepare meat, chicken and fish without frying. Rather boil, stew, microwave, roast, grill or braai.

- Fish contains little fat and can substitute red meat in our diet. Eat fish at least twice a week, either tinned in tomatoes or water, or fresh/frozen (plain) if available. Try not to have fried fish or fish tinned in oil too often.
- As polonies, viennas, sausage meat, frankfurters, salami and bacon are high in fat and salt, they should not be eaten too often. `Rather keep for special occasions.
- About two cups of milk (maas, yoghurt or sour milk) are required per person per day in order to provide enough calcium in the diet. Cheese may be eaten instead of milk drinks.
- If no red meat is eaten, for whatever reason, it may be necessary to take a supplement of vitamin B12. Otherwise eat enough dairy products.
- Enjoy lean red meat not more than three or four times each week.
- Choose lean cuts of meat rather than sausages and processed meats.
- Try to eat one or two fish meals a week.
- Poultry is an excellent alternative to red meat.
- Dry beans, split peas, lentils and soya-based foods are excellent alternatives to red meat.

DID YOU KNOW?


Two types of iron are found in food; haeme-iron and non-haeme iron. Haeme-iron that is provided by animal foods, red meat and poultry, is very easily absorbed. Non-haeme iron is found in plant foods. This type of iron is not absorbed into our bodies as efficiently as haeme-iron, as iron is bound by substances found in certain vegetables. Spinach is a rich source of non-haeme iron, but the iron is bound, making it difficult to absorb. A deficiency of iron in the body is known as anaemia.

One serving = 75 -100g cooked chicken, fish, meat (without bone); 150g Soya burger; 2 eggs; 4 tablespoons peanut butter; 2/3 - 1 cup nuts. 1 cup milk or yoghurt; or 40-50 g cheese.

Ideas to eat chicken, fish, meat or eggs wisely:

- Enjoy lean red meat not more than three or four times each week.
- Choose lean cuts of meat rather than sausages and processed meats.
- Try to eat one or two fish meals a week.
- Poultry is an excellent alternative to red meat
- Dry beans, split peas, lentils and soya-based foods are good sources of protein and are excellent alternatives to red meat. Aim for two to four servings a week.
- Meat high in fat includes sausage meat, salami and bacon and should only be eaten occasionally.

Recommended Number of Servings per day	Children >7-13 years	Adolescents 14-25 years	Adults 25-60 years	Elderly people >60 years
Chicken, meat fish, eggs; And/or Dry beans, split peas, lentils and Soya	2-3 servings	2-3 servings	2-3 servings	2-3 servings
And Milk	500-750ml (2-3 cups)	250ml-500ml (1-2cups)	250ml (1 cup)	250ml (1 cup)



The following dietary guidelines teach us about moderation and balance for healthy eating.

- Eat fats sparingly
- Use salt sparingly
- Use food and drinks containing sugar sparingly and not between meals
- If you drink alcohol, drink sensibly

8 Eat fats sparingly

Apart from providing energy, fats are also needed for building cells, to help body processes and to help absorption of the fat-soluble vitamins A, D, E and K. Fats supply essential fatty acids to the diet. Fats should never be completely excluded from our diet because the essential fatty acids cannot be produced by the body and have to be supplied by the food we eat.

However, a high intake of fats has been linked to being overweight, high cholesterol levels, cardiovascular heart disease, diabetes and certain cancers, referred to as chronic diseases of lifestyle (CDLs).

Fats are very concentrated sources of energy, therefore it is easy to eat too much fat. Fats and oils provide more than twice the amount of food energy than

carbohydrates and proteins, thus leading to overweight more easily. Too much of the wrong kind of fat in our diet raises our blood cholesterol levels, which greatly increase the risk of heart disease. The biggest influence of fats on blood cholesterol levels is the mix of fats in the diet.

Fats are made up of many units, called fatty acids. Fats are often described as “saturated”, “mono-unsaturated” and “poly-unsaturated”. These terms refer to the chemical structure of the fatty acids in the fats. Although most foods contain a mixture of these fatty acids, certain foods contain more of a specific fatty acid than others. Animal fats (excluding the fat in fish) contain a high percentage of saturated fatty acids while plant oils (with the exception of coconut and palm kernel oil) contain more mono-unsaturated and poly-unsaturated fatty acids, which lower the cholesterol levels in our blood.

(Surprisingly, the amount of cholesterol in food is not strongly linked to cholesterol levels in the blood. Therefore eggs are not the culprits they were once made out to be. While it is true that egg yolks have a lot of cholesterol - and therefore may slightly increase blood cholesterol levels - eggs also contain nutrients that may help to lower the risk of CVD's, including good quality protein and vitamins. Three to four eggs a week are acceptable.)



Which fats and oils are the best choices?

Mono-unsaturated and poly-unsaturated fats are the best choices for our arteries and our hearts. Sources are:

- Vegetable oil (in small amounts), such as olive, canola and sunflower oil.
- Soft 'tub' margarine (thinly spread).
- Oily fish, such as pilchards, tuna, sardines, mackerel, salmon. These fish types supply the body with the essential omega-3 fatty acids, which reduce the risk of cardiovascular disease.
- Nuts, unsalted peanuts and avocado.

Which fats and oils are not good choices?

The fats and oils that contain saturated fatty acids.

These include:

- Red meat and meat dripping, sausages and processed meats
- Chicken skin
- Lard, butter and ghee
- White cooking fat
- Hardened vegetable oils found in many commercially baked, fried and snack foods, shortenings and some margarines, (especially brick margarine)
- Coconut oil and palm kernel oil
- Coffee creamers
- Tea whiteners
- Full cream milk and full cream cheese such as cheddar and gouda ¹
- Mayonnaise and full cream salad dressings
- Fried foods

¹ There is nothing wrong with enjoying gouda and cheddar cheese. However, people at a risk of Chronic Diseases of Lifestyle (CDL) should substitute gouda and cheddar for low fat cottage cheese.





DID YOU KNOW?

Trans-fatty acids are fatty acids produced by heating vegetable oils in the presence of hydrogen. This type of fatty acid is not a good choice for the health of our hearts. This process is known as hydrogenation. The more hydrogenated an oil is, the harder it will be at room temperature. Spreadable tub margarine is less hydrogenated and so has fewer trans-fatty acids than brick margarine. Check the ingredient list on food labels to see if they contain hydrogenated vegetable oils.

When oil is heated and cooled too often or heated too high, it becomes harmful because of the same hydrogenation process as described for brick margarine. Do not use oil over and over again. When the oil changes colour (after about two uses) it should not be used again.

Many foods that are high in fat do not taste fatty or oily. We should read food labels to learn how much fat is in processed foods.

Some foods that are high in fats AND sugar should be eaten sparingly. These include: biscuits, doughnuts, rich cake with icing, ice cream, 'vetkoek' with sweet filling and chocolate. Some foods contain hidden fats

such as fried (crumbed) fish, chips, crisps and pies. All these foods should be eaten sparingly. Keep them for special treats!

Should I then rather not eat fat at all?

No, you should eat fat, but SPARINGLY, meaning a little at a time of the right type of fats and oils.

Try to replace the fats that are unhealthy (not good choices) with those that are healthy (good choices).

Some Ideas

- When buying meat, try to buy lean meat.
- Cut off all visible fat from meat.
- Boil, bake, grill, poach, steam or microwave foods.
- Eat less fried and deep fried food, such as take-away food.
- Use less oil or fat when cooking. (The total amount is important).
- Spread margarine thinly - it is easier and healthier if it is soft.
- Avoid using flour and breadcrumbs as these absorb more fat.
- Use low fat/reduced fat dairy products such as low-fat milk, cottage cheese and yoghurt.
- Use fish, lentils, split peas or dry beans instead of red meat, chicken and cheese.

9 Use salt sparingly

Most of the salt we eat comes from salt added while preparing and cooking food. Salt is commonly used to add flavour to foods. The rest comes from the salt added at the table and from eating processed foods. Many snack foods and take-away foods are laden with salt.

Why do we have to eat salt sparingly?

Most people like the taste of salt and as a result eat **too much** salt and salty food. The cells of our bodies naturally contain potassium, while the body fluids contain sodium (salt). Our bodies need both minerals to work properly.

Eating too much salt and salty food increases the risk of both coronary heart disease and stroke. Scientific studies have shown that reducing salt intake (as well as increasing vegetable and fruit consumption) can lower blood pressure. **ALL salt is to be used sparingly** - this means very little at a time. **Check your blood pressure regularly at a clinic.**

Photograph: UNICEF/Giacomo Pirozzi

DID YOU KNOW?

When you buy salt, make sure it is iodated. This means that iodine has been added to salt. Iodine is a mineral that especially children need for brain development, health and growth. According to South African law, all food grade salt sold in shops throughout South Africa must be iodated. This is to prevent various mental and physical conditions known as iodine deficiency disorders. Only a small pinch of iodated salt every day is enough to prevent IDD. The words "iodated salt" should be indicated on the label. Do not use agricultural salt because it is not iodated.

Our bodies need salt

Salt helps to regulate fluids in our bodies. Add a little, or no salt to foods at table and during cooking. Most foods have enough natural salt. When we eat a variety of foods, it is not necessary to add salt while cooking or at table.

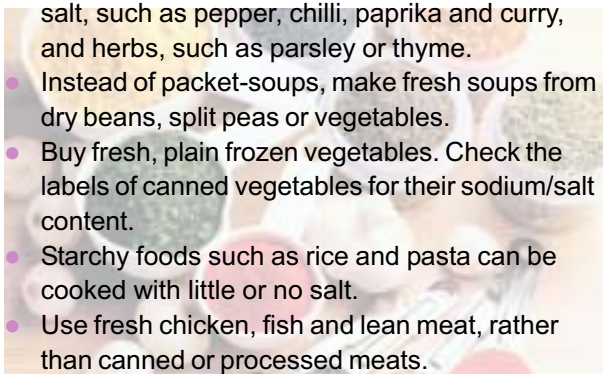
When people have diarrhoea they lose sodium and potassium together with water. They need to replace these by eating food or drinking fluids, which contain enough sodium and potassium to replace what they have lost.



Seasonings and foods that are high in salt are the following:

- Seasoning salt, such as meat tenderiser and products containing monosodium glutamate (MSG), e.g. lemon pepper and barbeque spices.
- Stock cubes, used to make soup or added to stews.
- Soya sauce, steak sauce, salad dressings, tomato sauce, barbecue sauce, garlic and onion salt.
- Sausages (wors), luncheon meats (polony), salami, ham, bacon and snoek.
- Bovril, Marmite, pizzas, potato crisps, salted nuts (e.g. peanuts), biltong, dry sausage and savoury biscuits.

Hints

- Eat fast foods or take-away foods less frequently because they usually contain high amounts of salt.
 - Try to eat only a small amount of processed and canned foods (occasionally) because they usually contain a lot of salt.
 - Use fewer sauces, mixes and “instant” products such as flavoured rice, pasta, and cereal.
 - Read food labels to compare the salt content of similar foods. Some breakfast cereals have much less salt than others. Reading the label enables you to consider the salt content when you choose which one to buy.
 - Don't put salt on table.
 - Use very little salt when cooking.
 - Include more fresh food in daily meals.
 - Remove salt from recipes whenever possible.
 - Instead of salt, use spices that do not contain salt, such as pepper, chilli, paprika and curry, and herbs, such as parsley or thyme.
 - Instead of packet-soups, make fresh soups from dry beans, split peas or vegetables.
 - Buy fresh, plain frozen vegetables. Check the labels of canned vegetables for their sodium/salt content.
 - Starchy foods such as rice and pasta can be cooked with little or no salt.
 - Use fresh chicken, fish and lean meat, rather than canned or processed meats.
- 

10 Use food and drinks containing sugar sparingly and not between meals.

Most of us love sugar, sweets and everything that is sweet. But too much of a good thing is not good for us. However, food and drinks containing sugar are not totally prohibited in a healthy eating plan. The key is not to have food and drinks containing sugar between meals, but to reserve them as a treat for special occasions.

Why is too much sugar not good for us?

In the past sugar has been unfairly blamed for causing a number of health conditions such as diabetes and heart disease. On the other hand, we know that too much sugar is not good for our health in the long term. Sugar is rich in energy, but it contains no other nutrients. Too much sugar can cause obesity, especially when eaten with fatty foods. Too much sugar and sugary foods and drinks can make us full and cause us to eat less healthy foods such as vegetables, fruit and milk. This is especially true for children who are smaller eaters than adults.

Too much sugar, especially when eaten in food that

sticks to the teeth for a long time (such as toffees), cause tooth decay.

All fresh fruit contains natural sugar. Fresh fruit is good for us as it contains important nutrients such as fibre, vitamins and minerals. However, drinking too much fruit juice too often, will lead to tooth decay.

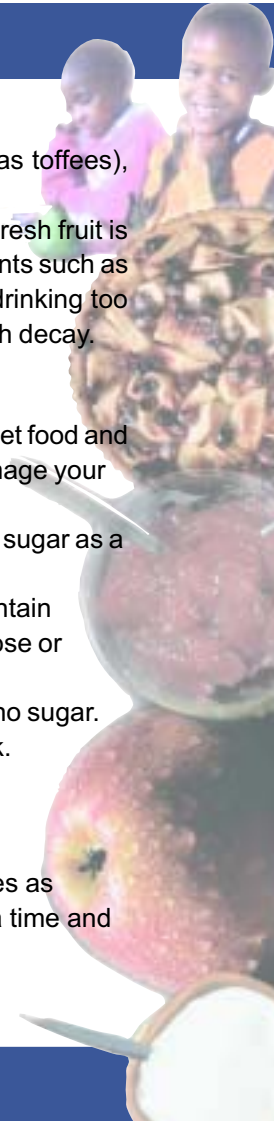
Here are some ideas

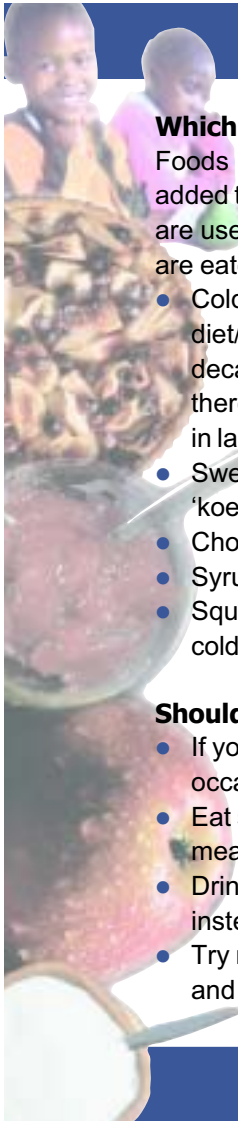
- Do not make a habit of consuming sweet food and drinks between meals as this can damage your teeth.
- Reserve drinks and foods that contain sugar as a treat for special occasions.
- Check labels on food to see if they contain sugar. Sugar may also be called sucrose or dextrose.
- Choose foods and drinks with little or no sugar.
- Use a little or no sugar when you cook.

How should we use sugar?

SPARINGLY

Use only a little at a time and as few times as possible in a day. Eat small amounts at a time and as little as possible.





Which foods contain sugar?

Foods like the examples listed below, have sugar added to them and pose a health problem when they are used instead of good mixed meals or when they are eaten in excess:

- Cold or fizzy drinks and soft drinks. (Even the diet/unsweetened fizzy drinks cause tooth decay due to 'acid erosion' of the enamel. It is therefore not healthy for our teeth to drink them in large quantities or regularly)
- Sweets, cake, biscuits, sweet pastries like 'koeksisters' and éclairs
- Chocolates and ice cream
- Syrup and jam
- Squash (which you mix with water to make a cold drink)

Should we have no sugar?

- If you do like something sweet, save it for special occasions.
- Eat something sweet with meals, not between meals.
- Drink low-fat milk, vegetable or fruit juice, instead of soft drinks and squashes.
- Try not to use sugar more than four times a day and preferably at mealtimes.

- Try not to add sugar to vegetables. Rather flavour with herbs.
- Use recipes that call for very little sugar or none at all.

When overweight:

- Use artificial sweetener in your tea or coffee instead of sugar.
- Add fresh fruit to plain yoghurt instead of sugar to sweeten it.
- As a special treat, mix milk, yoghurt and fresh fruit juice.

Oral hygiene

Healthy teeth come from good genes and good dental care. But the foods we eat can also affect the health of our teeth.

We have to clean our teeth twice a day and rinse our mouths with clean water after eating if we cannot brush our teeth.

We have to rinse our mouths after eating or drinking anything sweet.

Dairy foods like yoghurt, milk and some cheeses provide protection against dental cavities.

We have to have our teeth checked by a dentist at least twice a year.

11 If you drink alcohol, drink it sensibly

THIS GUIDELINE IS FOR PEOPLE ABOVE THE AGE OF 18 YEARS

Alcohol – is it good or bad?

You don't have to drink alcohol at all.

Drinking alcoholic beverages/liquor in excess is not good for our health. Too much alcohol may lead to behavioural changes including violence in some people. Furthermore, there are too many unnecessary injuries and loss of life due to drunken driving and due to persons walking in the streets when drunk.

Alcohol is primarily a source of empty energy. It provides energy but has no or very few other nutrients.

While some people drink liquor/alcoholic beverages to celebrate marriages, birthdays and many special occasions, alcohol is the root of many social and health problems. A glass or two of an alcoholic beverage served with meals occasionally is not harmful. However, with high intakes, alcohol is both intoxicating and toxic.

Effects of alcohol if taken in excess

- People who consistently drink heavily can develop nutritional deficiencies. Because a high

intake of alcohol makes people feel full, there is a risk that it may displace other more nutritious foods in the diet.

- Heavy drinking may damage the liver.
- Alcoholic drinks can contribute to overweight people because alcohol is high in energy. Stout and beer are particular culprits - hence the typical beer drinker's paunch.
- Depression can be a result.
- There is an increased risk of developing stomach ulcers and certain types of cancers.
- High blood pressure can result.

Mix some thinking with your drinking

Drinking too much alcohol very often is unhealthy for your body and your mind.

- When you drink too much, your reflexes are not as quick as they usually are. Do not drive a car or operate heavy machinery after drinking alcohol.
- When you drink too much you are not in control of yourself. Some people become aggressive after too much alcohol. Others get sleepy.
- Too much alcohol too often can harm your liver, your heart, increase your blood pressure and damage your brain.





Who should abstain from using alcohol?

We do not have to drink alcohol at all and the following people should never drink:

- Children **under the age of 18 years** should not drink alcohol.
- Pregnant women should not drink any alcohol since it may have detrimental effects on the unborn baby.
- Breast-feeding women should not drink alcohol.
- People on medication should not drink alcohol.
- People planning to drive and people operating heavy machinery should not drink.

Never drink alcohol instead of eating a meal. Rather eat first and then have a drink.

Ideas to drink alcohol sensibly

- Drink slowly and take small sips. Always eat some food before drinking alcoholic drinks.
- Remember the words 'No thank you'.
- Don't drink and drive – arrive alive.
- If you drink alcohol, drink it sensibly and with food. (The key word is *sensibly*)

What does sensibly mean?

Men should not drink more than three 'standard drinks' a day.

Women should not drink more than two 'standard drinks' a day.

What is a standard drink?

- 1 can of beer (340ml or just under half a quart)
- 1 tot of spirits (brandy, whisky, gin, cane spirits)
- 1 glass of white or dry red wine (125 ml)
- 1 small glass of sherry (60ml)

Regular drinking can make you addicted to alcohol. This can become very expensive. In the end you could start using money meant for food, to buy alcohol. Not only you but the whole family can be affected.

If you have an addictive problem, seek help from your friends, family or an organisation that help people to cure addictions.

Contact number FAMSA: 012 460 0733

Contact number AA: 012 322 6047

Contact number SANCA: 011 482 1070

Plan the family meals using the food-based dietary guidelines

SAMPLE MENUS

Menu 1	Menu 2	Menu 3
<p>Breakfast Orange wedges Whole-wheat/Brown bread slices Margarine thinly spread Scrambled egg</p>	<p>Breakfast Banana Oats porridge Low fat milk</p>	<p>Breakfast Apple Mealie meal porridge Low fat milk</p>
<p>Light Lunch in minutes Whole-wheat or brown rolls filled with cold chicken Mixed green salad Fresh fruit in season</p>	<p>Packed Lunch Brown bread sandwich Fillings: cheese/cold beef/ baked beans Tomato wedges Fresh fruit in season</p>	<p>Light Lunch Pasta and with spring vegetables* Fresh fruit in season</p> <p><i>* See page 6</i></p>
<p>Economical Winter Supper Hearty beef and bean stew Stiff maize-meal porridge/Rice Boiled carrots Carrot-and-Pineapple Salad</p>	<p>Money Saving Supper Samp and Beans Pumpkin Boiled Spinach Green beans</p>	<p>Supper Grilled Fish/Fish Cakes Baked Potatoes in their skin Green Peas</p>

Remember to drink 8 glasses of clean, safe water per day

Self evaluation of the South African Food-based Dietary Guidelines

The following questions can be used to evaluate your own eating habits and how well you comply to the SA eleven food-based dietary guidelines.

Eating plan and related behaviour	Frequency of eating		
	Regularly	Occasionally	Never
1. Do you eat different kinds of food, with no frequent repetition?			
2. Do you eat wholewheat bread?			
3. Do you eat five vegetables and fruits a day?			
4. Do you eat dry beans, split peas, lentils, soya products or unsalted nuts twice or more times a week?			
5. Do you eat fish twice a week?			
6. Do you drink a glass of milk?			
7. Do you drink water in between meals?			
8. How active are you? Do you do exercise or other physical activity?			
9. Have you measured your body weight and calculated your BMI?			
10. Do you know what your blood pressure is?			
11. Do you eat french fries?			
12. Do you drink cold or fizzy drinks every day?			
13. Do you drink alcoholic beverages more than 3 times per week?			
14. Do you eat cake, pastries or biscuits in between meals?			
15. Do you add iodated salt to your food at table?			
16. Do you eat three freshly prepared meals a day?			
17. Do you select lean meat for cooking?			
18. Do you boil vegetables for a short period in a little water?			
19. Do you use stock cubes less than twice a week?			
20. Do you like to add sugar to vegetables in the cooking process?			
21. Do you buy take-away foods?			
22. Do you add butter to cooked vegetables?			

Conclusion

Your eating pattern can be summarised as follows with regard to compliance to the frequency of eating and food preparation behaviour:

Individual / Personal eating habits can be summarised as follows:

1. Eating habits: Items 1-10 are good and appropriate practices. If you have a frequency of :

- Regularly: Please continue these good practices
- Occasionally: Please eat them on a regular basis.
- Never: Please consider the reasons that cause you not to eat these foods. Initially try them occasionally, then eat them regularly.

2. Eating habits: Items 11 - 15 need to be improved if your answers are marked as:

- Regularly: Please consider the major factors that cause these behaviours. First, try to practice them on an occasional basis as it will be beneficial to your health if they can be avoided
- Occasionally: Continue to do so, but if they can be avoided, it will be beneficial to your health.
- Never: Please continue to do so.

3. Food preparation behaviour can be summarised as follows:

3.1 Food preparation behaviour: Items 16-19 imply good behaviour and appropriate practices.

If you have a frequency of:

- Regularly: Please continue these good practices.
- Occasionally: Please eat them regularly.
- Never: Please consider your reasons for not having these habits. Try to put this behaviour into practice occasionally, later changing these practices to regularly.

3.2 Food preparation behaviour: Items 20-22 need to be improved.

If you have a frequency of:

- Regularly: Please consider the major causes of this behaviour. First try to put these into practice occasionally to improve the diet gradually.
- Occasionally: Continue to do so. If they can be avoided it will be beneficial to your health
- Never: well done, please continue to do so.

Glossary

Active/Activity

To do many different activities in order to exercise different muscles. It includes formal exercise, but also activities performed in the course of our daily tasks such as walking to the bus stop and climbing stairs.

Addictive

To become dependent on something, e.g. medicine, drugs, alcohol.

Aggressive

Ready to attack or fight.

Alcohol

An intoxicating (to make drunk) drink.

Anaemia

Generally refers to a decreased oxygen-carrying capacity of the blood. This can be caused by many factors such as iron deficiency or blood loss.

Balanced eating plan/pattern

An eating plan that provides all the nutrients needed over a period of time.

Calcium

A mineral that our bodies use to build bone and teeth. Calcium is found in milk and other dairy products, the bones of fish and in some vegetables.

Carbohydrates

A group of foods, which includes sugars (found in sugar,

sweets, vegetables and fruits) and starches (found in maize, bread and rice, among others). Sugars and starches provide our bodies with energy.

Cardiovascular disease

A disease characterised by the deposition of fatty material in the blood vessels that serve the heart. These deposits restrict blood flow through the heart, which in turn can lead to heart damage and death.

The major **Cardiovascular diseases (CVDs)** include: coronary heart disease (heart attack), stroke, hypertension (high blood pressure), heart failure and atherosclerosis (thickening of the walls) of the coronary arteries.

Chronic Diseases of Lifestyle (CDL)

Are a group of diseases that share similar risk factors as a result of exposure, over time, to unhealthy diets, smoking, lack of exercise and stress. A good example is cardiovascular disease.

Complete protein

The protein we get from animals that builds our body tissue.

Convenience or processed food

Food that has been completely or partially prepared for eating before we buy it. We can use convenience foods in a balanced eating plan, but as some are high in fat or low in fibre we shouldn't use them too often.

Dietary fibre

A group of chemical substances that are found in the cell walls of plants. Although our bodies cannot digest and absorb fibre, it is important because it helps move food through our intestines. This helps to keep us healthy and prevent problems such as constipation.

Energy

The power that your body needs to keep going.

Fortified Food

Micronutrients (vitamins and minerals) are added to food to improve the quality of the overall daily food intake of the people who consume the food. In South Africa the foods that are fortified by law are white and brown bread flour and maize meal. The vitamins and minerals that are added are those that many people do not get enough of, or are lacking in the diet namely vitamin A, thiamine (vitamine B1), riboflavine (vitamine B2), niacin, folic acid, pyridoxine (vitamin B6), iron and zinc.

Health

A state of being well in body and mind, free from illness.

Healthy

Having, showing or promoting good health.

Haeme-iron

Iron from animal foods, which is absorbed completely in our bodies.

Insoluble Fibre

Parts of food that remain undigested as they enter the large intestine. They are important to prevent constipation.

Malnutrition

Another word for poor nutrition, meaning either under-nutrition (too little food intake or too few nutrients in the food) or overnutrition (too much food intake or too much of one or more nutrients in the food).

Micronutrients

Natural substances found in small amounts in food (e.g vitamins and minerals). Although the body only requires small amounts of micronutrients, they are very important for maintaining good health.

Micronutrient deficiency

A lack of vitamins and minerals. It leads to poor health, poor intellectual development, reduced capacity to work and poor growth.

Minerals

A group of nutrients needed by the body that must be provided by the food we eat. The body cannot manufacture minerals. Most minerals that are needed in small amounts have very specific functions in the body. Among the most important minerals are calcium, iron, iodine and zinc.

Moderate activity

Enough physical activity to keep fit without overdoing it.

MSG (Monosodium Glutamate)

A substance added to food to improve the taste. It contains a lot of sodium found in salt.

Non-haeme iron

The iron we find in plant proteins that is partially absorbed by our bodies.

Nutrients Those substances in food that provide essential nourishment for the maintenance of life. These include protein, carbohydrates, fat, vitamins, minerals.

Overweight

A condition where excess fat has accumulated in the body. This happens when a person gets more energy from food than they need over a long time.

Physical

Referring to your body, or parts of the body.

Protein

A substance in food needed to build our bodies. Fish, meat, eggs, dairy products are all good sources of protein.

Sensibly

Good judgment, intelligently, wisely.

Soluble fibre

Fibres that dissolve or swell in water and are digested. They are important to reduce blood cholesterol levels.

Sparingly

A little at a time and not too often.

Staple food

The food of which you eat the most, such as bread and maize meal.

Starch

A substance found in food such as potatoes, bread, which provides energy.

Variety

A variety of foods means eating more than one type of food at each meal and eating different foods on different days.

- Choose a number of different foods to make meals more interesting.
- Choose a healthy way of preparing and cooking food.
- Adhere to a regular meal routine.

Vitamins

Substances found in small amounts in food. Most vitamins cannot be made by the body and have to be taken in with food. Each vitamin has a specific function to keep the body healthy.



Contact Details for Department of Health's Nutrition Units

National

Director Nutrition
Private Bag x 828
PRETORIA 0001
Tel: (012) 312 0000
Fax: (012) 312 3112

Eastern Cape

Deputy Director: Nutrition
Private Bag X0038
BISHO 5609
Tel: (040) 636-3396
Fax: (040) 639-3874

Limpopo

Deputy Director: Nutrition
Private Bag X 9302
POLOKWANE 0700
Tel: (015) 293-6074
Fax: (015) 293-6211

Northern Cape

Assistant Director: Nutrition
Private Bag X5049
KIMBERLEY 8300
Tel: (053) 830-0604
Fax: (053) 833-2092

Western Cape

Deputy Director: Nutrition
P O Box 2060
CAPE TOWN 8000
Tel: (021) 483-5663
Fax: (021) 483-4345

KwaZulu-Natal

Director: Nutrition
Private Bag X 9051
PIETERMARITZBURG 3200
Tel: (033) 395-2726
Fax: (033) 395-3053

Mpumalanga

Deputy Director: Nutrition
Private Bag X11285
NELSPRUIT 1200
Tel: (013) 766-3445
Fax: (013) 766-3469

Gauteng

Assistant Director: Nutrition
Private Bag X085
MARSHALLTOWN 2107
Tel: (011) 355-3325
Fax: (011) 355-3338

Free State

Nutrition Manager
Private Bag X517
BLOEMFONTEIN 9300
Tel: (051) 430-1933
Fax: (051) 488-3077

North West

Deputy Director: Nutrition
Private Bag X2068
MMABATHO 8618
Tel: (018) 387-5622/5753
Fax: (018) 387-5812

Issued free of charge by:
Department of Health
Directorate: Nutrition
Private Bag X 828
Pretoria
Tel: 012 312 0000
Fax: 012 312 3112

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