

RECOMMENDED NUTRITIONAL INTAKES, DIETARY GUIDELINES AND NUTRIENT NEEDS FOR PEOPLE WITH DIFFERENT LIFE STYLE AND SPORTS

INTRODUCTION

The recommended intakes are an average to aim for each day. While it is normal to eat more of some foods on some days, and less on other days, what matters most is that one eat as close to these amounts as possible. This will ensure an individual for getting an adequate amount of energy and nutrients in the overall diet. The nutrients found in all foods and drinks provide nourishment for the body. This nourishment is in the form of substances which provide energy, building blocks for bone, muscle, organs, hormones and blood, substances needed for processes to occur in the body (like digestion) and substances that protect the body. The Dietary Guidelines is designed for professionals to help all individuals of different ages.

RECOMMENDED NUTRITIONAL INTAKES

Nutrients are drawn from a wide variety of foods and the more varied the diet, the more likely to obtain all the nutrients need.

Energy

Energy is not a nutrient but, kilojoules (food energy) are important for providing energy for the daily activities. Protein, fats and carbohydrates are converted into energy in different quantities. Vitamins and minerals are also essential nutrients for the body, but they are not converted into energy.

Energy is required to fuel body processes (metabolism) and physical activity. If we consume more energy than we use for metabolism and physical activity, the excess is stored as body fat. We need to be sure to balance the energy consume through foods with the energy expend during the day. The more active are the more energy needs and vice versa. The reference value for an average adult is 8,700 kJ.

Fat

Fat contributes to energy intake and helps to absorb vital vitamins; therefore a healthy diet should always contain a certain amount of fat. The two main forms of fat are saturated, predominately from animal sources, and unsaturated, predominately from vegetable sources. Because fat is a rich source of energy, we should try and eat no more than the recommended intake. It is also important to choose unsaturated fats as much as possible, such as those found in oily fish, nuts and seeds, avocado, and spreads made from sunflower, rapeseed and olive oil. The reference value for fat for an average adult is 70 grams.

Saturated Fat

Too much saturated fat can raise blood cholesterol, which can increase the risk of heart disease. Therefore, we should consume not more than the recommended daily intake. The reference value for saturated fat for an average adult is 24 grams.

Sugars

Sugars are carbohydrates that provide the body with energy, our body's fuel. Sugars occur naturally in fruit, vegetables and dairy foods and are added to foods for flavour, texture and colour. We should aim to consume not more than the recommended intake and limit foods that are high in added sugars and low in other nutrients. The reference value for sugars for an average adult is 90 grams.

Sodium (salt)

Sodium (salt) is needed for good health; however, too much can cause adverse health effects through its function of raising blood pressure. Our diets generally contain far more sodium than we need, due to the level of added salt in some packaged products. It is important for everyone to be aware of the sodium intake for heart health. The reference value for sodium for an average adult is 2,300 milligrams.

Protein

Protein is important for the growth and repair of the body's cells and for building muscle. It can also be used to provide energy. Animal-based foods are excellent sources of protein, such as fish, meat, chicken, eggs, milk, cheese and yoghurt. Good sources of vegetable-based protein include legumes – soybeans, baked beans, kidney beans, chickpeas and lentils – nuts and seeds. Grain-based foods such as bread, cereal, rice and pasta also contribute some protein to the diet. It is best to choose protein-rich foods that are low in saturated fat. The reference value for protein for an average adult is 50 grams.

Carbohydrates

Carbohydrates are the main source of energy that fuels our body and everything it does, even thinking. Carbohydrates are sugars and starches. They are found in fruit and some vegetables, dairy foods and grain-based foods like bread, breakfast cereals, rice and pasta. Eat some grain-based foods that are wholegrain or high in fibre every day, to boost the fibre intake. The reference value for carbohydrates (both complex and simple) for an average adult is 310 grams.

DEITARY GUIDELINES

Two years and older and their families consume a healthy, nutritionally adequate diet. The information in the Dietary Guidelines is used in developing Federal food, nutrition, and health policies and programs. Dietary Guidelines information to develop programs, policies, and communication for the general public include businesses, schools, community groups, media, the food industry, and State and local governments. The following dietary guidelines provide a broad framework for appropriate action:

- 1. Eat variety of foods to ensure a balanced diet.
- 2. Ensure provision of extra food and healthcare to pregnant and lactating women.
- 3. Promote exclusive breastfeeding for six months and encourage breastfeeding till two years or as long as one can.
- 4. Feed home based semi solid foods to the infant after six months.
- 5. Ensure adequate and appropriate diets for children and adolescents, both in health and sickness.
- 6. Eat plenty of vegetables and fruits.
- 7. Ensure moderate use of edible oils and animal foods and very less use of ghee/ butter/ vanaspati.
- 8. Avoid overeating to prevent overweight and obesity.
- 9. Exercise regularly and be physically active to maintain ideal body weight.
- 10. Restrict salt intake to minimum.
- 11. Ensure the use of safe and clean foods.
- 12. Adopt right pre-cooking processes and appropriate cooking methods.
- 13. Drink plenty of water and take beverages in moderation.
- 14. Minimize the use of processed foods rich in salt, sugar and fats.
- 15. Include micronutrient-rich foods in the diets of elderly people to enable them to be fit and active.

Dietary needs for different life stages

A general definition of a balanced diet is food intake that not only includes all the dietary needs of the organism (person), but includes the required dietary components, e.g. water, carbohydrates, proteins, dietary fibre, etc., in the correct proportions. A person's dietary needs change as he or she passes through the different stages of life from birth to childhood, to adulthood and eventually later life. Dietary needs change in terms of the amount (energy value) and type (nutritional content) of foods required for good health.

An important general principle is that more energy is required to support periods of growth and to fuel active lives - regardless of whether the activity is part of a working lifestyle e.g. agriculture or fishing in harsh environments, pursued for leisure e.g. amateur sports and physical recreation, or is just a healthy aspect of growing-up.

Hence, the dietary requirements at the main human life stages are given below:

Newborn babies - first 6 months:

Breast milk is the most natural food for newborn babies and provides a "total food" for a baby for up to about the first 6 months of life. In the first 12 months of life a baby's energy requirement can be up to 3 times (200% greater) than the proportional - to size - needs of an a typical adult.

Toddlers & Young Children (approx 1 - 11 years):

School children grow quickly and are generally very active. Their energy and nutritional requirements are therefore proportionally (by body mass) greater than those of adults.

Puberty & Adolescence (approx 11 - 19 years) :

Young people experience much physical development in the form of growth (increase in size and total mass) and other changes incl. e.g. hormonal during their pre-teen and teenage years. Their nutritional needs therefore differ from those of adults and are also different for male and female adolescents.

Adulthood:

The dietary requirements of a "normal" or "average" adult are the most often cited "typical" human dietary needs. However, there are variations - esp. energy requirement - between men and women, depending on body mass, and according to activity levels

Pregnancy:

Pregnancy changes the proportions in which energy and some nutrients are required. Some changes include:

- 1. 10% increase in energy requirement
- 2. 10% increase in protein requirement
- 3. 100% increase in vitamin C, calcium and folic acid requirements.

Lactation (Breast feeding mothers):

There are additional energy and nutritional requirements when breast feeding, e.g.

- 1. 20% increase in protein and iron requirements
- 2. 25% increase in energy requirement
- 3. 25% increase in requirement for B vitamins
- 4. 100% increase in requirement for vitamins A and C
- 5. 150% increase in calcium requirement so more vitamin D also needed

Later life, elderly people (60+ years, depending on general health):

Depending on their lifestyle activity level, elderly people may have reduced needs for energy and protein by 25-30%, or possibly more in the case of very sedentary lifestyles. Elderly people and especially elderly women may be found to be at risk of osteoporosis and so benefit from supplementation of calcium and vitamin D.

SPORTS NUTRITION

Whether for a bodybuilder, a professional athlete or simply exercising to improve the health, sports nutrition plays a key role in optimizing the beneficial effects of physical activity. Making better decisions with the nutrition and hydration can result in improved performance, recovery and injury prevention.

The importance of sports nutrition

Consuming the right balance of food and drink is important for everyone. Yet those actively participating in sport on a regular basis need to be aware that it can also affect their performance. Athletes, for example, may need more calories than the average person. So if an athlete, or simply someone who's made the decision to start exercising on a regular basis, we should not let a good nutrition plan fall down on the list of priorities.

Sports performance and energy

Fats, protein and carbohydrates all provide the body with fuel to maintain energy. Carbohydrates are the primary fuel used by working muscles. Adequate intake is essential for preventing muscle fatigue. While we should monitor the fat intake, we should not remove it from the diet completely. Fats provide fatty acids that can be used as a source of energy - especially if the exercise sessions last longer than one hour. Fats also provide the building blocks for hormones and formation of cell walls. Protein can be used as a source of energy and is critical for building new muscle tissue. If we are taking part in resistance training, the body will require additional protein.

Weight management

To maintain a healthy weight, eating well is crucial. If you are looking to lose weight for sport, strictly reducing the protein, fat or calorie intake can not only have a negative impact on the performance, but it can severely harm the body.

The types of food that we should include in the diet for optimum sports nutrition include:

- vegetables
- whole grains
- fruit
- sources of lean protein and low-fat dairy produce
- healthy fats.

CONCLUSION

Nutrition is a basic human need and a prerequisite to a healthy life. A proper diet is essential from the very early stages of life for proper growth, development and to remain active. Food consumption, which largely depends on production and distribution, determines the health and nutritional status of the population. The recommended dietary allowances (RDA) are nutrient-centred and technical in nature. Formulation of dietary goals and specific guidelines would help in providing required guidance to people in ensuring nutritional adequacy. The dietary guidelines could be directly applied for general population or specific physiological or high risk groups to derive health benefits. The dietary guidelines emphasize promotion of health and prevention of disease, of all age groups with special focus on vulnerable segments of the population such as infants, children and adolescents, pregnant and lactating women and the elderly.