

Recommended Dietary Allowance

the amount of an essential nutrient, as a vitamin or mineral, that has been established by the food and nutrition board of the national academy of sciences as adequate to meet the average daily nutritional needs of most healthy persons according to age group and sex. abbreviation: RDA

it refers to the limits of nutrient intake that a person is allowed daily for good health.

Definition Of Dietary Reference Intake

a set of guidelines for the daily intake of nutrients (as vitamins, protein, and fats) and other food components (as fiber) that include recommended daily allowances, adequate daily intake values for nutrients having undetermined recommended daily allowances, and tolerable upper level values of daily intake—abbreviation DRI

a set of values for the dietary nutrient intakes of healthy people in the U.S. and Canada, used for planning and assessing diets. includes the recommended dietary allowance (RDA), the adequate intake (AI), the tolerable upper limit (TUL), and the estimated average intake (EAI)

Dietary Guidelines

Dietary guidelines are defined as a set of guidelines or qualitative statements for making food choices that will help a person or a population lead a healthy life, maintain optimum weight and reduce the risk of chronic disease.

dietary guidelines a series of dietary recommendations from the nutrition committee of the American heart association (and other bodies) intended to improve cardiovascular health.

dietary guidelines (American heart association)

- caloric intake:
 - fat should be < 30% of total calories;
 - saturated fat should be < 10% of total calories;
 - polyunsaturated fat consumption should be < 300 mg/day;
 - carbohydrates (especially complex type) should constitute 1/2 of calories in diet;
 - protein should constitute the remainder;
 - calories should be sufficient to maintain the body weight.
- sodium intake should be < 3 g/day.
- alcohol consumption should be ≤ 60 g (2 oz)/day¹.
- a wide variety of foods should be consumed.

the dietary guidelines for Americans, emphasize three major goals :

- balance calories with physical activity to manage weight
- consume more of certain foods and nutrients such as fruits, vegetables, whole grains, fat-free and low-fat dairy products, and sea food
- consume fewer foods with sodium (salt), saturated fats, trans fats, cholesterol, added sugars, and refined grains

The Dietary Reference Intake (DRI)

is a system of nutrition recommendations from the institute of medicine (IOM) of the U.S. National Academy of Sciences. the DRI system is used by both the United States and Canada and is intended for the general public and health professionals. applications include:

- composition of diets for schools, prisons, hospitals or nursing homes
- industries developing new food stuffs
- healthcare policy makers and public health officials

Recommended dietary allowances (RDAS).

the RDA is used to determine the recommended daily value (RDV) which is printed on food labels in the U.S. and Canada.

$$RDA = EAR + 2SD(EAR)$$

Guidelines recommendations encompass two over-arching concepts:

- maintain calorie balance over time to achieve and sustain a healthy weight.
- focus on consuming nutrient-dense foods and beverages.
- balancing calories to manage weight
- prevent and/or reduce overweight and obesity through improved eating and physical activity behaviors.
- increase physical activity and reduce time spent in sedentary behaviors.
- maintain appropriate calorie balance during each stage of life—childhood, adolescence, adulthood, pregnancy and breastfeeding, and older age.
- building healthy eating patterns

fat	protein	carbohydrate	recommended macronutrient proportions by age
30–40%	5–20%	45–65%	(1–3 years)
25–35%	10–30%	45–65%	(4–18 years)
20–35%	10–35%	45–65%	(19 years and older)

Metabolism

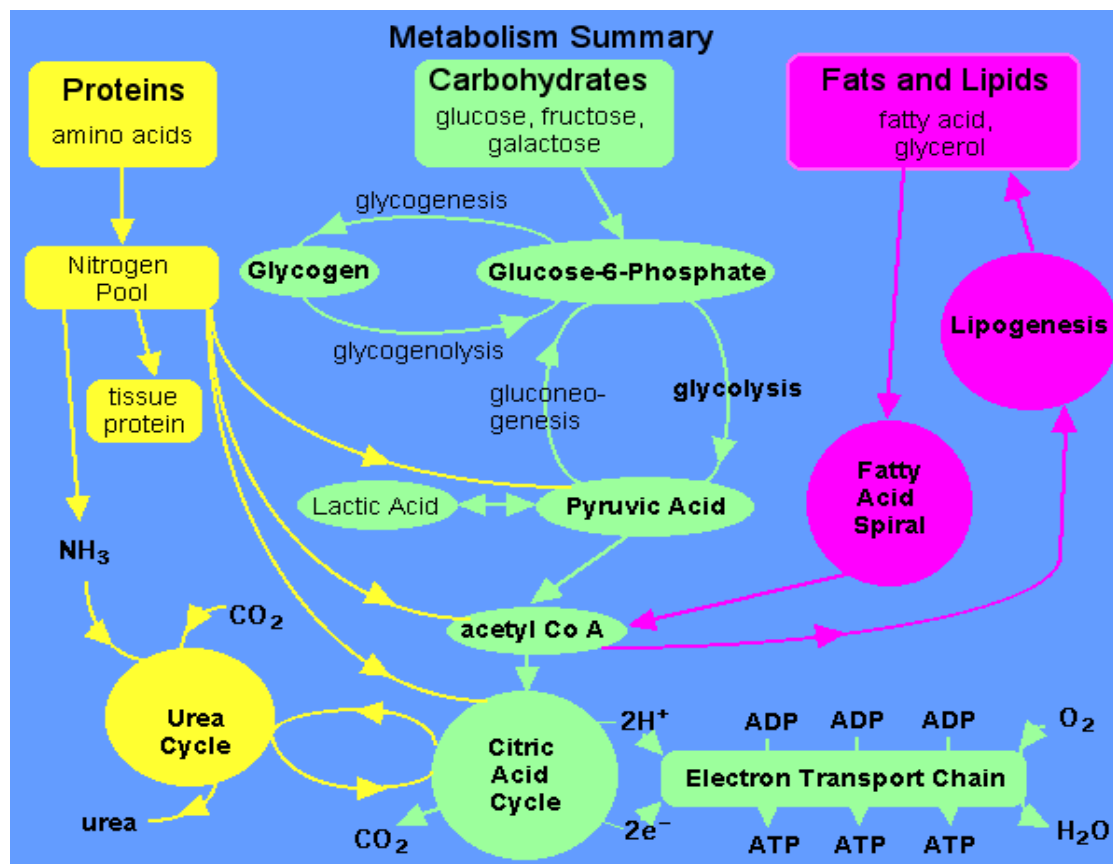
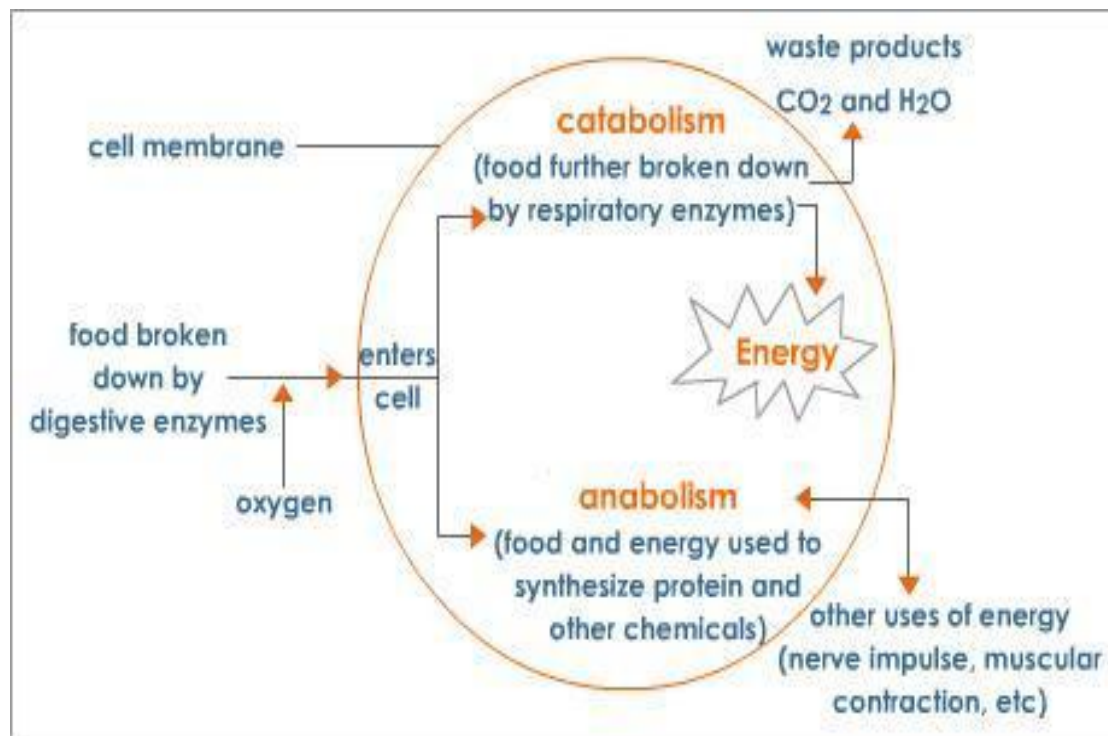
metabolism refers to all the chemical processes going on continuously inside your body that allow life and normal functioning (maintaining normal functioning in the body is called homeostasis).

these processes include those that break down nutrients from our food, and those that build and repair our body.

Two Processes Of Metabolism

your metabolism has two parts, which are carefully regulated by the body to make sure they remain in balance. they are:

- **Catabolism** – the breakdown of food components (such as carbohydrates, proteins and fats) into their simpler forms, which can then be used to create energy and provide the basic building blocks needed for growth and repair
- **Anabolism** – the part of metabolism in which our body is built or repaired. Anabolism requires energy that ultimately comes from our food. when we eat more than we need for daily anabolism, the excess nutrients are typically stored in our body as fat.



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Basal Metabolic Rate (BMR)

the BMR refers to the amount of energy your body needs to maintain homeostasis.

definition: basal metabolic rate (BMR) is the number of calories your body burns at rest to maintain normal body functions. it is the amount of calories per day your body burns, regardless of exercise. it changes with age, weight, height, gender, diet and exercise habits.

Influences on BMR

your **BMR** is influenced by multiple factors working in combination, including:

- body size – larger adult bodies have more metabolizing tissue and a larger **BMR**
- age – metabolism slows with age due to loss of muscle tissue, but also due to hormonal and neurological changes
- growth – infants and children have higher energy demands per unit of body weight due to the energy demands of growth and the extra energy needed to maintain their body temperature
- gender – generally, men have faster metabolisms than women because they tend to be larger
- genetic predisposition – your metabolic rate may be partly decided by your genes
- hormonal and nervous controls – **BMR** is controlled by the nervous and hormonal systems. hormonal imbalances can influence how quickly or slowly the body burns kilojoules

- environmental temperature – if temperature is very low or very high, the body has to work harder to maintain its normal body temperature, which increases the **BMR**
- infection or illness – **BMR** increases because the body has to work harder to build new tissues and to create an immune response
- amount of physical activity – hard-working muscles need plenty of energy to burn. Regular exercise increases muscle mass and teaches the body to burn kilojoules at a faster rate, even when at rest
- drugs – some drugs, like caffeine or nicotine, can increase the **BMR**
- dietary deficiencies – for example, a diet low in iodine reduces thyroid function and slows the metabolism.

BMR Formula

Women: $\text{BMR} = 655 + (9.6 \times \text{weight in kilos}) + (1.8 \times \text{height in cm}) - (4.7 \times \text{age in years})$

Men: $\text{BMR} = 66 + (13.7 \times \text{weight in kilos}) + (5 \times \text{height in cm}) - (6.8 \times \text{age in years})$

Things To Remember

- metabolism refers to the countless chemical processes going on continuously inside the body that allow life and normal functioning.
- the amount of kilojoules your body burns at any given time is affected by your metabolism.
- your metabolic rate is influenced by many factors, including age, gender, muscle-to-fat ratio, amount of physical activity and hormone function.