Balanced Diets and Food Guide Pyramid

Using Basic Food Groups for Planning Balanced Diets

- One of the simplest ways to plan a balanced diet is to divide foods into groups and then make sure that each group is included in the meals.

- A food group consists of different foods which have common characteristics. These common features may be the source of food, the physiological function performed, or the nutrients present.

- This classification varies from one country to another depending on many factors.

- There are five basic food groups

1- Cereals, grains and products

 2- Pulses and legumes

 3- Milk and meat products

4- Fruits and vegetables

 5- Fats and sugars

Activity 1

- List 10 foods that you commonly eat. Identify the food group to which each food belongs. Then list the macronutrients and micronutrients present in the foods listed. Identify the foods which are the richest sources of energy.

Food Components

- Food is a complex combination of numerous components which can be classified into:

- nutrients and non-nutrients.

- Nutrients have been traditionally classified as macronutrients and micronutrients.

- Plants and animals

Non-nutrient components

- Non-nutrient components of food are those that cannot be categorized as either macronutrients or micronutrients.
- These substances include both natural and synthetic compounds.
- They can be beneficial (*e.g.* fiber, and some polyphenolic compounds produced by plants)
- non-beneficial (*e.g.* many food additives, and preservatives) or even toxic (*e.g.* xenobiotics, and antibiotics, also some plant-derived polyphenolic compounds)

Factors that Influence Human Nutrition

- It is now evident that both extrinsic factors (such as food, xenobiotics, environment) and intrinsic factors (such as sex, age, gene variations), separately and cooperatively, influence nutrient metabolism and the risk for developing various metabolic diseases

- **Extrinsic factors** are important in dictating the efficiency of nutrient metabolism and health outcomes, including

- physical cues such as photoperiod and temperature. For example, the alternating light/dark photoperiod of the day-night cycles is important in setting endogenous circadian rhythms, which in turn are intimately linked to the regulation of metabolic activity.
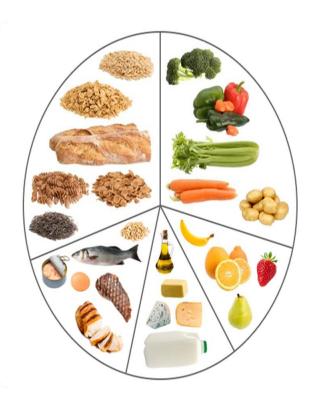
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Intrinsic factors

- intrinsic factors such as gene variations, sex, and age, influence the efficiency of nutrient metabolism

- Sex and aging determine the biological context and represent important modifiers of metabolic efficiency.

- Males and females have distinct features in terms of metabolic profiles, gene expression programs, and susceptibility to diseases .

- Aging is associated with the loss of metabolic efficiency caused by deterioration of cellular and genetic components resulting from chemical damage accumulated through life stages.
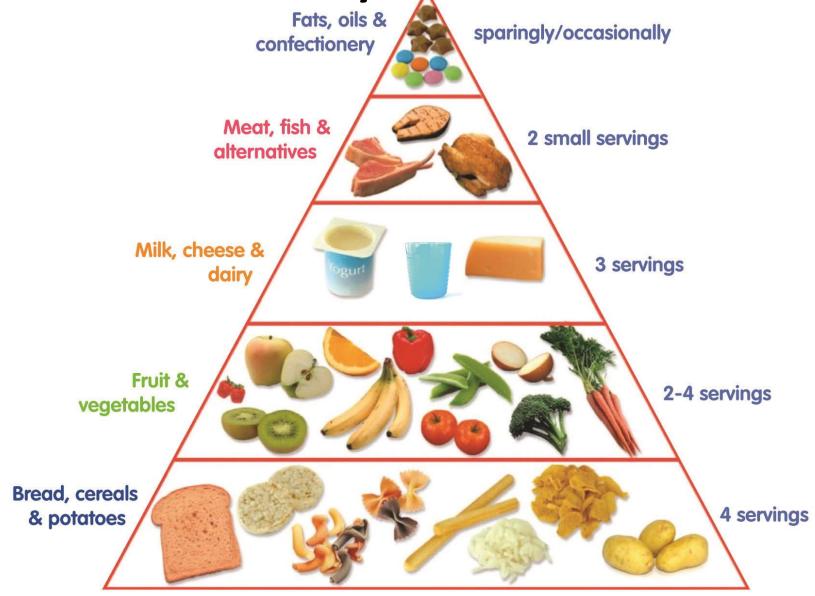
Guidelines for using the basic food groups The five food group

- system can be used both for planning and assessing balanced diets. It is a simple daily food guide which can be used for nutrition education as well. Guidelines could be adopted depending on the food groups.

• Include at least one or a minimum number of servings from each food group in each meal.

• Make choices within each group as foods within each group are similar but not identical in nutritive value.

• If the meal is vegetarian, use suitable combinations to improve the overall protein quality of the diet. For example, serving cerealpulse combinations or including small quantities of milk or curds in the meal.

• Include uncooked vegetables and fruits in the meals.

• Include at least one serving of milk to ensure a supply of calcium and other nutrients as milk contains all nutrients except iron, vitamin C, and fibre.

• Cereals should not supply more than 75 per cent of total Kcal/ Calories.

Food Guide Pyramid

Fats, oils & confectionery — sparingly/occasionally

Meat, fish & alternatives — 2 small servings

Milk, cheese & dairy — 3 servings

Fruit & vegetables — 2-4 servings

Bread, cereals & potatoes — 4 servings

Food Guide Pyramid

- The Food Guide Pyramid shows the types and serving sizes for the foods we should eat every day to stay healthy. Foods are placed in the pyramid in a way that shows how important they are to our health. We should eat more of the foods at the base than foods at the top.

- For example, grains, fruits, and vegetable groups are at the base of the pyramid. Meat, dairy, and fat groups are toward the top. Though all groups are important, the plant foods are at the base so that we remember to eat more of those and less of the animal products and added fats.

Food serving sizes

- A serving size is smaller than you may think. Following are serving sizes for each of the food groups.

Bread, cereal, rice & pasta group

- (6-11 servings a day recommended)
- A serving is:
- 1 slice of bread
- 1 oz of ready-to-eat cereal
- 1/2 cup cooked pasta
- 1/3 cup rice
- 1/2 cup cooked cereal (oatmeal, cream of wheat, grits)
- 4-6 crackers

Note: oz is abbreviation of [ounce] (approximately 28.35 g) is $\frac{1}{16}$ of an [a pound];

- Fruit group (2-4 servings a day recommended)
- A serving of fruit is:
- 1 medium-sized fruit, such as an apple, orange, banana, or pear
- 1/2 cup of raw, cooked, canned, or frozen fruits
- 3/4 cup (6 oz) of 100 percent fruit juice
- 1/4 cup dried fruit, like raisins, apricots, or mango

- Vegetable group (3-5 servings a day recommended)
- A serving of vegetables is:
- 1 cup of raw (carrots, broccoli) or leafy vegetables (i.e., lettuce, spinach)
- 1/2 cup cooked garden vegetables
- 3/4 cup of vegetable juice

Milk, yogurt & cheese group

- (2-3 servings a day recommended)

- A serving of dairy foods is:
- 1 cup of milk
- 1 cup unflavored yogurt
- 1 1/2 oz of natural cheese or 2 oz processed cheese
- 1/2 cup of ice cream or ice milk

Meat, poultry, fish, dry beans, eggs & nuts group

- (2-3 servings or 6-9 oz a day recommended)
- One ounce of meat or meat substitute is:
- 1/2 cup cooked or canned legumes (beans and peas)
- 1 egg
- 3/4 cup of nuts (small handful)
- 2 tablespoons of peanut butter

Fats, oils & sweets

- (Fats and sweets should be eaten sparingly.

A serving of fat is:
- 1 teaspoon of oil or regular mayonnaise
- 1 tablespoon of light mayonnaise
- 1 tablespoon of regular or 2 tablespoons of light salad dressing
- 2 tablespoons of sour cream
- 1 strip of bacon

A serving of sweets is:

- 1 3-inch cookie
- 1 plain doughnut
- 4 chocolate kisses
- 1 teaspoon of sugar or honey