

How we live



NIAS

6.1 Value of Good nutrition:

- 1- Provide energy
- 2- Growth
- 3- Repair
- 4- Good health
- 5- To synthesize compounds needed for the maintenance of the body such as Enzymes, hormones, neurotransmitters
- 6- Supply specific parts with their needs such as:
 1. Bones and teeth with Calcium
 2. Blood with iron
 3. thyroid gland with Iodine

Food and Energy:

Carbohydrates and fats are used as source of energy in warm blooded animals also proteins in some cases.

Humans	37C°
Some birds	37.7- 44.4 C°

Oxidation in animals is the same as plants basically.

Respiratory enzymes break food and release energy CO₂, H₂O and wastes.

Nature of Oxidation:

When We burn our food inside our cells we make ATP but when we need energy we convert ATP into ADP and make use of the energy released .

We use energy even when we are sleep.

Basal metabolism	Minimum amount of energy required to keep the body alive
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Basal metabolism

It can be measured by the amount of O₂ Consumed and CO₂ released when the body is at rest (Usually in the morning)

metabolism	The total sum of body activity
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Low metabolism	High metabolism
Reading	Shoveling snow
sleeping	Swimming

Calorie: The quantity of heat needed to raise the temperature of 1 gm of water 1 C°

How many Calories in a certain food???

We use calorimeter and we burn the food in pure Oxygen then the temperature of water will increase and we can determine How many Calories in a that food

It was discovered that:

- Fats has twice calorie value as carbohydrates or proteins.
- Slice of white bread = 60 Calorie

- An average size egg = 100 Calorie
- A slice of pie = 300 Calorie
- A portion of cabbage = 40 Calorie

How many calories do I need

- It differs according to:
 - Age
 - Sex
 - Weight
 - Activity
- Basal metabolism is

Higher	Lower
Babies & children	Grown ups
Boys	Girls
Heavy weight	Average weight
Cold climate	Warm one

Facts and figures please Mr. Ayman

person	How many calories
Average size man	1800 calories
Growing Boy	4000 calories
Clerk	2500 calories
Ditch digger	5000 calories

If you eat more than what you need the rest will be stored under your skin and which sometimes will help to insulate your body and prevents heat loss or it will serve as a reserve source of energy But the rest will result in an overweight conditions effecting the heart

specially in middle age when people may suffer a strain on the heart since extra blood must be plumbed to the added fat tissues .

Causes of over weight:

- 1- Eating too many calories
- 2- Lack of exercise
- 3- Disturbances of some glands such as thyroid gland

Carbohydrates

- 1- Source of energy
- 2- 50% of the daily diet
- 3- complex (starch & cellulose) in a whole grain bread and serials, fruits and vegetables
- 4- Supply roughage vitamins and minerals
- 5- Starch is digested into glucose first before using it
- 6- Extra sugars will be converted to either fats or glycogen (Animal starch)
- 7- glycogen is stored in the liver and muscles till energy is needed then glycogen will be glucose again and will be used for energy
- 8- refined carbohydrates are found in cake , Candy, and Soda
- 9- They are the main cause of overweight and cause also for tooth decay.

Lipids

- 1- They have twice the energy value as carbohydrates and proteins.
- 2- The excess fats are stored under the skin and in body cavity.
- 3- They are an important part in the cell membrane
- 4- They are important in transport of fat soluble vitamins such as vitamins K,E, D, and A
- 5- They should not exceed 30-35% of the diet