

# body composition

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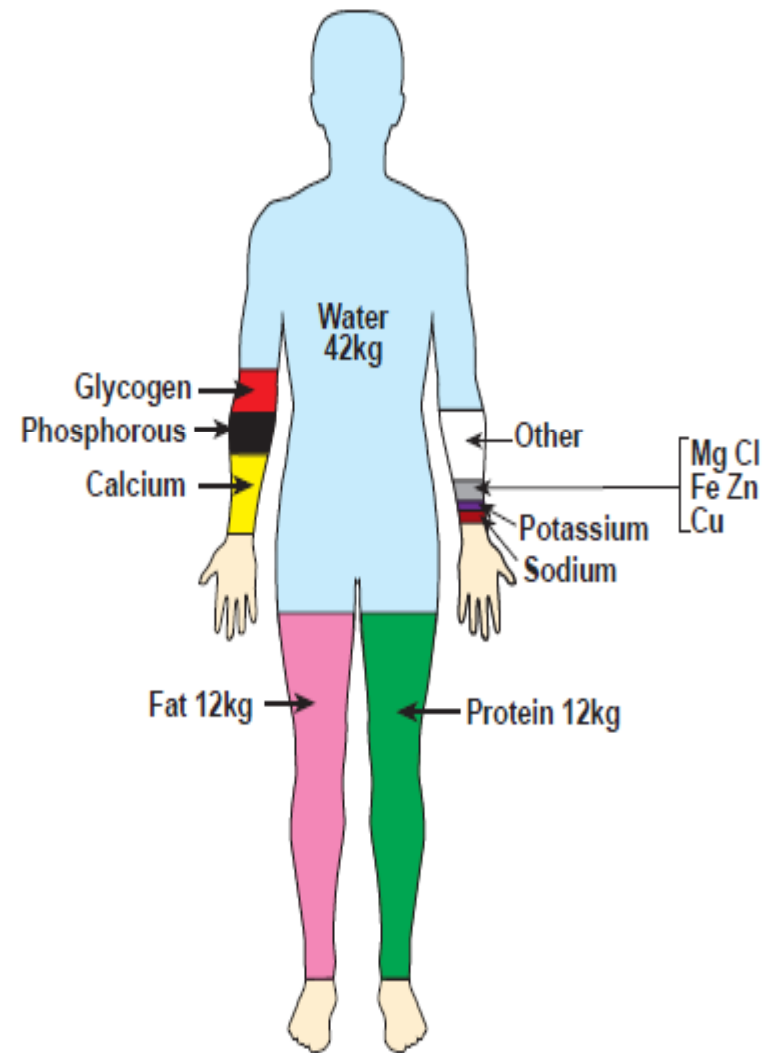


Slide 1



# Body composition

- It can be seen that the major component of the human body is water. The protein and fat component are relatively small, with the remainder being primarily bone and minerals





## Body composition

The body is composed

- Water 61.6%
- Fat 13.8%
- Protein 17%
- Carbohydrate 1.5%
- various vitamins and minerals 6.1%

So if a person weight 65Kg then he will have  
11Kgs protein, 9Kgs fat, 1 kgs carbohydrate, 4  
kgs minerals 40kgs water



# Body composition

The body composition is affected by the proportions of the body component (bones, muscles, and other tissues)

For example

- bone may dense or porous
- Fat may be abundant or scarce

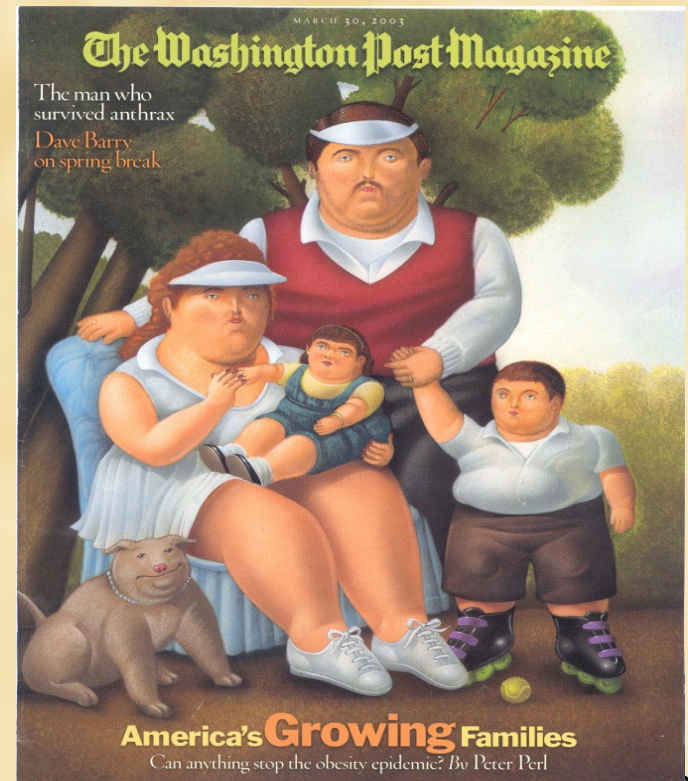




## Body composition

If you have too much fat especially if a lot of it is at your waist you're at higher risk for such health problems as:

- High blood pressure,
- High blood cholesterol
- Diabetes.
- Risk for heart disease and stroke





# Body componen

**The component can be grouped into:**

- a) Essential structural component
- b) Reserve and stores



## Body component: fat

- Body fat is the most variable constituent of the body.
- The total amount of body fat consists of essential fat and storage fat.
- Most of the body fat is stored only about 10% is essential





## **Body component: fat**

- **Essential fat : Fat in the marrow of bones, in the heart, lungs, liver, spleen, kidneys, intestines, muscles, and lipid-rich tissues throughout the central nervous system is called essential fat,**
- **Essential fat is necessary for normal bodily functioning. The essential fat of women is higher than that of men because it includes sex-characteristic fat related to child-bearing**





## **Body component: fat**

- **Storage fat: fat that accumulates in adipose tissue is called storage fat.**
- **Storage fat is located around internal organs and directly beneath the skin. It provides bodily protection and serves as an insulator to conserve body heat.**



## **Body component: protein**

### **Protein:**

- **Most of the proteins are essential component of the cells and the body can loose up to 16% without serious effect, only small amount of the proteins are stored**



## **Body component: protein**

### **Carbohydrate:**

- **Most of the proteins are essential**
- **Carbohydrate depleted during starvation or fasting is continually replenished by the synthesis from protein and fat**



## **Body component: Mineras**

### **Minerals:**

- **Most minerals are stored in the skeleton, 33% can be lost without serious risk of life**





## **Body component: Water**

### **Water:**

- **The body can loose up to 10% of its water without danger to life.**



# Compartment in the human body

- **Cell mass (C M):** active tissues which carries out all the work of the body, it is about 55% in the healthy people
  
- **Extracellular supporting tissues:** supports cell mass and can be divided into 2 parts:
  - Extracellular fluid
  - Minerals and protein fibers in skeleton and supporting tissues
  
- **Fat reserve stores**



# Calculation of ideal body weight

**Calculation of ideal body weight: depend on height**

- **Every 60 inch gives 100 pounds**
- **Every 1 inch above 60 we add 5 pounds for female, & 6 for male**
  
- **Weight also depend on a person body frame people with large body frames have more weight than average people**