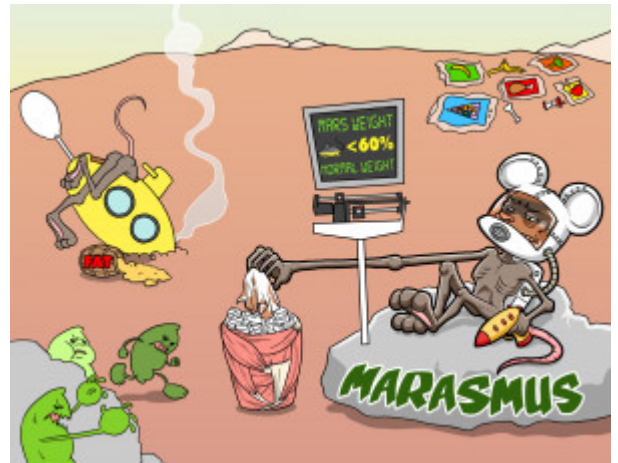


## Marasmus

This is a severe form of malnutrition caused by total calorie malnutrition (protein, carbohydrates and all other nutrients). This results in emaciation, characterized by muscle and tissue wasting, to the point where body weight is less than 60% of normal.



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### Deficiency of all Nutrients

#### Out of Food

Marasmus is caused by total calorie malnutrition, meaning that there is a severe deficiency in nearly all nutrients, including protein and carbohydrates.

### Body Weight 60% of Normal

#### Less-than 60% Weight-scale

In these patients, emaciation and tissue wasting occurs to the point that body weight is reduced to less than 60% of the normal, expected body weight.

### Tissue and Muscle Wasting

#### Tissues in Muscle Waste-basket

Patients with marasmus show extensive tissue and muscle wasting. There is notable loss of muscle mass, and skin becomes dry, loose, and hanging.

### Loss of Subcutaneous Fat (Buttocks and Thighs)

#### Sub-Q-tip with skinny Buttocks and Thighs

Notably, there is drastic loss of body fat (adipose tissue). Areas of normal fatty deposits, such as the buttocks and thighs, show extensive loss of subcutaneous fat.

### Variable Edema

#### Various Edamame

Marasmus is different from kwashiorkor, in that marasmus is total nutrition deficiency, instead of solely protein. There is still protein wasting with this disorder, however, and may lead to edema in patients, which may present in multiple variations.