

Calorie Use in the Body

Use this handout in conversation with your dietitian.

Your body organs need calories to work properly

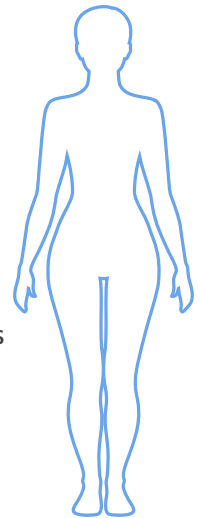
The human body is like a machine and requires fuel—or energy—to work. No matter how much activity you're getting, your organs need energy to work well. Energy demands continue even when you're asleep.

The energy your body uses is measured in calories. When calories are restricted, your body uses available energy for the most essential functions first. That means less essential body functions may suffer. The table below shows how much energy common body functions require.

Body function	Average calories needed every day
1. Survival: heart, lungs, kidneys, brain, liver, etc.	800
2. Luxuries: temperature control, hair, nails, wound healing, menstruation, memory/concentration	400
3. Growth or pregnancy	200-300
4. Activity: varies	500
5. Storage: only when calorie intake exceeds above needs	?
Total	1,900*

In 24 Hours, the average body does all the following:

- The heart beats 115,200 times
- Blood travels 12,000 miles
- More than 20,000 words are spoken
- 100 billion brain cells are used
- Over 70,000 thoughts are thought
- Nails grow about 0.0039 inches
- Hair grows 0.017 inches
- The body gives off 85.6° F of heat
- The body turns 25 to 30 times during sleep
- About 750 major muscles are used



*This amount will vary from person to person.

Effects of starvation

When calories are restricted and the body is starved, it has to make adjustments in order to survive. This causes physical, mental, and emotional changes. Below are some examples of how starvation impacts the human body.

Emotional and social changes

- Depression
- Anxiety
- Irritability, anger
- Unstable moods
- “Psychotic” episodes
- Personality changes
- Social withdrawal

Food attitude and behavior changes

- Preoccupation with food
- Collection of recipes, cookbooks, and menus
- Unusual eating habits
- Increased consumption of coffee, tea, and spices
- Binge eating

Physical changes

- Sleep disturbances
- Weakness
- Gastrointestinal disturbances
- Increased sensitivity to noise and light
- Edema or swelling
- Poor temperature regulation
- Tingling, prickling, or nerve pain
- Decreased metabolism
- Decreased sexual interest

Mental changes

- Decreased memory and concentration
- Poor judgment
- Lack of interest or concern

Where can I learn more?

- <http://www.heart.org>
- Keys, A. et al. *The Biology of Human Starvation*. Minneapolis, MN: U of Minnesota Press; 1950.
- Meyers, E.S. *Winning the War Within: Nutrition Therapy for Clients with Eating Disorders*. 2nd ed. Dallas, TX; (2006).
- http://www.loni.usc.edu/about_loni/education/brain_trivia.php

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