

 **Glossary*****Biological theories of eating***

Theories attributing the regulation of eating behaviors to biological mechanisms.

***Body mass index (BMI)***

Index intended to measure body fat that is created by dividing weight by height squared. In practice, measures of BMI cannot differentiate between weight from muscle mass and weight from body fat, making them an impractical measure of individual body fat content.

***Calorie***

The amount of heat that is required to raise one cubic centimeter of water one degree centigrade. Calories are used to measure of the amount of energy in food based on how much heat it takes to burn completely away.

***Central theory of eating***

A type of biological theory of eating in which the regulation of eating behavior is attributed to the central nervous system.

***DEXA***

A type of three-dimensional x-ray used to measure body composition.

***Direct calorimetry***

A method of measuring a person's energy expenditure by placing them in a closed room outfitted with thermoreceptors to detect the amount of heat given off.

***Double-labeled water***

A method of indirect calorimetry in which a person ingests rare isotopes of oxygen and hydrogen. Levels of these isotopes are tracked over time and used to calculate how much energy is being expended.

***Environmental theories of eating***

Theories attributing the regulation of eating behaviors to environmental mechanisms.

### ***Food quotient***

An estimation of *respiratory quotient* based on the foods someone has eaten.

### ***Gastric theory of eating***

A type of biological theory of eating in which the regulation of eating behavior is attributed to fullness or emptiness of the stomach.

### ***Glucose theory of eating***

A type of biological theory of eating in which the regulation of eating behavior is attributed to the level of glucose in the blood.

### ***Glucose utilization theory of eating***

A type of biological theory of eating in which the regulation of eating behavior is attributed to the amount of glucose being used to produce energy.

### ***Hyperplastic obesity***

A type of obesity characterized by an increase in the number of adipose cells that is common with childhood-onset obesity.

### ***Hypertrophic obesity***

A type of obesity characterized by enlarged adipose cells that is common with adult-onset obesity.

### ***Hypothalamus***

A part of the central nervous system that is correlated with eating behaviors in lab rats. Its two important structures are the ventromedial nucleus (VMH), which is associated with satiety, and lateral nucleus (LH), which is associated with hunger.

### ***Indirect calorimetry***

A method of measuring a person's energy expenditure by tracking oxygen consumed and carbon dioxide expelled.

### ***Insulin***

A hormone secreted in the pancreas that regulates blood glucose levels.

### ***Joule***

A measure of work that can be done by the force of one Newton acting over a distance of one meter. Can be used to measure the energy content of food.

### ***Leptin***

A hormone produced by adipose cells that communicates to the brain when they are storing sufficient energy.

### ***Neuropeptide Y***

A neurochemical that, when dumped on the hypothalamus, will stimulate eating.

### ***Respiratory quotient (RQ)***

The ratio of carbon dioxide the human body is blowing off compared to the amount of oxygen the body has consumed.

### ***Set-point theory of eating***

A type of biological theory of eating in which the regulation of eating behavior is attributed to the efforts of the brain to maintain weight at a biologically predetermined level.

### ***Vagus nerve***

A nerve that senses the amount of stretch in the stomach. When stimulated, it produces the feeling of being full.

### ***Whole room calorimetry***

A method of measuring energy expenditure indirectly or directly by placing a subject in a stable single-room environment. The indirect method measures the carbon dioxide and oxygen that enters or leaves the room. The direct method involves using thermoreceptors around the room that measure the heat produced by the body during exercise or standard living. The whole-room approach is expensive and not used for normal experiments.