

The Starvation Myth

Metabolism Slows During Calorie Restriction

Restricting calories during weight loss lowers metabolism because the body becomes more efficient, requiring fewer calories to perform the necessary daily functions for survival. Consequently, this can slow (but not stop) the anticipated rate of weight loss.

For example, if an individual needs 2,000 calories per day to maintain weight, reducing intake to 1,500 calories, assuming exercise stays the same, should provide a 1 pound per week weight loss (Note: 1 pound of weight is equivalent to about 3,500 calories). Furthermore, reducing to 1,000 calories should result in a weight loss of 2 pounds per week and going down to 500 calories a day should result in a weight loss of 3 pounds per week. However, if an individual actually reduces their intake to 500 calories, the weight loss would not likely be a steady 3 pounds per week because of the reduced metabolic rate. It would likely be around 2¼ to 2½ pounds. This "lower than expected" rate of weight loss is a lot different than "no" weight loss as the "starvation mode" notion proposes.

It is unclear as to whether the relationship between reduced caloric intake and a lower metabolism follows a straight path or becomes more pronounced the greater the caloric reduction. Some studies have found no significant reduction in metabolism until the caloric restriction is quite large (e.g. 800 calories or less per day). Others suggest a linear relationship with small reductions in metabolism accompanying small reductions in caloric restriction, with the gap increasing as the caloric deficit is enlarged.

While there is no biologic evidence to support the "starvation mode" myth, there may be behavioral reasons why weight loss stops when calories are severely reduced. Over-restriction of calorie intake, known as high [dietary restraint](#) is linked to periods of overeating, hindering successful weight loss.

Metabolism after Weight Loss

The good news is that after the weight-loss goal is achieved and weight has stabilized, it does not appear that the dip in metabolism is permanent. Several rigorous studies done at the University of Alabama in Birmingham showed that metabolism goes back to expected levels with sustained weight loss,⁴ discounting the theory that a lowered metabolism helps to explain the common phenomenon of weight regain following weight loss.