Dieting, or the intentional act of decreasing and/or restricting the amount of calories eaten, is a common method for people to attempt to lose weight. This handout will explore the effects of dieting.

**Ask Yourself**
- Do you diet, count calories, or skip meals to reduce how much you eat?
- Do you worry about the weight, shape or size of your body?
- Do you exercise because you feel like you have to?
- Do you ever feel out of control when you are eating?
- Do you worry about not being physically fit or muscular enough?
- Do you feel ashamed, disgusted, or guilty after eating?

If you answered “yes” to any of these questions, you may be experiencing eating or exercise behaviors and attitudes that are taking a toll on your physical, mental and emotional well-being.

**Energy Needs**
Your body needs calories for energy to assist with a variety of functions, whether you’re moving, sitting or sleeping. Resting metabolism, also called basal metabolic rate, is the average amount of calories your body needs at rest based on factors like age, gender, height, weight, and lean muscle mass. Not getting enough fuel from calories or nutrients can make it harder for the body to function efficiently and gradually cause damage to the body.

<table>
<thead>
<tr>
<th>Organ</th>
<th>% of calories needed</th>
<th>Calories needed per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart</td>
<td>12%</td>
<td>168</td>
</tr>
<tr>
<td>Kidneys</td>
<td>12%</td>
<td>168</td>
</tr>
<tr>
<td>Liver</td>
<td>23%</td>
<td>322</td>
</tr>
<tr>
<td>Brain</td>
<td>23%</td>
<td>322</td>
</tr>
<tr>
<td>Lean muscle mass</td>
<td>30%</td>
<td>420</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
<td><strong>1400</strong></td>
</tr>
</tbody>
</table>

A 150 pound individual uses 95 calories per hour while sleeping—that’s nearly 800 calories per day.

**Dieter's Dilemma**
Dieting is often used as a means of controlling body weight and can start a cycle of dieting to be thin (i.e. counting calories, restricting food intake, fasting or skipping meals, cutting out certain foods) followed by increased food cravings, loss of control leading to overeating, and regaining lost weight. According to the National Eating Disorders Association:
- 95% of all dieters regain their lost weight in 1-5 years.
- 35% of “normal dieters” progress to pathological dieting. Of those, 20-25% progress to partial or full-syndrome eating disorders.

Repeated dieting strongly predicts future weight gain. One twin study of over 4,000 participants found that the more frequent the dieting and subsequent weight regain, the higher the BMI later in life.\(^1\) Still other research found that in some cases, regaining lost weight was more detrimental to health than remaining overweight or obese in the first place.\(^2\)
Famine Metabolism
In a famine, carbohydrate deficiencies occur first because the body is able to store only small amounts of carbohydrate. Since brain cells must have carbohydrates (glucose) to function, the body has a back-up plan. When carbohydrate stores are depleted, the body switches to obtaining glucose through a complicated process that requires breaking down stored protein and fat and converting some of the by-products to glucose. As ketones, another by-product of this conversion, increase (resulting in ketosis), appetite is suppressed. Loss of appetite in response to famine is considered adaptive as hunger triggers searching for food, which wastes energy.³

Chronic starvation in the form of severely restrictive dieting has also been shown to negatively impact the production of thyroid hormones, which, among many other functions, are responsible for regulating the body’s metabolism. Low levels of these thyroid hormones in turn correlates to the development of thyroid disease.⁴

Minnesota Starvation Experiment
A study conducted in the 1940’s observed the physical and psychological effects of semi-starvation on healthy young men. Here were some of their symptoms:

Physical
- Decreased basal metabolic rate (energy required by body in state of rest)
- Decreased body temperature, respiration & heart rate
- Edema (fluid retention) in arms and legs
- Dizziness, tiredness, weakness
- Muscle soreness
- Hair loss
- Decreased bowel movements
- Dry, rough skin
- Increased feelings of cold
- Decreased appetite
- Decreased sexual interest

Psychological
- Decreased concentration, comprehension and judgment capabilities
- Increased depression, anxiety, and hysteria
- Irritability and severe emotional distress
- Increased preoccupation of food
- Development of food rituals and food hoarding
- Social withdrawal and isolation
- Food primary topic of conversation
- Reading and daydreaming about food
- Increased interest in meal planning and cooking

Ditching Diets
Before going on a diet, it might be helpful to consider how it impacts the body in terms of both physical and mental health. You might ask yourself:
- Is this behavior or program healthy for me in the long run?
- Will the diet be effective?
- Am I dieting because I truly want to, or because society expects it of me?
- How might dieting affect my relationship with food, with others, and with myself?

References