

Chapter 1: Truth about Weight Loss

Since the high-protein/low-carbohydrate diet is mostly about losing weight, it is important to discuss weight loss. Obesity represents a major threat to health and quality of life. According to the International Obesity Task Force, 1.7 billion people worldwide were obese in 2003.⁸ The United States Census Bureau estimates that the prevalence of adults in the United States, aged 20-74, who are overweight and obese, today stands at 65% and will reach 73% by 2008.

Why are we so fat? Some experts say that it's because humans have similar eating patterns to the rat – humans will eat until overfed. This is an evolutionary response to eat and store energy to be able to survive a future famine. However, when, if ever, does the local supermarket run out of food? We are not likely to see a famine in the near future in North America. Therefore, we never find a need to use all of this energy we are storing.

With each generation we appear to be storing more energy for this fictional upcoming famine. According to Professor Roland Auer, of the University of Calgary we are fat because we eat 15% more calories with each generation.⁹ According to the World Health Organization we are fat because we've transitioned our food choices towards refined foods, food of animal origin, and increased fat. According to all of these experts, we are fat

because we may have genes that tell us to overeat, we eat more with each generation and we choose the wrong foods.

Why do we care if we are fat? Clothes come in all sizes and body fat is useful as it keeps us warm in the winter. What is the concern? Well, obesity is a concern because it is associated with disease. Excessive body fat is associated with an increased cancer risk. A study that observed 900,000 people for 16 years estimated that excess body fat may account for 14% of all cancer deaths in men and, 20% of cancer deaths in women.¹⁰ This type of convincing research warns us of the danger of obesity.

Although obesity has strong genetic determinants, it is generally accepted that it results from an imbalance between food intake and daily physical activity. We eat too much food and exercise too little. This is reflected in the health guidelines across North America which focuses on two particular lifestyle factors: increasing levels of physical activity and reducing the intakes of fat and sugars. As most of the low-carbohydrate/high-protein diets discuss being aware of your food consumption, they lack advice of increasing physical activity.

Most health experts agree that all long term weight loss programs should include regular exercise¹¹ but does exercise directly reduce weight? There is disagreement among the scientific experts as to how much exercise is needed to achieve weight loss and whether or not there is a dose-response effect.^{12,13} For those of you who cringe at the idea of a weight loss plan that includes intense workouts such as the stair climber that makes you feel like you are climbing Mount Everest, or the rowing machine seems like its in the ocean during a hurricane - never fear. The *Journal of the American Medical Association* reported a

study of women who were put on a calorie reduced diet and varying exercise programs for a year. They found that regardless of exercise intensity the women attained weight loss (average 13 to 20 lbs), maintained the weight loss and improved cardiovascular fitness.¹⁴ In other words, you do not have to train for a marathon to lose weight. Any amount of exercise can help with weight management. Do what you can so that you will keep doing it. Everest and the ocean are not necessary to achieve weight loss.

Despite the large role that exercise plays in weight management, it will not be discussed in great detail here. However, it should be noted that physical activity is likely a key element to achieving a healthy weight and is key in the maintenance of a healthy body. More importantly, exercise and physical fitness are associated with increased energy, feelings of contentment and reduced risk of some diseases. Exercise is a part of a healthy lifestyle and should be a part of everyone's daily routines.

a) Low-Carb Weight Loss

The low-carb diet has many stories about losing weight. In fact, some stories include vast weight loss in a very short period of time – oh, our dream diet! At times this weight loss attributed to low-carb diets can be heroic. Yet, is it too much weight loss too fast?

The extreme phase approach of the Atkin's diet allows for quick and immediate weight loss. Note, not all weight loss is equal. There are many parts in our body that contribute to our overall weight: water, muscle, fat, bone. An overall loss in weight can be the loss of one or many of these parts. Therefore, is the quick

weight loss of the low-carb diet good, sustainable or healthy? Let's investigate how and why the high-protein/low-carb diet causes weight loss.

According to researchers, the weight loss experienced with high-protein/low-carb diets is wrongly associated with the elimination of carbohydrates. Researchers believe that weight loss from a low-carb diet comes largely from a loss of water and muscle. When you do not have enough carbohydrates in your diet, your body begins to burn stored carbohydrates (e.g. glycogen) for energy, which releases a lot of water from your tissues. This water ends up in the blood vessels, increasing blood pressure which causes the kidneys to excrete the excess water, resulting in a net water loss from the body. And, of course, a net weight loss. Also, reduced carbohydrate intake influences the sodium water balance in the body, thereby resulting in further fluid loss and weight loss.

In addition, the high-protein/low-carb diet forces you to make drastic changes to your diet by requesting that from the first day on, you radically restrict your carbohydrate intake. When we restrict one particular item from our diet, the result is a decrease in total calorie consumption, as we may struggle to find alternatives to eat. Not to mention that there is an inherent trend to eat less when we are dieting as we are forced to pay attention to what we are eating. Therefore, the initial weight loss in high-protein/low-carb diets is also likely attributed to the caloric reduction which occurs naturally from dieting.

These initial causes of weight loss may explain the quick, drastic weight loss stories of low-carb dieters. However, there is also prolonged (i.e. more than the first few weeks) weight loss. This prolonged weight loss in low-carb/high-protein diets is also due to ketosis-induced appetite suppression.

Ketosis is a metabolic process that, in simplest terms, is the break-down of fat as fuel. Now, doesn't that sound great? By increasing protein and reducing carbohydrate intake we can make our body break down fat as fuel. Finally, a way to make our body use up those love handles, spare tires and thunder thighs as fuel. This is great in theory; however, excessive or prolonged ketosis in the body has negative results — such as elevated levels of nonessential fats in the blood stream, dehydration, kidney stones, and osteoporosis.

In the end, how exactly low-carbohydrate diets cause weight loss is uncertain. It is likely that it involves everything we've noted: water loss, ketosis and caloric restriction. Water loss can cause quick changes in weight, however it is a misleading way to lose weight as it can result in quick weight gain after the diet ceases. Ketosis comes with consequences that may not be worth it. In fact, the Mayo Clinic Women's HealthSource noted in its 2003 October issue that fast weight loss doesn't make the low-carb diet safe.¹⁵ The potential health effects of ketosis (e.g. dehydration, kidney stones, osteoporosis and fatty blood) are extensive and concerning. The third possible cause, caloric restriction, is one we have known about for a long time and is well-known as being effective for weight loss.

In addition, longer diet duration may also be a reason for the success of this diet. This is likely due to the satiety from the higher fat in low-carb diets which seems to keep dieters on this diet longer than other types of diets. These conclusions are supported by current research. A review, by Stanford researchers, on the efficacy and safety of low-carbohydrate diets concluded that people who go on low-carbohydrate diets typically lose weight. However, restricted caloric intake and longer diet duration are the biggest reason why.¹⁶