inferior nutrition

rethinking food storage for emergency preparedness

Ellen Davis, MS

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Ellen Davis, MS Gutsy Badger Publishing Cheyenne, Wyoming Email: ask.ellen.davis@gmail.com Website: <u>www.ketogenic-diet-resource.com</u>

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Why I Wrote This Book

People who practice emergency preparedness do so because they want a survival advantage during times of crisis. Most prepping blogs and books suggest storing large amounts of grains, flours, sugar, rice, dried beans, potatoes, and powdered milk as major sources of calories in a disaster scenario. The problem is that these high-carbohydrate foods aren't compatible with optimal human metabolism during periods of food scarcity. In fact, relying on high-carbohydrate foods during periods of calorie restriction can accelerate the metabolic process of starvation.

In this book, I argue that the collective prepping advice on food storage does not support the goal of surviving a disaster in good health. I discuss why foods high in carbohydrate are the wrong choice for surviving food shortage situations long-term, how these foods work against the body's natural and protective starvation response, and what to store and eat instead to gain a metabolic advantage in any survival scenario.

My qualifications for writing this book include a Master's degree in Applied Clinical Nutrition and long hours of research on the subject. However, while my degree and the research helped me develop and write this book, what really qualifies me to present this information is my own direct experience in following a ketogenic diet and using it to successfully treat my own health problems. Hence, my expertise on the metabolic effects of fasting and ketogenic diets is complimented with extensive practical knowledge on how to apply the diet successfully to optimize health.

I created <u>ketogenic-diet-resource.com</u> to provide others with in-depth and accurate information about the uses, benefits, and research being published on low-carbohydrate, high-fat diets. I encourage you to visit my website and come to your own conclusions about my knowledge and qualifications.

Finally, if you or a family member are on any kind of medication to control blood pressure or blood sugar, be aware that dosages of these drugs will need to be adjusted within days of beginning a ketogenic diet. I strongly encourage you to talk with and ask your physician to supervise any dietary transition.

Ellen Davis www.ketogenic-diet-resource.com

Chapter 1

Two Tales of Hunger

In 1944, an ambitious researcher named Ancel Keys hand-picked a group of young, healthy male volunteers to participate in a year-long study on the effects of starvation. The diet given to the volunteers was low in fat and high in carbohydrates, as Dr. Keys felt strongly that this was the healthiest way to eat.

Twenty-six years later, a British physiologist named John Yudkin studied another group of people who had volunteered to limit calories to support dietary research. The diet given this group was low in carbohydrates and higher in fat and protein.

As you'll see, the opposing outcomes of these two dietary studies provide strong evidence for my assertion that when calories are restricted, the composition of the diet makes an enormous difference in human physical and psychological health.

The Keys Study

The 1944 study took place in the basement of the football stadium at the University of Minnesota in Minneapolis. Dubbed the "*Great Starvation Experiment*" by author Todd Tucker, it followed thirtysix "conscientious objectors" who volunteered to participate so that Dr. Keys could determine how best to help people recover from the famines in war-torn Europe. The men, who were all physically and mentally healthy, agreed to live in the basement of Memorial Stadium on the university campus for a full year¹. During that time, their food intake was strictly controlled by the research team. There would be a three-month period of normal calorie intake each day, followed by a six-month period of restricted calories and a final "refeeding" period during the last three months.

The study began on a rainy day in November 1944, and the men were fed normal meals adding up to 3200 calories of fat, protein, and carbohydrate each day. There were no reported issues and the men continued to enjoy good health.

In February 1945, the second part of the experiment started. For the next six months, the men were given approximately 1500 calories of food each day spread out over two meals. Most of their calories came from carbohydrates such as macaroni, potatoes, turnips, and bread. Protein intake was low to adequate and added fat was almost non-existent. Fat intake averaged only 30 grams per day on this new regimen, a fractional amount of what would be provided in a normal diet.

During all phases of the study, Dr. Keys and his team watched the men closely and gathered copious amounts of data about their mental health and physical condition. They also tracked personality and behavioral changes. Cheating was forbidden, but several men broke down and ate other food when they were allowed off campus. As a result, to their great shame, these men were booted from the study and the rest of the participants were not allowed to leave campus without a "buddy" to ensure that they did not cheat. And during that long six months, the recorded effects of this fat-restricted, low-calorie diet on the remaining men makes for disturbing and at times, horrifying reading.

As the starvation period of the study progressed, the men began to exhibit impaired concentration, judgement, and comprehension. They became depressed, anxious, irritable, and the researchers noted that the men displayed a lack of interest in world events, while the ongoing war kept everyone else's attention riveted. The researchers also noted the men lost a great deal of muscle mass and complained of being constantly cold and lightheaded. They also lost all interest in sex. As time progressed during the starvation phase, the men began to suffer from visual and auditory disturbances, and many demonstrated psychotic symptoms. The researchers noted that the men continuously complained about being hungry, and many becoming utterly obsessed with food, spending hours thinking about how and what they would eat when mealtime came. Some developed strange rituals around their meals, and others pored over cookbooks, staring at pictures of food as they turned the pages. Towards the end of the six-month period, one man accidentally chopped off three of his fingers with an axe in a momentary disconnection from reality while splitting wood. He had picked up the axe to keep his mind off food.

During the final phase and the last three months of the study, calorie intake was slowly increased until the men reached normal caloric and nutrient intakes and began to recover the enormous amounts of weight that they had lost. As food and fat intake increased, many of the symptoms of starvation the men had exhibited disappeared. However, there were some residual effects. In a follow up period after the end of the main study, researchers noted that many of the men exhibited behaviors of food hoarding and binging.

The Yudkin Study

In contrast, the second study in 1970 recorded very different outcomes. Dr. John Yudkin followed a group of eleven normal subjects to see if eating a low-carbohydrate, high-fat diet would affect their vitamin and mineral intake. The study was in response to criticisms of his successful clinic in which he prescribed low-carb diets to help people lose weight and regain their health. Critics insisted that his prescribed diet was lacking in nutrients.

Just as in Minneapolis, Yudkin first had the study participants eat a normal diet for several weeks. He kept track of nutrient levels, and then during the second phase, he switched the group to a low-carbohydrate, adequate-protein, high-fat diet for several weeks. During this second part of the study, Dr. Yudkin told the subjects to eat as much meat, fish, butter, eggs, cheese, and leafy vegetables as they wished, and to not limit calories. However, despite the latitude to eat as much as they wanted, the subjects voluntarily self-limited food intake to about 1500 calories per day, the same amount that the Minnesota group had endured with great misery.

When asked about their mental and physical states during the lowcarbohydrate, low-calorie phase, the subjects reported an "increased feeling of well-being and decreased lassitude." All the subjects finished the study in good mental and physical health. Yudkin also found that their vitamin and mineral intakes were actually higher during the low-carb phase than when they were eating the "normal" diet at the beginning of the study.

While these two studies are not the same in terms of group size or time commitment, the caloric restrictions were the same, and the pointed difference in the state of the subjects' well-being at the end of each study is a stark lesson to anyone who is concerned about food security in the future.

As we explore further, I'm going to explain why the two groups performed and felt so differently, and why those concepts and reasons could save your life and the life of your family in a future crisis scenario in which food is scarce.

My explanation starts with a few food facts and some basic human biology that will help you understand why storing the right foods is important.

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About The Author

Ellen Davis has a Master's degree in Applied Clinical Nutrition and has authored articles on the benefits of ketogenic diets for Well Being Journal, Healthy Living and Terry's Naturally.

She created <u>Ketogenic-Diet-Resource.com</u>, a website showcasing the research on the positive health effects of ketogenic diets. Her book *Fight Cancer with a Ketogenic Diet* has been distributed to over 70 countries, and also offers two popular books on treating diabetes with a ketogenic diet.

Her books are available in print format on Amazon.com and electronic format from her website. Ellen can be contacted via email at <u>ask.ellen.davis@gmail.com</u>.

Other Books by Ellen Davis

Fight Cancer with a Ketogenic Diet

The ketogenic diet is a natural, non toxic, science-based cancer therapy which can be used for cancer prevention and treatment. It works because cancer cells are dependent upon a constant supply of blood sugar (glucose) to stay alive, and while normal cells can use ketones as an alternative fuel, cancer cells can't. Ketogenic diets lower blood glucose while increasing ketone levels, a metabolic state which effectively starves cancer cells while nourishing normal cells. This essential, well referenced book is based on cutting edge research on ketogenic dietary therapies from Dr. Dominic D'Agostino and Dr. Thomas Seyfried at Boston College, with his generous permission. The softcover print book is available on Amazon.com, and you can order the e-book here: <u>http://www.ketogenic-diet-resource.com/cancer-diet.html</u>

Conquer Type 2 Diabetes with a Ketogenic Diet

This book provides the practical information you need to implement a ketogenic diet while managing insulin and diabetic medication needs. Coauthored with Dr. Keith Runyan, a physician who treats his own type 1 diabetes with a ketogenic diet (with the result of an HbA1c of 5.0) the book contains over 200 pages of referenced, applicable information on getting off the American Diabetes Association's carbohydrate induced blood sugar roller coaster while minimizing the risk of low blood sugar and avoiding the high blood sugars which result in diabetic complications. The softcover print book is available on Amazon.com, and you can order the e-book here: http://www.ketogenic-diet-resource.com/diabetes-diet.html

The Ketogenic Diet for Type 1 Diabetes

The current American Diabetes Association guidelines are a disaster for Type 1 diabetics. The high carbohydrate ADA recommendations actually make blood sugar control much harder and increase the danger of hypoglycemic episodes. This book provides the practical information to implement a ketogenic diet while managing insulin needs, exercise and meal timing. Coauthored with Dr. Keith Runyan, a physician who treats his own type 1 diabetes with a ketogenic diet (with the result of an HbA1c of 5.0) the book contains over 200 pages of referenced, applicable information on getting off the blood sugar roller coaster, avoiding hypoglycemia, lowering HbA1c test results and avoiding diabetic complications. The softcover print book is available on Amazon.com, and you can order the e-book here: http://www.ketogenic-diet-resource.com/treatment-for-diabetes.html