

JUST FOR THE HEALTH OF PILOTS

In Dieting, You Can't Fool Mother Nature

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All pilots accept as fact the four forces limiting operation of an aircraft: thrust, lift, drag, and gravity. The same for the "envelope" and near-absolutes in the operations manual such as stall speed, never-exceed speed, fuel consumption, rate of climb, maximum weight, and so on that are specific for each aircraft.

These figures have been carefully determined by testing. Each obeys the laws of physics, which cannot be changed. There are no loopholes. (The absolute-of- absolutes law is the speed of light, which is 186,282.3976 miles per second-our best measurement.)

Unfortunately, when it comes to dieting many pilots resort to "magical thinking" and ignore the laws of thermodynamics that govern the way our bodies burn fuel. Fuel taken in (food) is either burned or stored according to our individual set-point metabolic rate and how much we exercise. (Einstein's famous equation is the oversimplified $e=mc^2$). A simple formula for weight maintenance would be energy in should equal energy burned.

The answer to weight control can be broken down into: diet plus exercise. The reason a third of us in the United States remain obese is that dieting (and maintaining proper eating habits) takes so many weeks or months of self-discipline that we are willing to believe just about anything from outrageous magazine articles to junk-science best-selling books.

Hordes of frustrated dieters - probably millions-are desperately seeking a quick fix. The current diet craze comes from four or five pop books on dieting. Although the food manipulations in the books have been highly criticized by all the major health organizations, they are best sellers and millions are following their advice. Why? The main reason is that the diets work; people do lose weight-lots of it, but mostly water and muscle in the first few weeks. A careful analysis shows that each and every diet is actually low-calorie. Here are the major ones and the reasons they are not only based on false premises but also are dangerous if followed for a long period of time.

High fat /High protein: Some plans recommend up to 40-60 percent fat (cream, butter, bacon, cheese, pork, etc.) and very low carbohydrates-"ham, eggs, bacon, and butter for breakfast; hold the toast." A high-fat diet will surely work at first because it is filling and produces ketosis, which causes decreased appetite -and foul breath. Someone with ketosis is already somewhat sick. A high fat intake eventually wreaks havoc with your cholesterol and triglycerides. The diet books boast of a reduction in cholesterol. This is probably a result of weight loss, not gorging on fat.

High protein: Excess protein puts a heavy load on the liver and kidneys. It also causes excessive excretion of calcium , which may later result in osteoporosis. Many proteins are also high in fat (beef, pork). Also, not to be ignored is the high price of protein, making it difficult for low-income people to follow. ("Let them eat filet mignon.") There is more obesity in poor people than in the affluent.

Low carbohydrate (the "sugar bashers"): The premise of this diet is that sugar, not fat, is the villain in obesity. It is based on the glycemic index (long abandoned by the American Diabetic Society as not a practical consideration). This index is a measure (compared with pure glucose) of how fast a food is absorbed as sugar (glucose) into the blood. Examples of foods with a high glycemic index are sugar, white bread, pasta, carrots, potatoes, bananas, corn, and rice. (A surge of glucose into the blood—such as by eating jelly donuts, orange juice, and toast and jelly for breakfast—does cause a release of insulin that jolts the blood sugar to much lower levels, often causing jitteriness or headache.) However, the glycemic index is no longer thought of as a "breakthrough" in dieting. High glycemic foods have practically no effect if combined with proteins, complex carbohydrates, and fats—from a normal diet.

But, since part of the effect of insulin is to store food as fat, the false conclusion was made that the cause of obesity is development of insulin-resistance by too much sugar (and simple carbohydrates) in the diet. The truth is just the opposite: Obesity causes resistance to insulin. Even protein causes production of insulin. Huge meals really cause a spike of insulin. The solution is to eat smaller meals, maybe five or six a day instead of three. A really bad plan is to eat no breakfast, have a light lunch, and gorge on dinner.

So, what is the best way to diet permanently and safely?

Here is something you can believe in:

Since 1985, every five years a federal advisory committee composed of widely recognized experts in nutrition, medicine, and epidemiology has been invited to review the Dietary Guidelines for Americans. The guidelines for the year 2000 may be thought of as The Ten Commandments of a Healthful Lifestyle, grouped under an ABC scheme.

"Ten Commandments" of a Healthful Lifestyle

- Aim for fitness
- Aim for a healthy weight (Easy. Just undress and look at yourself. How do your clothes fit?)
- Be physically active each day. (At least 30 minutes of moderate exercise three or four times weekly as a minimum. Try for 30-45 minutes most days. Do at least 10-15 minutes of weight or strength training three times a week.)
- Build a healthy base Let the Pyramid—the core of all nutritional advice—guide your food choices (This is the only major revision from 1995.)
- Choose sensibly
- Choose a variety of grains daily; especially whole grains.
- Choose a variety of fruits and vegetables daily.
- Choose a diet that is low in saturated fat (less than 10 percent) and cholesterol and moderate in total fat (less than 30 percent).
- Choose beverages and foods to moderate your intake of sugars.
- Choose and prepare foods with less salt.

Here are three common-sense principles also to consider:

1. Keep food safe to eat (FDA is thinking about E. coli and salmonella especially)
2. If you drink alcoholic beverages, do so in moderation
3. (Smoking, the leading cause of preventable death, is not included, as it is not a dietary item. But, if you smoke, all bets are off. Quit.)

So simple. No \$25 books. No hype. No incorrect pseudo-science or quackery. Most of the information has not been essentially changed since 1980. The guidelines are the cornerstone of federal nutrition policy and come from the Center for Nutrition Policy and Promotion, US Department of Agriculture, May 30, 2000. They reflect sound advice from a consensus of the most current science and medical knowledge available.

You must eat a variety of foods in a balanced diet that includes all food groups to ensure that you are getting enough phytochemicals (plant chemicals), vitamins, fiber, and minerals in addition to the recommended amounts of carbohydrate (50-60 percent), fat (no more than 30 percent), and protein (about 15 percent.)

Even if you have been on one of the unscientific and unsafe diets for a few months and have lost weight, now is the time to try this foolproof eating plan. Limit your meals to these food choices only until you have attained your optimal weight. The cornerstone of any lifelong eating plan should be fresh fruit and vegetables and lots of fiber. Also, skim milk; skinless chicken and turkey; fish; fat-free margarine, yogurt, mayonnaise, and cottage cheese; whole-grain cereals and bread. Load up on deeply-colored vegetables such as spinach, kale, carrots, squash, tomatoes, peppers, and sweet potatoes. Legumes (beans, peas, and some nuts) are great-try to include them in daily meals.

Stay on this reasonable, safe, healthful meal plan for a few months and then add a few other things after you have made a big dent in your weight. For the first few months, avoid anything sweet or fat. A little olive oil on salad is OK, just not a bottle full. You can occasionally have any calorie-laden food you wish, but you must cut down on the rest of your calories to make up for it. Then follow the Food Guide Pyramid's proportions to meet your caloric needs.

Remember: To lose a pound of fat, you must burn 3500 calories. This means that if you take in 500 fewer calories per day for a week you will lose a pound of fat. Rapid-loss diets cause you to lose muscle and water. You don't have to diet for life, just make proper food choices for life and exercise.

Yours for good health and safe flying,

Glenn Stoutt

Note: The views and recommendations made in this article are those of the author and not necessarily those of the Federal Aviation Administration.

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