

Information handout - Fat burning secrets

By Dr Mark Occhipinti

We are currently experiencing an unprecedented international obsession with thinness and the advertising pitches of diets and weight loss schemes are too often claims based on faulty premises. A major problem is that most people, including athletes, know very little about nutrition and even less about the processes of metabolism, which is the only explanation for why people continue to accept bizarre claims that are totally without scientific basis. Here are some of the most popular, and often dangerous, fat burning claims and the facts to negate their effectiveness.

Fiction: You will lose fat by severely reducing your carbohydrate intake.

Fact: This practice upsets the body's chemical balance in such a way that fluids are deleted from the muscle. While this gives the illusion of weight loss, fat is not lost, but instead muscle tissue is broken down, and water that makes up much of this tissue is excreted. All of this water weight will eventually be regained. In addition, carbohydrates (potatoes, rice, vegetables, grains, pasta) are the prime source of energy. Starches are not fattening - fat is fattening!

Fiction: Fasting or liquid diets will induce fat loss.

Fact: Most recently, a fast consisting of only liquid protein (330 calories, twice a day) resulted in the deaths of eighteen people across America. The probable cause was that the bodies were forced to digest muscle proteins to liberate stored blood sugar (glycogen) to feed the brain and compensate for inadequate caloric intake. In a quest to lose some excess weight these poor souls died from cardiac arrest (remember, the heart is a muscle too and is affected by extreme diets).

Fiction: Single category diets will cause fat loss.

Fact: These regimens restrict the dieter to one kind of food such as fruit, vegetables, etc and nothing else. The fact is that no single category of food contains enough nutrients to maintain healthy body tissues.

In summary

Research has demonstrated that the more a person diets, the less likely they are to lose the weight and keep it off. Furthermore, each time they diet it will take them longer to lose the weight, and whatever weight is lost is regained more quickly. This occurs because the extreme dieting practices such as those above, create a yo-yo effect on the body, lowering the dieter's metabolic set-point (internal thermostat). This thermostat maintains your weight when eating enough food to neither gain nor lose weight.

Obviously, individuals need to be aware of what they eat and follow some type of exercise program, but the facts for permanent weight (fat) loss are as follows:

1. Your diet should consist of 60 to 70 per cent of your total caloric intake from complex carbohydrates. There are several reasons why the body requires a higher percentage of

carbohydrates, most importantly it's for the brain. The primary sources of fuel for the brain is glucose (from carbohydrates and oxygen); in fact, research suggests the brain requires anywhere from 75 to 100 grams a day directly from glucose for optimal function. Additionally, the skeletal muscles are composed primarily of glycogen (stored glucose, water [nearly 70 per cent of the weight of muscle], amino acids and minerals). Those individuals working at a high level of intensity (above 80 per cent of the maximal heart rate and nearing 80 to 85 per cent of their maximal oxygen uptake per minute [max VO₂] consume glucose from carbohydrates at an accelerated rate (up to 80 per cent of energy available during strenuous activity can be drawn on from glucose availability, either from the blood from a meal that contained high levels of complex carbohydrates or from the muscle stores).

2. Maintain your caloric intake at or above 1,400 calories (approx. 5,860 kilojoules) per day. This is not an arbitrary number. Research conducted on 26,000 men and women between 1992 and 1993 found that not one in the survey took in the minimum RDA's (recommended daily allowance) for 26 vital nutrients (minerals and vitamins) with an intake 1,400 calories (approx. 5,860 kilojoules) a day (1). This is where the supplementation of vitamins enters the picture during these low-calorie, low carbohydrate diets.

3. Increase your aerobic activity to stimulate the use of stored fat, and improve insulin's ability to regulate blood sugar. Use any of the cardiovascular forms of exercise such as cycling, running, stair climbing or walking. For example: a 140 pound (63.5 kilogram) woman can burn up to 500 calories per hour walking on a treadmill at 3.5 miles per hour (5.6 kilometres per hour) at a 10 per cent incline. Aerobic training can be split up in the same way as weight training with 30 minutes of training in the morning and 30 minutes in the evening.

4. Weight training is vital for its role in developing skeletal muscle. However, it is not an aerobic activity, and will not have significant cardiovascular effects that are achieved through regular aerobic activity. Increased muscular tone improves over all caloric expenditure every day and is a great additional fat burner. An example of resistance trainings ability to elevate BMR (Basal Metabolic Rate) was recently demonstrated when comparing 30 minutes of leg training (combination of squats, leg presses, and reverses lunges, for 3 sets of 10 repetitions to positive failure) versus 30 minutes of cardiovascular training. The results indicated that resistance training of legs elevated BMR for 48 hours versus 4 hours for cardiovascular training.

5. Do not attempt to lose more than one kilogram of fat in one week. A more sensible goal is half a kilogram per week of fat loss. Note: Remember a kilogram of fat contains around 7,700 calories (approx. 32,230 kilojoules) [each pound of fat contains 3,500 calories (approx. 14,653 kilojoules)]. To burn off this kilogram of fat exercise will be required.

Reference

1. Angeline, C et al., 'Carnitine Deficiency of Skeletal Muscle, Report of treated cases', *Neurology*, 1987.

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