

## The Reality of Long-term Weight Loss

The New Year brings with it another opportunity to resolve to lose weight and get back the body image of past years or maybe even get into the best shape of one's life. Conceptually, the possibility exists – roughly 40% of outcome is genetic dependent, while the rest is sheer desire, effort, commitment and some knowledge of what to do. Therefore, with a new year and a reasonable gene pool it is not unreasonable to think those weight loss goals can become a reality this time. The real challenge is what is necessary to actually shed stored energy and the time it takes when one acts sensibly. Sure low carb diets can deplete glycogen stores releasing metabolic water making it look like one is losing fat weight and significant caloric restriction can certainly stimulate catabolism as the body's starvation defense kicks the adrenal glands on to spare sugar, but why go down those paths again?

If one particular “diet” strategy actually worked there would exist no other, and all the self-proclaimed fitness gurus, celebrity personal trainers, and diet of the week books would go away. What this means to the annually motivated, is the commitment to New Year weight loss goals will require swallowing the reality pill and analyzing proven methodology for long-term weight loss.

Ironically, we once again return to the words no one wants to hear – caloric control, moderation, fruits and vegetables, and of course exercise. Clinical trials have demonstrated moderately paced adjustments in commitment to the aforementioned equates to long-term goal attainment.

The word pace suggests taking appropriate steps at a reasonably progressive rate so one can accommodate the change physiologically, psychologically, and socially, and actually adopt new behavior patterns, hopefully for a lifetime. The fat-club shows on television take this concept and put it on steroids, engulfing volunteers with stringent daily behaviors under the close eye of scrutinizers, antagonizers, and of course America – sure it's motivational, but completely unrealistic for the rest of the country that has to go to work, tend to their children and who do not have the resources for a live-in trainer, nutritionist, and behavior counselor. Therefore we're back to the same place, reducing calories while exercising to keep the metabolic flame burning. The evidence is strong, reliable, and factual so the ultimate decision is actual commitment to weight loss or another acute effort with no real care for the eventual outcome.

### Weight Loss Facts:

1. A negative caloric balance is necessary for weight loss regardless of the type of calories
2. Dramatic change in caloric intake often causes loss of protein sparing mechanism leading to reduced metabolic activity and stimulates dysfunction in neurochemical activity often leading to increased appetite

3. Dietary change without physical activity has less than a 2% success rate for long term weight loss
4. Aggressive change rarely can be maintained as a lifestyle habit
5. The total calories and intensity of the exercise are the most important emphasis for negative caloric balance
6. Weight loss without resistance training does not yield optimal body composition changes
7. Fruits, vegetables and fiber rich whole grains are all carbohydrates and key elements to weight loss and the maintenance of a healthy diet, not protein content
8. High protein intake causes an acute metabolic adjustment and weight loss is more associated with controlled caloric intake rather than preferential lipolysis are not healthy
9. Long-term high protein diets will damage the kidneys and are unrealistic
10. Building up to 300 kcal a day of physical activity yields the greatest health benefits

The above facts certainly create the foundation for weight management strategies but again reality must be considered. Most Americans are not physically active and present physical capabilities that can not tolerate 300 kcal of exercise most days of the week. Additionally, the average American diet is low in fruits and vegetables, high in processed sugars and grains, high in saturated fat and total fat and well above the daily needs of the body based on voluntary caloric expenditure and resting metabolic rate. It is the job of the fitness professional to premeditate a plan that allows for improvements, at again a reasonable rate, while managing the perception of tolerable change on one's quality of life. A person who feels the change is making them less happy than they were before they started a new program will most likely give up. The building block approach warrants balancing exercise and behavior change tolerance and identifying the most easily controllable factors to start the process.

Consider this example: a middle-aged female who weighs 150 lbs burns,

during the first four hours at her desk job, about 428 calories assuming she reaches an average MET intensity of 1.5. Now if she goes to Subway as her dietary restraint strategy for lunch and consumes a turkey wrap, small berry smoothie, and chocolate chip cookie she will consume 760 kcal for lunch (most people exceed 1000 kcal). Assuming she did not eat breakfast (obviously not recommended) and was at work 2 hours after waking up she is still in a slight positive caloric balance (MET intensity for morning activities accounted for). This suggests that even the right steps may not be enough because sedentary living yields very little energy demands.

Now assume the same woman is new to working out but commits to exercise as part of her New Year's weight loss strategy. The South Beach Diet book suggests walking is a good weight loss activity. With a starting  $\text{VO}_2\text{max}$  of 35 ml kg min this previously sedentary individual would likely tolerate up to 60% intensity. Exercising at an intensity of 6 METs would yield her a caloric expenditure of 214 calories for her 30

minute walk. People who are not fit, but participate in exercise, do not burn large amounts of calories because they train at such low intensities. Certainly the low exercise intensity puts her in the “Fat-burning Zone”, but again a high percentage of a low number is an even lower number and weight loss is a number’s game. The benefit though is significant. Compare the caloric expenditure of working at a desk for 4 hours (428 kcal or 1.78 kcal/min) with something as trivial as walking for ½ hour (214 kcal or 7 kcal/min) and the difference is obvious. To attain weight loss, activity must be a regular part of one’s life. Likewise, calorie control must also be a constant. Someone who consumes 2400 kcals but burns 1879, or even 2000, kcal per day through all metabolic processes will not lose weight.

The aforementioned suggests a reverse approach can be used to establish goal attainment. The intended weight loss goal, as one would expect, comes first and should be based on individual factors including current body mass, the ratio of mass, relative desires and realistic achievements. Once this value is identified, attainable short-term goals and resultant objectives can be established. For instance if the weight loss goal is 20 lbs. (-70,000 kcals or about 25 marathons) and the client is deconditioned it is reasonable to assume they will not be losing this weight in three weeks. Most people can expect to burn 150-250 calories a day from physical activity and assuming they can reduce their caloric intake to a negative 250-350 kcals, the weight loss goal of 20 lbs can be accomplished in approximately 20 weeks. Therefore each week’s goal is a negative 3500 kcal and

each daily objective is a negative 500 kcal from diet and exercise adjustments. If the person cannot comply with the daily objective, then the short-term goal can not be reached and without the short-term goal a long-term goal is trivial.

Obviously other sub-strategies can be used to help with these objectives. A person who is willing to commit to smaller meals throughout the day will better regulate their blood glucose and hunger-appetite conversion – a culprit in overeating. Many people believe increasing meal frequency increases metabolism via the thermic effect of food, but this is false. The calories still need to be accounted for each day. Another sub-strategy is to use resistance training as part of the weekly physical activity objectives. In doing so, body composition is better managed and cellular proteins are maintained. Although it is possible to add some muscle mass with appropriate volume and resistance, lower level resistance training often used for initial weight loss objectives has minimal impact on hypertrophy. If muscle is added from chronic adaptations, the metabolism is further charged by approximately 11-15 kcal a day. It may not sound like much, but multiply that by 365 days and you’ll get over a pound of fat, calorically.

The reality is for long-term weight loss a person must commit to a healthier lifestyle overall and over a lifespan. For most people this is not a reasonable expectation, but any effort toward weight management and physical activity is better than none. A valuable point to make is exercise, even if one is fat, is a positive stress that yields

positive outcomes such as reduced risk for disease and an increased quality of life. Once a person gets beyond the fantasy and illusion created by

television, and becomes educated to these facts they can make an informed and accountability-based decision to do these things or not.

