



## The Ideal Protein Weight Loss Method

Contributed by Michael P. Ciell, Senior Scientific Advisor

The Ideal Protein Weight Loss Method is a medically designed protocol that results in rapid fat loss while sparing the lean body mass. This program was developed in France over 25 years ago by Dr. Tran Tien Chanh MD, PhD who studied the science of a protein-based diet under George Blackburn, MD of the Harvard School of Medicine. This weight loss method has been used in well over one thousand medi-spas and aesthetical clinics in Canada for the last nine years with great success.

In January 2008, our program was introduced in the United States. Our products are only available for purchase via health care professionals but are not sold in stores or over the Internet. Ideal Protein is not a multi-level marketing company. We are a manufacturer and distributor of high biological value foods and supplements. Our sales team provides complete training, continual education and in-house support free of charge. In addition our licensed medical professionals (physicians, pharmacists and nurse practitioners) are always available via phone or email to answer clinical questions.

### Principles Behind the Protocol

To lose weight one must obviously consume fewer calories than are expended. However to specifically target fat loss other factors must be taken into consideration along with a maintenance program, which is completely different than the interventional program.

The body has four compartments of energy from which it draws its metabolic needs:

1. Blood glucose
2. Glycogen (stored glucose)
3. Muscle
4. Fat

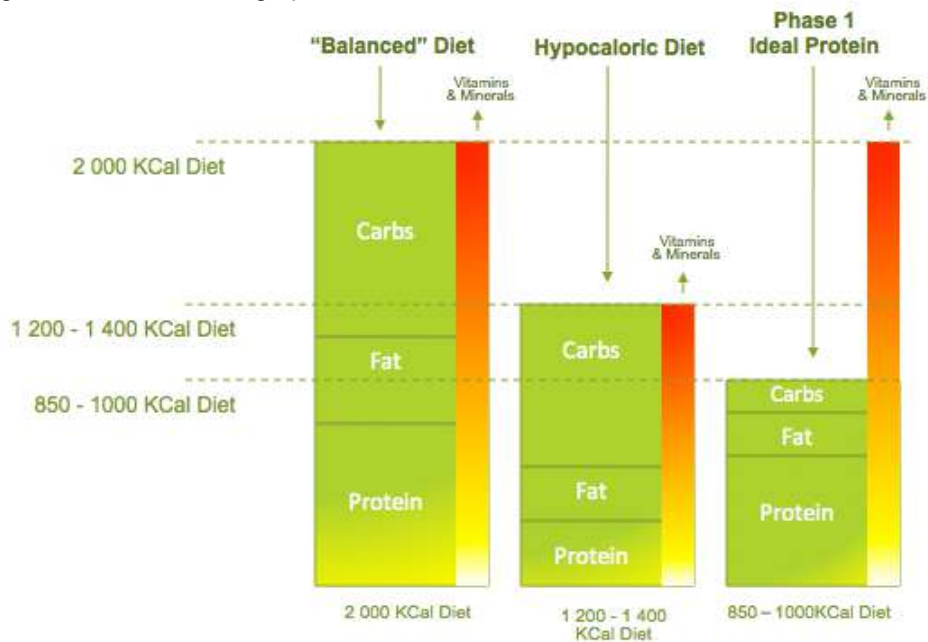
The body draws on these reserves in a very specific order. First, the body burns the glucose in the blood and then reaches the glycogen reserves. Once the glycogen is exhausted, then and only then, will the body start burning muscle and fat compartments. If we replenish the glycogen the fat burning stops until it is once again depleted. Insulin and glucagon, two master metabolic hormones, mediate how the body shifts from one compartment of energy to the next.

## Why We Are Successful

Any hypocaloric diet based on a balanced diet, will result in weight loss. The United States Department of Agriculture (USDA) recommends approximately 60% (2,000 kcals) of calories derived from good carbohydrates, 25% (850-1,000 kcals) protein and 15% (1,200-1,400 kcals) healthy fats daily. When these amounts are cut in half (while keeping the ratio of macronutrients the same), we will have a balanced diet with half the calories. Dieters will lose weight but there are a few problems with this seemingly logical approach.

First, if we continue to replenish some of the glycogen stores daily (60% of calories coming from carbohydrates, most of which will be converted to glucose in vivo) our fat burning will stop until that has been depleted. This will lead to an erratic weight loss.

Second, and more importantly, decreasing the minimal daily requirements of protein will lead to muscle loss. As blood glucose drops (from the hypocaloric intake) the body will burn fat but will also break down muscle via gluconeogenesis as a way to maintain proper glucose homeostasis. As we lose muscle our metabolism slows. The heart is a muscle and losing some of its mass is not a good thing. Remember the Phen-Fen diet, where two anorectics were used to make dieters loose weight but caused extremely dangerous pulmonary and heart problems? When dieters have achieved their goal weight, what is the predictable result? They go back to eating normal size meals but their metabolism is slower and they regain the weight, often times ending up heavier than before.



In contrast, the Ideal Protein Weight Loss Method takes a different track, for a relatively short time we will use an unbalanced diet. We keep the minimum daily protein requirement the same (roughly 1/2 gram of protein per pound of lean body weight) and build the diet around this. What dieters need to understand is that this is not a high protein diet. We give only the minimum and we do this to spare the muscle. Loss of muscle is **unacceptable** to us during a diet.



Next, if we want to lose fat it is logical that we would eliminate most fats from the diet while keeping ample amounts of essential fatty acids. Now, we are left with carbohydrates. Since we do not want to replace glycogen stores, we keep these at a bare minimum, approximately 30 grams (1 oz) per day.

This forces the body to stay in the fat-burning mode 24 hours a day, which is called a ketogenic diet. Our dieters will consume four cups of non-starchy vegetables and two green salads daily. This will provide fiber to prevent constipation. The dieters will also be given a multi-vitamin, calcium, magnesium, potassium, omega-3 and sea salt to ensure proper electrolyte balance is maintained. We only provide the supplements to replace the food groups that we are temporarily taking away (i.e. dairy, fruits and grains).

Ideal Protein has also developed an Alternative Plan which is suitable for Type I diabetics. This program is similar to the ketogenic method except that we give a dairy, fruit and grain serving every day to prevent the patient from going into a state of moderate to strong ketosis. Since Type I diabetics do not produce insulin, a risk of ketoacidosis exists and these patients should never be placed on a strong ketogenic diet. They will still experience just about the same rate of weight loss while sparing the muscle as the ketogenic dieters and will usually find they can substantially decrease their insulin requirements.

## Our Foods

The highlight of our weight loss method is the wonderful variety of protein-based foods the client will consume during the weight loss phases. These are high biological value proteins, containing all nine essential amino acids and derived from non-genetically modified organisms (GMO) sources.

We employ 6 different proteins:

1. Whey isolates;
2. Soy isolates;
3. Whole milk protein;
4. Albumin;
5. Pea protein;
6. Hydrolyzed collagen.

This gives the dieter many options and is designed to accommodate people who are sensitive to dairy, soy or those who are vegetarians by allowing them to participate in the program. In addition we have almost two dozen foods that are gluten free. Our products are delicious and we currently have over 50 different products including shakes, juices, bars, soups, chili, pancakes, oatmeal, and many more. Our products include hot and cold foods, different textures and range from sweet to salty. The dieter will use these products to build complete meals, adding vegetables and salads. Each sealed envelope ensures full potency and contains about 18 to 20 grams of protein with very little to no fat or sugar. These are easy to prepare and can be incorporated into a busy lifestyle very easily.



## Metabolic Syndrome: Insulin Resistance and Hyperinsulinemia

Metabolic Syndrome, arguably the epidemic of the century, is the name given to a general disorder characterized by four symptoms:

1. Central obesity
2. Hypertension
3. Hyperlipidemia
4. Hyperglycemia

Gerald Reaven, MD and professor of Medicine at Stanford University, was the first person to use the term and to show a link between the hyper secretion of insulin and subsequent insulin resistance and these four symptoms. Pharmacological treatment of the symptoms of the Metabolic Syndrome never affects a cure, and many times will exacerbate the symptoms. We commonly prescribe medications to help the pancreas produce even more insulin, give drugs to increase insulin receptor sensitivity or even give insulin directly in an attempt to regulate the blood glucose levels of these patients. This is a catch-22 because while the insulin receptors on muscle cells may be resistant and require increased amounts of the hormone to affect glucose uptake, other tissues and organs retain their sensitivity to insulin and prolonged exposure to high levels of the hormone invariably will lead to complications.

Take the kidney for example. Insulin stimulates sodium retention by the kidney, thus contributing to water retention and hypertension. Dr. Reaven cites: "Polycystic ovary syndrome (a condition characterized by hyper secretion of androgens by the ovary), as another example of insulin sensitive organs being affected. Basically the ovary, being constantly exposed to higher than normal levels of insulin, increases its testosterone production accordingly."

Thus the insulin resistance of one tissue (muscle cells) with the compensatory hyperinsulinemia that ensues will lead to many other insulin sensitive tissues being affected and so complicating the entire physiological picture of that individual. Another example is the body's production of cholesterol (de novo synthesis). Insulin greatly stimulates the enzyme HMG-CoA reductase, the rate-limiting enzyme involved in cholesterol synthesis. Simply put, a high level of insulin is like putting gasoline on the enzyme and the patient's cholesterol levels increase accordingly. Of course a statin (drug to reduce cholesterol) is usually prescribed.

Glucagon has the opposite effect; it inhibits this enzyme and forces the cell to produce low-density lipoprotein (LDL) receptors so the cell can pull cholesterol from the blood stream (1983 Nobel Prize in Medicine). The result is the patient's lipid profile improves tremendously usually within four to six weeks.

At Ideal Protein, we believe that the Metabolic Syndrome is a problem caused by food (high carbohydrate intake, i.e. sugar) and the treatment is food. When we put patients on a ketogenic diet we immediately decrease insulin levels and many symptoms quickly improve. Moreover, by keeping insulin levels low, we now allow the cells to regain their sensitivity to insulin and the pancreas' production of insulin returns to normal. This has been confirmed by hundreds of before-and-after fasting insulin levels in patients seen in clinics that have adopted our weight loss method.

We provide a clinical guide to practices that employ our weight loss method that explains the pathophysiology of the Metabolic Syndrome (well referenced) as well as initial training for the provider and staff as to what tests should be ordered to monitor the patients' progress. In addition, there is ongoing support from our corporate medical staff and continual in-house service provided free of charge by our field representatives.



## What About Ketosis?

There are many misconceptions about protein-based diets and ketosis. Ketosis simply means the body is using fat as an energy source and is transforming fatty acids into ketonic bodies. Therefore a degree of ketosis occurs in any weight loss program. This is a normal metabolic function like glycogenolysis, gluconeogenesis, or glycolysis and is totally safe as opposed to the pathological condition of ketoacidosis.

Unfortunately many nutritional consultants will say a diet that greatly restricts carbohydrate intake is dangerous as can deprive the glucose dependent tissues of their sole energy source and can also lead to severe hypoglycemia. These notions are just not consistent with basic physiology. If a deprivation of glucose occurs, the body will begin to break down its fat reserves (triglycerides). The glycerol then enters a gluconeogenic pathway and is transformed to glucose. Simultaneously, some muscle is broken down and the amino acid alanine is converted into glucose in the liver via another gluconeogenic process the alanine glucose cycle. The kidneys use yet another pathway and convert the amino acid glutamine into even more glucose (incidentally this process also helps maintain proper acid/base balance thus preventing ketoacidosis. Type I diabetics being the exception). Hypoglycemia therefore occurs, **not** because of a lack of glucose (no lack of glucose occurs) but rather because of an overproduction of insulin following the ingestion of a high glycemic carbohydrate. Hypoglycemia should be more properly termed reactive hypoglycemia and this condition will almost always resolve completely within two weeks of the protocol. Finally remember, our interventional phase is not a lifestyle, there is a beginning and an end. Think of it as a bridge to a well-balanced diet in which healthy, complex carbohydrates are essential. The following is a list of excellent references, which highlight the many benefits of a true ketogenic diet:

- Albu J, Pi-Sunyer FX. Association between obesity and diabetes. In: Bray GA, Bouchard C, eds. Handbook of Obesity: Etiology & Pathophysiology. 2nd Ed. New York: Marcel; Decker; 2004: 899-917.
- Case CC, Jones PH, O'Brien E, Ballantyne CM. Impact of weight loss on the metabolic syndrome. Diabetes, Obesity and Metabolism, 2002; (4): 407-414.
- Colles SL, Dixon J, Boyd P, Strauss BJ, O'Brien PE. Preoperative weight loss with a very-low-energy diet: Quantitation of changes in liver and abdominal fat by serial imaging. Am J Clin Nutr. 2006; 84:304-11.
- Despres, JP, Kraus RM. Obesity and lipoprotein metabolism. In: Bray GA, Bouchard C, eds. Handbook of Obesity: Etiology & Pathophysiology. 2nd ed. New York: Marcel Decker; 2004: 845-871.
- Fujioka K. Weight loss clinics: Range of capabilities, benefits, risks, and cost. In: Bray GA, Bouchard C, Eds. Handbook of Obesity: Clinical Applications. 3rd ed. New York: Informa Healthcare; 2006: 593-605.
- Gardner C, Kiazand A, Alhassan S, Kim S, Stafford R, Balise R, Kraemer H, King. A Comparison of the Atkins, Zone, Ornish, and LEARN diets for change in weight and related risk factors among overweight premenopausal women. JAMA; 2007; 297(9): 969-977.
- Makris, AP, Foster GD. Diet composition and weight loss. In: Bray GA, Bouchard C, Eds. Handbook of Obesity: Clinical Applications. 3rd Ed. New York: Informal Healthcare; 2006: 269-290.



- Rocchini AP. Obesity and blood pressure regulation. In: Bray GA, Bouchard C, Eds. Handbook of Obesity: Etiology & Pathophysiology. 2nd Ed. New York: Marcel Decker; 2004: 873-897.
- US Department of Health & Human Services. Very low-calorie diets. Weight control Information Network. June 2006. NIH publication No. 03-3894. National Institute of Health. [www.win.niddk.nih.gov](http://www.win.niddk.nih.gov)
- Wadden, TA, Burne KJ, Drauthamer-Eweing S. Obesity: Management. In: Shils, ME, Shike M, Ross CA, Caballero B, Cousins RJ, eds. Modern Nutrition in Health and Disease. 10th ed. Philadelphia: Lippincott Williams & Wilkins; 2006: 1029-1042.
- Yancy WS, Foy F, Chalecki A, Vernon MC. A low-carbohydrate, ketogenic diet to treat type 2 diabetes. Nutrition & Metabolism. 2005; 2 (34).