The truth behind weight loss

The trend for salons to be offering slimming treatments is on the rise within Australia, and the need for this is supported by a recent statistical report released by the Heart Foundation which states that in Australia, the latest data indicates that the prevalence of overweight and obesity is increasing across the whole population.

- Around 20% of boys and girls aged between 2 -18 years are overweight or obese.
- Around 6% of men and 47% of women aged 25 – 64 years are overweight or obese.
- Between 1980 and 2000, the proportion of men aged 25-64 years who were obese rose from 9% to 17%.
- The obesity rate among women of that range, 25-64 years more than doubled from 8% to a staggering 20%.

Overweight and obesity increases the risk of cardiovascular disease, high blood pressure, Type 2 diabetes, certain cancers, sleep apnoea, osteoarthritis, psychological disorders and social problems. The cost of obesity in Australia is estimated to exceed $1.5 million annually.

It is a fact that although external treatments support and have a positive impact on body shape and weight loss, they must essentially be combined with a healthy eating plan and some physical exercise.

The common denominators of the weight loss/gain process are the hormones – insulin and glocagon.

Most people would say that the role of insulin in the body is to lower blood sugar, and while it's true, insulin's key revolutionary role is to store excess nutrients. This is why it is often referred to as "the storage hormone".

The body is able to store nutrients (excess carbohydrates) in the form of fat in case of future famine, so the insulin that is stimulated by excess carbohydrates promotes the accumulation of body fat. Therefore, when we eat too much carbohydrate, we are sending a hormonal message, via insulin, to the body saying: "Store Fat".

Not only do increased insulin levels tell the body to store carbohydrates as fat, they also tell it not to release any stored fat which makes it impossible for you to use stored body fat for energy.

Insulin activates on an enzyme called lipoprotein lipase. This enzyme prevents the removal of fat out of the fat cells. Insulin also holds another enzyme called hormone-sensitive lipase. This enzyme is responsible for breaking down stored fats on your waist, thighs, buttocks, etc. So, excess carbohydrates in your diet will not only make you fat, they make sure you stay fat. This is why most people see very little or no results in weight loss, even though they exercise.

Weight gain that gets out of control leads to obesity and the problems associated with it e.g. diabetes and hypertension, which are both associated with heart disease. So the idea of nutritionists and dieticians recommending a high complex-carbohydrate, low saturated-fat diet would be a contradiction. A high complex-carbohydrate diet is nothing but a high-glucose diet, or a high-sugar diet.

When we eat bread, pastries, pasta, potatoes and other starches, in essence we are eating sugar, and insulin will be released to take the sugar (glucose) and store it. Excess glucose that cannot be used for energy is converted to glycogen and stored in the liver and muscles, which have only very limited capacity, 60 to 90 grams for the liver, and 300 to 400 grams for the muscles.

Once they are at capacity, the remainder ends up around the abdomen in men, and in the thighs and buttocks for women.

Eating fat does not make us fat (making the 99% fat free message by the food industry misleading). It's the body's response to excess carbohydrates in our diet that makes us fat.

The more sugar in the form of carbohydrates our bodies consume, the more our insulin levels rise. The more our insulin levels rise, the less fat we burn and the more sugar we store in fat cells. The more we store, the fatter we get.

When we eat a lower-carbohydrate diet we stimulate less insulin, but we also stimulate the insulin antagonist, its sister hormone glucagons, which is secreted in response to protein consumption.

Grass fed animals are generally not high in saturated fat, but grain fed animals such as pigs are because for the same reasons as in humans; the grains are metabolised as sugars and stored as saturated fat. Therefore, we are eating the saturated fat that animals produce from the consumption of carbohydrates.

Neither insulin nor glucagon is overly stimulated by fat. Glucagon frees the fat from the storage site and gets it ready to burn for energy. When we no longer have high levels of insulin, we are not suppressing carnitine, which is responsible for transporting to the cells, where it can be burned as fuel.

Insulin can also be thought of as the hunger hormone, when it causes blood sugar to go really low, setting us up for a cycle of craving and eating more high-carbohydrate foods. The result being higher blood sugar, more insulin and more fat storage as the cycle continues.

This is not a diet, but a long-term lifestyle change that acknowledges the role of insulin in the body. When combined with exercise, a low-carbohydrate (Low insulin) approach to eating will result in weight loss. The worst carbohydrates are the white flour products, the breakfast cereals, and all baked goods, and the pre-packaged fruit juices which are little more than flavoured sugary syrup. Fat, sugar and salt give food the taste that has us wanting more. Food manufacturers remove the fat, but increase the sugar content to keep us wanting more. Check the amount of sugar in 99% fat-free yoghurt – this is why it tastes so good.

A low-carbohydrate lifestyle will reduce the amount of insulin we produce and increase secretion of the hormone glycogon by eating lean, good-quality protein that will help control our cholesterol.

Insulin is a trigger for the enzyme HMG CoA reductase, which tells the liver to produce cholesterol. Satin drugs used for lowering cholesterol inhibit the HMG CoA reductase enzyme but so does glucagon.

In addition to weight control and cholesterol management, a low-carbohydrate (low calorie) lifestyle may just extend our time on the planet. There is a lot of very interesting research into longevity that says that calorie restriction plays a big part in longevity.

In the laboratory, scientists have significantly increased the normal lifespan of earthworms on a calorie restricted diet. In Okinawa, where it is quite the norm to be working at 90 years of age, they eat simple food with plenty of vegetables and fish and very little by the way of refined carbohydrates.

It's a simple message, but worth listening to.

The role of insulin:

- Lowers blood sugar
- Puts the metabolism in storage mode
- Converts protein
- Causes fat in the diet to be stored in fat cells
- Increases the production cholesterol by the body
- Causes the kidneys to retain water in the body
- Stimulates the growth of artery wall cells
- Stimulates the use of blood sugar for energy

Glucagon works in opposition to insulin and has the opposite effect

- Raises low blood sugar
- Puts the metabolism in burning mode
- Converts protein and fat to glucose
- Causes dietary fat to be used for energy
- Reduces cholesterol production
- Causes the kidneys to release water from the body
- Causes artery wall cells to return to normal
- Stimulates the use of fat for energy

It is easy to see that reducing insulin and raising glucagon is in our best interest. The goal is to achieve the correct balance.