OPTIMAL PERFORMANCE NUTRITION

Too often the perception of a persons' health is dictated by the presence or absence of disease. Unfortunately this only gives us a very small part of the picture and is really only the middle section of a spectrum of health ranging from extreme malnourishment or pathology (or death!!) to an optimal state of health and functionality rarely experienced by people.

A person may be perceived, and perceive themselves as healthy yet they experience a range of conditions or symptoms from being overweight, or experiencing regular colds and flu's, occasional headaches, poor concentration, moodiness, stomach upsets, bloating or constipation, hay fever or sinusitis, PMS, menstrual cycle irregularities or difficulties, and fatigue (especially mid morning and mid afternoon) . Whilst these states are periodic and not signs of obvious pathology or disease for most of the time, they are some of the symptoms experienced by most of us very often. And they are indicators that our state of health is far from the optimal wellness or health available to all of us.

Just because an individual may be fit, or lean or free from major pathology, it does not mean they are healthy, or even operating anywhere near their optimal .

Having never experienced anything near our optimal state of well being or health, most of us would have no perception of the abundant energy levels, mental clarity and heightened performance (free from the subclinical niggles mentioned above) that is available to all of us.

This optimal state of health does not require one to go and live on an organic farm, or at a vegetarian commune, or meditate in a cave in the Himalayas for years. **It is available to all of us, right here and now. It is simply about the choices we make.**

We live in a society where we are spoiled by choice. We can access pretty much any food or supplement on the planet without having to travel outside of our city. Unfortunately most of the choices we make are governed by convenience, immediacy, our emotional state at the time and a combination of a lack of education as to what are the right choices and misrepresentation or disinformation from food companies interested more in the bottom line of profits than our health. Let's face it. Most companies now are under more pressure to satisfy the owners and financial controllers, or share holders, than to look out for the well being of their consumers.

In addition, extensive scientific research has indicated that chronic diseases such as heart disease, cancer, stroke and diabetes which are the most common causes of death in the western world, are potentially all clearly preventable by correct and healthy nutritional choices. Unfortunately, these diseases are by nature insidious in their onset, meaning that they build and progress slowly over time. By the time 'obvious' symptoms become apparent it is often extremely hard or even impossible to reverse the damage done. So prevention of the big 'killers' starts right now, when we are 'apparently' perfectly fine and healthy. **It is at this time that we can get the greatest results in reversing or preventing the beginning of any chronic pathologies that could destroy our quality of life, and even kill us, later on.**

Rather than focusing on the negatives, the upside is that we can live longer with a heightened quality of life from the minute that we start making the right choices (see Table ! – The wellness Lifestyle Curve)

The important thing in making the right choices to achieve optimal performance is to understand the processes that occur in relation to how of body uses the food we eat.

Most of us over-consume or eat mostly carbohydrate rich foods, which the body converts into high levels of glucose for energy production in the cells. In response the pancreas produces high levels of insulin, which is used to transport this glucose to the cells for energy production.

Excessive production of insulin is termed **hyperinsulinaemia**, and prolonged hyperinsulinaemia can result in the cells becoming **insulin resistant**. The cells do this to prevent more energy being produced than our body demands at the time. What this means over time however, is that the cells, having become conditioned to being resistant to insulin, can no longer get the glucose they need for energy.

The cells of the body make up all of the systems within the body. **If these cells cannot produce enough energy to function properly, then the systems begin to break down leading to the indicators of lack of health mentioned earlier. And, ultimately to more the deep seated, chronic pathological conditions.**

Unfortunately, as is very often the case, if the input of fuel for energy outweighs the demand for energy, then this glucose floating around in the blood stream must be stored. Apart from the small amounts of glucose that can be stored in the liver and skeletal muscles as glycogen, the main storage mechanism of this fuel involves converting the glucose to fat and storing it wherever this fat may be deposited (and most of us are aware of these areas in our own bodies).

What compounds this even further, is that insulin is a storage hormone, and elevated levels of insulin, or hyperinsulinaemia, prevents the release of this converted glucose from the fat stores when it is required. Fat is the most efficient source of fuel for energy in our bodies (in terms of amount of energy produced per gram), and when the cells can no longer gain access to this extremely efficient fuel source, apart from the circulating glucose in our blood or glycogen stores in the liver and muscles which are very limited, the body must access our protein stores for energy. Our protein stores include our muscles and vital organs. Not ideal.

Extensive scientific research has shown that the number one biological marker in the body of ageing is a reduction in our muscle mass to fat ratio. And this marker adversely affects all other biological markers of ageing; such as basal metabolic rate, heart rate, blood pressure, cholesterol levels, HDL (good fat) to VLDL (bad fat) ratio, bone density, blood sugar tolerance, aerobic capacity etc.

So, in addition to our systems not producing energy efficiently and adequately, and potentially leading us down the path to obesity, we are also accelerating our own ageing process. This all leads to a poor quality of life in comparison to what is available to us all if we are prepared to open up to our genetic potential.

If you are lean it does not mean however, that your cells are not insulin resistant. It just means that you are eventually burning all of your circulating glucose for fuel before it gets deposited in the fat cells.

7. **Enjoy a freedom meal once a week.**

For athletes, whose energy and micronutrient requirements are higher, simply increase food intake as required in proportion to the guidelines and targets above. Particularly increases in low glycaemic load fruits, vegetables and nuts and seeds are important. It is important for athletes to make sure they are ingesting enough food to provide fuel for their higher energy demands, without succumbing to the temptation of over eating in individual meals. Individual requirements of protein, carbohydrates, water and fats based on the athletes body type and training demands can be accurately determined by a practitioner using VLA analysis.

In addition, endurance athletes or body building/strength may look at modifying their carbohydrate/protein/fat ratios accordind to their specific requirements. For example, a professional road cyclist, triathlete, marathon runner or jockey will want to keep fat levels as low as possible without compromising immunity, and not allow themselves to carry too much mass from muscle (without letting muscle mass too low and depleting them). This fine balance in ratios can be monitored over time using VLA analysis.

Target 1: Eat a protein rich food with each meal or snack.

To keep your appetite down and your metabolism up you need to eat a protein rich food with each meal or snack. This will ensure adequate protein intake so you don't go hungry and you keep burning fat throughout the day.

Whilst it is possible to measure the weight of the protein in each meal, it is cumbersome and difficult to follow constantly. The easiest method to determine protein quantity in each meal is to use the 'palm of the hand method'.

Most people's hand is in proportion to their body size, so you can use the palm method as a guide to estimate the amount of protein that should be consumed in each meal. **At each meal your protein portion should approximate 1-1.5 times the size of the palm of your hand, with a half a palm for snacks.**

Protein rich foods include:

Fish – salmon, sardines, mullet, mackerel, herring, trout (all excellent sources of omega 3 fatty acids) snapper, red emperor, king fish, sword fish, tuna, whiting or white bait. NB: large fish such as sword fish, shark and tuna contain high levels of mercury and should be limited to once or twice per week.

Seafood – squid, prawn, oysters (excellent source of zinc), mussels, crayfish, crab and scallops (not potato scallops!!!).

Poultry – chicken, turkey, duck and quail.

Meat – beef, lamb, veal, pork and kangaroo.

Eggs – chicken & duck.

Dairy – cheese, natural yoghurt, milk, cottage and ricotta cheeses, whey and paneer protein.

Whey has the highest Biological Value, which is a measure of the proportion of absorbed protein from food which becomes incorporated into the proteins of the body.

Soy foods – tofu, tempeh and soy milk.

Legumes – lentils, chick peas, mung beans, pinto beans, lima beans, black eyed peas, green split peas, kidney beans, yellow split peas, navy beans, white kidney beans and black beans.

Remember "fresh is best" and choose to avoid smoked or processed meats (e.g. bacon, salami, and smoked or cured meats) as these may contain nasty additives (such as nitrates) which have negative health effects.

See Table 3 – Protein Content of Foods

Target 2: Enjoy a minimum of 3 cups of fresh vegetables daily.

Vegetables are very high in nutrients and beneficial dietary fibre. Extensive research has found that regular vegetable consumption may reduce the overall risk of developing many types of chronic disease such as heart disease, stroke and cancer (due to the numerous phytonutrients found in all vegetables). Phytonutrients are additional antioxidants found in all plants, as distinct from vitamins and minerals, which are associated with numerous health promoting effects. Highly coloured vegetables tend to contain the highest amounts of phytonutrients.

Below is an extensive (but not exhaustive) list of vegetables to enjoy include:

Alfalfa	Asparagus	Bean Sprouts	Beans, green	Bok Choy	Broccoli*
Broccolini*	Brussel Sprouts*	Cabbage*	Cabbage, purple*	Capsicum	Cauliflower*
Celery	Cucumber	Egg Plant	Fennel	Garlic	Ginger
Herbs, fresh	Kale*	Lettuce	Leeks	Mushrooms	Onion
Parsley	Radish	Rocket	Salad Greens	Silver Beet	Shallots
Snow peas	Spinach	Sprouts	Squash	Tomato	Zucchini

Cruciferous vegetable sources (marked *) boost the body's protective antioxidant production.

Limit the intake of energy dense, high carbohydrate vegetables to one cup per day. These include:

Potato, sweet potato, pumpkin, carrots, avocado, peas.

Target 3: Enjoy a minimum of 2-3 pieces 1-2 cups of fresh fruit daily

Fruits are high in nutrients and fibre. As per vegetables, regular fruit consumption may reduce the overall risk of developing many types of chronic disease including heart disease, stroke and cancer due to the numerous and high levels of phytonutrients. The highly coloured fruits tend to be the highest in phytonutrients.

It is recommended that you limit dried or sweetened tinned fruits.

If you are trying to lose weight, limit fruit to a maximum of 2-4 pieces daily.

Otherwise you can consume fruit freely.

Below is an extensive (but not exhaustive) list of fruits to enjoy:

Apples	Apricots	Bananas	Blackberries+	Blueberries+	Blackcurrants-
Cherries-	Cranberry+	Custard Apple	Figs	Grapes	Grapefruit
Guava-	Jack Fruit	Kiwi Fruit-	Lemons	Mandarins	Mangos
Melons	Mulberries	Nectarines	Papaya	Passion fruit	Peach
Persimmon	Pineapple+	Plum+	Pomegranate+	Rhubarb	Raspberries+
Strawberries+-	Limes	Lychees	Orange	Watermelon	

+ Potent antioxidant/phytonutrients. – Rich source of vitamin C.

NB: Many people often get confused as to what fruit to eat as some fruits are higher in sugar (and therefore GL) than others. A simple and rough rule of thumb, is to consider the natural environment in which each type of fruit grows. For example, the fruits that grow in temperate or colder climates (apples, berries, apricots, grapefruit, peaches etc.) are generally lower in GL. In these environments we tend to sweat less (particularly in winter), so we do not need higher GL fruits to replace lost sugar (particularly in winter). Alternately, in tropical environments we tend to sweat considerably more and have a higher need to replace sugars. Fruits that are natural to this environment tend to be higher in sugar. **Nature does not work by accident!!!!**

Target 4: Include starchy carbohydrates at 1-2 small serves daily

High glycaemic load (GL) foods such as starches and sugars should be kept to a minimum. Starchy foods include breads, rice, cereals, grains, potatoes, and pasta. Sugary foods include cakes, biscuits, pastries and deserts. Your eating program should contain some starches as a valuable source of energy, however intake of sugary foods should be minimized. Having an excess of starches and sugars in your diet has been shown to promote poor energy levels and concentration, obesity, diabetes, heart disease and other chronic diseases.

Your daily consumption of allowable high GL foods should be limited to 1-2 servings daily (each providing approximately 30g of carbohydrate). Serving sizes are as follows:

Bread	2 slices
Wheat crackers	10 biscuits
Rice crackers	20 biscuits
Breakfast cereals	½ to 1 cup
Rice	½ cup (cooked)
Pasta	½ cup (cooked)
Cous cous	½ cup (cooked)
Potato	2 medium

NB: Choose high fibre, low sugar options; whole grains wherever possible.

Some healthier options, which have lower glycaemic load than their more processed alternates include:

Breads – Sprouted breads, wholemeal, multigrain, rye, spelt, essene bread. NB: Read labels as many 'supposed' wholemeal and multigrain breads contain predominantly white flour.

Cereals – Wholegrain breakfast cereals, oats, museli, bran. Breakfast cereals vary widely in carbohydrate content per cup. 1 cup serving for lighter cereals (puffed and flaked grains) may equal ½ cup for denser, heavier cereals such as oats.

Pasta/Noodles – Wholemeal pasta, low carbohydrate pasta, spelt pasta, buckwheat pasta.

Rice/grains – Brown rice, Basmati rice, barley.

Legumes – Lentils, beans. Legumes also contain a proportion of protein and are excellent foods to incorporate in a vegetarian diet.

Snacks – Rice cakes, corn cakes, buckwheat crisp bread, rice crackers.

Note: Gluten - containing foods. Many grains and related foods contain gluten. Check with your practitioner if gluten containing foods are suitable for you. Grains which contain gluten include: wheat, rye, oats, barley, spelt, triticale, semolina, bran, wheatgerm, bulgur and malt.

Target 7: Enjoy a freedom meal once a week.

When it comes to eating habits, many people fall into extreme behaviors. People may indulge themselves with no sense of proportion, finding little satisfaction with their habits while putting themselves at risk of ill health. There are others who rigidly follow an unrealistic diet and lifestyle, denying their appetites until craving and deprivation reach an unbearable level and they give up on the program.

The best way to approach a life-long healthy lifestyle and diet is to find the middle ground between indulgence and deprivation and develop a healthy sense of proportion – this is the key to long term wellness. Therefore, it is a good idea to allow yourself one or two meals a week where you can throw caution to the wind and indulge in your favourite 'less than optimal foods'.

You are what you 'most consistently' eat. In a week we eat on average 21 meals. A realistic discipline to employ is allowing yourself one or two meals a week to eat whatever you want. Don't feel bad or guilty. You've earned the right to a freedom meal. So make sure you are satisfied with your indulgence, and then go straight back to the program for the next meal. Your practitioner will advise you on any guidelines to follow with this principle.

It is worthwhile considering that indulgences become only really enjoyable when they are indulgences, and not everyday occurrences. For example the first piece of fried chicken or pizza tastes great, but four or five pieces later it becomes positively unpleasant. Similarly the first time you start exercising is generally far from fun, however with time it becomes a thoroughly pleasurable and enjoyable exercise. Or when one first starts restricting refined, high glycaemic load carbohydrates and replacing them with low glycaemic load nutritious vegetables, fruits, nuts and seeds it does not feel that exciting. Over time however, as the system cleans itself out, these nutritious options start to taste far more pleasant than the fast fix high glycaemic load options.

There is a saying in Yogic philosophy that states "what is pleasurable becomes poison in the end and what is like poison in the beginning becomes permanent pleasure in the end".

A good suggestion is to develop other positive healthy habits, like a regular massage, sauna or beauty treatment as a substitute for a night out drinking alcohol or fast food take away dinners.

Eating out the healthy way.

We are all on occasion too busy to prepare meals. Social engagements and eating out sometimes make it difficult to stick to an optimal eating program. Here are a few ideas to minimize the impact of these occasion on your **Optimal Performance Nutrition** program.

Take away: Thai, Japanese, Felafel kebabs, Grilled fish and salad, Vegetarian pizza.

Sweets: Fresh fruit, Fruit sorbet, Frozen berries and yoghurt, Apple/blueberry pie, Stewed fruit and custard, Dark chocolate.