

At theinnergame, our goal is to have you **achieve the extraordinary**. This should happen in all areas of your life: **physical, business, spiritual, and family**.

While we focus primarily on applying the 8 areas of awareness to the business and physical arenas, they apply equally to all aspects of your life.

In our monthly newsletters we plan to tackle topics of interest that are raised by our clients. If you would like to suggest a topic, please email us at enquiries@theinnergame.com.au.

A popular topic raised by most clients (and a personal favourite of mine) is weight control. That's why our first newsletter is dedicated to this old chestnut.

Just a quick word of warning though that you must take into consideration. The information we provide is based on our research and reading into the area. We are not necessarily qualified professionals on the topic at hand.

Weight Control 101

Let's start back in the Savannah when **we had to eat to survive**.

We went in search of high levels of calories which were best found in the forms of fat, through meat and sugars, through ripened fruit, because **we needed energy**. If our ancestors didn't crave and acquire these high calorie items they died and consequently the genetic pool was weighted (pardon the pun) in favour of people who wanted energy.

Energy was the essential component for our survival.

With enough energy we could keep our bodies functioning. With enough

energy we could support the CPU (our brain) which requires about 25% of our Basal Metabolic Rate.

Through the years of natural selection, we have in essence bred an instinctive craving for high levels of calories to supply our energy needs.

Fast forward to 2005 and we need to **survive what we eat**. Obesity is one of the major health risks in the western world.

If you are serious about managing weight then the simple formula is:

$$\text{Energy in} - \text{Energy Out} = \text{Weight Change.}$$

Try to ensure that the energy you are taking in provides as much nutritional value as possible. For example, an apple vs. a creme biscuit. The apple has a much higher nutritional value for about the same energy value.

Use activity to burn energy. If you create an energy deficit you loose weight. Create a deficit of 7000 calories and you loose a kg. Do this for 6 months and see how you feel.

The 8 Areas of Awareness.

- Getting to yes
- Just get started
- Build a program
- Never give up
- Surround yourself with the right people
- Measure your progress
- Be flexible with approach
- Make achievement part of your life.

Basal Metabolic Rate

BMR is the energy required to keep the body alive when we are at rest. I.e. to keep breathing, heart pumping, liver functioning, brain ticking over etc. I think I know some people who are conserving a good part of that 25% required just for your brain though.

Male ~3000 calories/day

Female ~ 2500 calories/day

You must be the change you wish to see in the world.

Gandhi

<http://www.sfheart.com/Gandhi.html>

How to lose a kilogram

7000 calories = 1 kilogram.

So if you want to lose a kg, you must have an energy deficit of 7000 calories. What goes in by way of food, must be less than what goes out by way of activity. Increase your activity and decrease or maintain your food intake to achieve the deficit.

Create an energy deficit of 2000 calories each week and you will lose a kilogram in a month.

What does 7000 calories look like?

- 1 hour of swimming per day for a month.
- 1 hour of walking per day for a month.
- 45 minutes of light jogging per day for a month.
- 45 minutes of moderate cycling per day for a month.
- 2 creamed biscuits per day for a month
- 14 packets of chips per month (100g packet)
- a croissant per day for a month
- a Muesli Bar per day for a month.
- 2 standard drinks of alcohol per day for a month.

The following URL is a great source for determining the number of calories in a given food type. Being obsessive can be too constraining, however having some knowledge does help.

<http://www.dietclub.com.au/foods/?partner=hwf>

GI: how to stop getting hungry

The glycemic index (GI) has been used for everything from curing warts to world peace. In essence, it is simply a measure of how quickly a specific food in certain conditions is turned into blood glucose.

It is widely accepted that as blood glucose declines, we feel hunger as we require more blood sugar to maintain our energy levels and BMR.

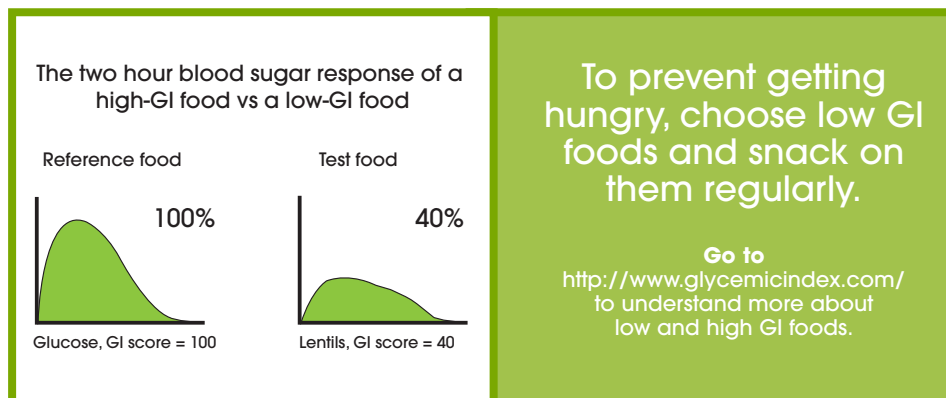
To increase our blood sugar levels we can go to stored glycogen in our liver, muscles or fat, or we can eat some food and digest it.

In today's environment it is much easier for us to eat food.

To use GI to our advantage, we should eat foods that are low in GI – they are digested more slowly and are released as blood sugars over a longer period of time.

The consequence of this is that eating 100 calories of low GI foods will keep us feeling satisfied longer than eating 100 calories of high GI food.

The GI is not perfect, however it is better than nothing at all as an indicator of blood sugar levels.



A bit about energy

There are basically 4 sources of energy in food - protein, carbohydrates, fats and alcohol. The only other food substance is water; however this does not provide any energy i.e. no calories.

Forget the diets and the fads. Go back to basics.

How much energy am I taking in, regardless of the source? If I am eating fat, then I need to know that 1g of fat has about 9 calories. If I am eating carbs or protein, 1g of those items has about 4 calories.

If I am drinking alcohol, 1 standard drink is about 70 calories.

The vast majority of products have the number of calories that are contained in a 100g. Use this information to manage your calorie intake.

When I am active, I am using energy.

Walking for an hour uses about 250 calories.

Running for an hour 75-83% MHR uses about 600-700 calories.

Swimming for an hour uses about 300 calories.

Bike riding for an hour in the 75-83% MHR uses about 600 calories.

There are advantages associated with heart rate zones, and there are advantages to eating carbs as opposed to fats and there is nutritional value associated with food. This stuff is not discussed in this newsletter. I'll include an article on heart rate zones in next month's newsletter.

Carbs and weight loss: some science

The popular belief that high-carbohydrate diets aid weight loss by suppressing appetite has been challenged by the results of a British study examining metabolic and appetite responses to prolonged walking under different dietary conditions.

Eight moderately-trained male hill walkers undertook three 450-minute walks, at intensities varying between 25-30 and 50-55% of VO₂max, under each of the following dietary conditions:

- High-fat, including breakfast cereal with double cream and milk, bread and cheese sandwiches, ice cream, and snack foods like coconut and almonds;
- High-carbohydrate, including cereal with skimmed milk, banana, white toast and jam, low-fat yoghurt, orange juice and dried fruit;
- Mixed, including elements of both the others.

Each dietary condition, including breakfast, lunch and two snacks,

produced the same total calorie count, even though the contents were radically different.

The researchers had hypothesised, among other things, that at this intensity of exercise a high-fat diet would be associated with decreased ratings of fatigue and perceived exertion through sparing of carbohydrate stores and enhanced fat utilisation.

But in fact there were no significant differences in fatigue ratings between the three dietary conditions. Neither were there any significant differences in any of the following: heart rate, perceived exertion, hunger, fullness, satiety, strength of appetite or desire to eat.

According to the researchers, 'the absence of any change in heart rate, (rating of perceived exertion) or subjective ratings of fatigue between the dietary manipulations during prolonged exercise is an important...observation. This suggests that dietary composition will not adversely affect physiological and

subjective factors over one day'.

And the fact that the three diets resulted in a similar energy deficiency at the end of the day suggests that 'a wide range of dietary patterns may be acceptable for those trying to lose weight by incorporating moderate-intensity exercise into their routine'.

Although diet influenced the degree of total carbohydrate and fat oxidation, fat was the main source of energy in all three trials.

The main drawback of the high-fat diet, however, was that it resulted in a negative carbohydrate balance over the exercise period, suggesting that it might not allow for further exercise, even at low-to-moderate intensities.

'Decreases in the glycogen stores....especially if continued over a few days of walking, would be detrimental to the ability to sustain the activity,' the researchers point out.

J Appl Physiol 2002 May;92(5), pp2061-70

Applying the innergame

The innergame is played out in the mind, regardless of the endeavour that you undertake.

It is the game against opponents such as fear, self doubt, procrastination, pain, both emotional and physical, limiting influences and the other voices inside your head.

Regardless of the endeavour, these opponents will be encountered.

How we deal with them is a learned behaviour that we repeat time and again.

With awareness of our patterns and a plan of attack we can master the innergame and **achieve the extraordinary.**

Make achievement part of your life: weight control

Getting to yes	Set yourself a goal of a 2000 calorie deficit per week
Just get started	How many calories in today? What activity burnt cals today? What's your deficit?
Build a program	Establish a weekly eating and activity plan. What does your planned deficit look like?
Never give up	A binge does not equal failure. We're looking for weekly energy deficits.
Surround yourself with the right people	Inform the people that support you of your plan and goal. Talk about your program with them regularly.
Measure your progress	How much do you weigh today? Keep a diary of your calories in/calories out. How hungry are you when you eat?
Be flexible with approach	If your weekends include a big brekky, be prepared to have an energy increment that day.

High carb injury prevention

Eating in a way that keeps your body primed for peak fitness can also reduce your risk of injury. Firstly, eating foods that will help to fend off fatigue will minimise injuries arising from tiredness and weakness. Secondly, some of the metabolic processes which can lead to muscle soreness and damage can be counteracted to a degree by dietary factors.

It's old news that keeping your muscles stacked with glycogen can help your endurance capacity. But did you know that a respectable glycogen credit will also make injury less likely? There's evidence linking muscle glycogen depletion with both fatigue and injury. The connection is simple - muscles that are fatigued lose their strength, and thus their ability to protect joints.

There are a number of strategies you can adopt to minimise the chances of muscles phasing out and landing you with an injury, from specific exercises to selecting your equipment with care. Diet is another crucial factor which you neglect at your peril. Eating to ensure your muscles are packed with glycogen will mean it takes far longer before they run out of fuel and become fatigued. There's direct evidence relating muscle glycogen depletion with muscle fibre damage and sports injuries.

Sports scientists argue that apart from the risk of direct damage to an overworked muscle, fatigue may result in the athlete employing different movement patterns, thereby exposing untrained muscles to an unexpected demand, and making joint injury more likely.

The two causes of muscle fatigue

Fatigue itself is a broad concept, including a number of different components - from mental through the nervous system to the muscle itself.

Your diet can help to offset fatigue at the muscular level.

There are two distinct metabolic components of fatigue that develop in the muscles: 1) accumulation of certain metabolites and 2) depletion of other metabolites. The accumulation component includes an increase in the amount of hydrogen ions (eg, as a result of lactate buildup). Depletion includes decreasing amounts of fuels found inside the muscle cells - ie, ATP, phosphocreatine and glycogen.

The fatigue-injury link

Common sense would suggest that exercising with muscles which are fatigued is likely to damage those muscles. This has been borne out when samples of athletes' muscle fibres have been extracted and inspected under the microscope.

This type of muscle damage is not always accompanied by a perception of soreness, unlike damage which occurs after eccentric exercise. 'Eccentric' activity is where your muscles are contracting while simultaneously being stretched. Prolonged exercise and eccentric exercise represent two distinct mechanisms of muscle damage, both of which end up with the same result. Muscle damage due to eccentric exercise appears to have mechanical causes. High tension developed in single muscle fibres during muscle lengthening may bring about the damage. Glycogen depletion is probably not important in injuries sustained as a result of eccentric exercise. But some experts believe that restocking glycogen after this type of exercise may speed up repair.

In comparison, prolonged exercise is associated with a depletion in muscle glycogen stores, which in turn results in a decrease in energy production. The stress of trying to sustain a level of

work output which cannot be met by sufficient fuel is thought to contribute to muscle damage. Glycogen, when broken down into its constituent units of glucose, can be used to make ATP.

Athletes most vulnerable to glycogen depletion-related injury will be those in regular training, who are exercising at moderate intensities for over an hour. It's all too easy to gradually drain your glycogen stores if you're training without eating a diet high enough in carbohydrates.

So how much carbo do you need?

There's consensus that 8-10g of carbohydrate per kg of body weight will maintain appropriate glycogen levels during heavy training. For competition itself, carbohydrate loading is a protocol which is only likely to be of benefit for athletes whose event involves continuous moderate exercise for longer than 60 minutes, or whose event requires repeated bouts of high-intensity exercise. A recommended regime is to begin seven days before D-day, gradually tapering your activity while stepping up the proportion of carbohydrate that you eat. For the last three days, your carbo consumption should be around 500-600g/day.

Before exercising, it may be beneficial for endurance competitors to consume a liquid carbohydrate meal one hour beforehand. Most importantly, if you are competing for longer than an hour, if you can take in carbohydrate while exercising, you will delay the onset of fatigue. Glucose polymers (such as maltodextrin) are a good way of taking in carbohydrate while on the move. Ideally, you should aim for a 6-8% solution containing 15-20g of carbohydrate per 7OZ of water, and try to drink some every 15 minutes.

Look first at the energy content before you worry about how many carbs or how much fat is in the food you are eating. You need energy, you need carbs and you need fat. The thing is you only need so much energy.

View food as a source of energy.

Keep a food diary for a week record what you eat and when. How many calories did you eat and how hungry you were when you ate? Try to eat only when you're hungry.

Coach Katherine