

Bullet points from Larry Bensusan's talk on "How does nutrition affect an athletes mental and physical performance"

- Carbohydrates plays an important role in the immune system through two mechanisms. Firstly to maintain blood glucose and secondly by maintaining muscle glycogen. Athletes who are on a low carbohydrate diet (maybe they concerned about their weight) research found that even after two or three days of a low carbohydrate diet - a negative affect on the immune system could be seen.
- Drinking milk which contains good carbohydrates and proteins within the milk - seem to reduce muscle soreness after competition compared to not drinking the milk at all.
- Research found that cherry juice has been shown to speed up the recovery of the immune system after hard exercise such as marathon running. Although not quantified by good research there are some athletes who are drinking beetroot juice to increase blood oxygen prior to competition
- You will be pleased to know eating dark chocolate with 70% cocoa minimum will help to replace blood glucose after an event. So eat some chocolate - just 40g will help.
- Try to eat 1 or 2 hours before an event and have 70 - 100 grams of carbohydrates such as a bagel with jam. That should help delay fatigue during the event and keep you sharp. Here you can see you are combining simple carbohydrate the jam with complex carbohydrate the bagel.
- Omega-3 is an essential fatty acid which helps to dampen inflammation in the body. If you have low levels of omega-3 the signs could be impaired vision or altered mental state such as depression, learning problems and growth retardation in children. Research found that in children the intake of omega-3 helps them with their studies and giving them a better memory retention and improve cognitive function - we know it also benefits adults.
- Protein makes up the bulk of muscles, internal organs, brain, nerves, skin, hair, and nails and also is a vital part of the regulatory substance such as enzymes hormones and blood plasma. Fortunately most foods contain a mixture of proteins that compliment each another. In a mixed diet, consisting of plant and animal foods this combination will provide you with a wide variety of the many nutrients and proteins your body requires.
- There are nine amino acids that are classified as indispensable and the reason they are called indispensable is because the body cannot manufacture them in sufficient quality or at all. Eggs are an excellent source of those complete proteins which are not manufactured in the body.
- Consider having a variety of colours on your plate that way you should get a balanced intake. However, No plant food contains active B12. Therefore to be safe I would recommend vegetarians to take a B12 Supplement or make sure you regularly eat a variety of pulses. The key to a balanced diet is **variety** - both for a vegetarian or meat eater.

- On average females have an energy availability of 40 kcal/lean body mass a day to rely on. That's the energy required to function healthy as we go about our normal life. However, if she decides she should lose some weight and reduce her calorie intake then suddenly her energy availability becomes jeopardised. We now have the female triad: she has low energy availability, plus menstrual dysfunction with her periods may become irregular and oestrogen becomes suppressed leading to bone breakdown. Women need to be aware that at certain times during the month their body may require more support when Energy out is higher than Energy in.
- Research undertaken on older adults in Toronto found that by giving them either a cereal or fruit-based breakfast. Their performance of cognitive tasks was improved by 25% after breakfast was eaten.
- Research has shown that elite athletes without proper sleep become significantly worse at their jobs. They found that sleeping for nine hours at night rather than just 7 1/2 made tennis players serve more accurately. The great Roger Federer is said to sleep for 12 hours by topping up a 10-hour sleep with a two-hour daytime nap. In another study promising athletes age 16 to 19 found they were 61% more likely to suffer injuries when they did not sleep for eight hours a night.
- Dr Masaru Emoto's research on water and emotions. The lessons learnt from this experiment have to do with the power of words and sound. The vibration of good words has a positive effect on the water but the vibration of negative words has the power to cause a negative effect. We are 70% water. The words we speak to ourselves such as 'I'm useless' or 'I'm not capable' or 'I don't love myself' - can affect you negatively causing the energy of that emotion to be anchored right down to your very core.