

## Peaches & Green Swimmer's Seminar

### Basic every day supplementation

- Water
- Multivitamin
- Glutamine
- Vitamin C
- Omega 3 - Fish Oil
- Calcium
- B Complex
- Green Food Concentrate
- Berry Concentrate
- Whey Protein

### Pre-Competition

- Water
- L-tyrosine
- Caffeine
- D-Ribose
- BCAA
- Electrolyte beverage

### Post Event Recovery

- Water
- Glutamine
- Berry Concentrate
- BCAA
- Electrolytes (7 parts potassium to 1 part sodium)
- D-Ribose
- Vitamin C
- Omega 3 - Fish Oil
- Whey Protein



## B Complex

- B-Complex consists of eight vitamins: Thiamin, Riboflavin, Niacin, Pantothenic Acid, Pyridoxine, Cyanocobalamin, Biotin and Folic Acid
  - B1 - Thiamin is essential for proper carbohydrate metabolism. Also improves mood, and strengthens the heart.
  - B2 - Riboflavin is necessary for red blood cell formation, and assists with fat, protein and carbohydrate metabolism. Also works to improve skin blemishes, migraines and in preventing the onset of cataracts.
  - B3 - Niacin aids in lowering cholesterol and can be used to treat depression, insomnia and arthritis.
  - B5 - Pantothenic Acid promotes a healthy Central Nervous System, and assists in energy production, and fights chronic fatigue, migraines, allergies and heartburn.
  - B6 - Pyridoxine plays a major role in forming red blood cells, proteins and neurotransmitters. Can be used to relieve PMS and asthma attacks.
  - B12 - Cyanocobalamin is important for the normal functioning of the brain and nervous system and for the formation of red blood cells. Important for memory and learning.
  - B7 - Biotin is necessary for cell growth, the production of fatty acids, and the metabolism of fats and amino acids. Helpful in maintaining a steady blood sugar level.
  - B9 - Folic acid is essential for the production and maintenance of new cells.

## BCAA

- Consists of the essential amino acids leucine, isoleucine, and valine, which are the building blocks of protein
  - L-leucine has many beneficial effects on sports performance. It helps preserve lean muscle tissue, it supplies the body with energy when under stress (i.e. when engaging in athletic activity), it preserves muscle glycogen, it maintains nitrogen balance, and it enhances thinking abilities that can decline as physical activity becomes more intense. As the strongest of the BCAA's, L-Leucine is what's known as a "limiting nutrient" - meaning that you must have enough L-Leucine in proportion to other amino acids in order for your body to make use of what you eat.
  - L-isoleucine is important in hemoglobin synthesis and in the regulation of blood sugar and energy levels. It also increases endurance.
  - L-valine has a stimulating effect and is needed for muscle metabolism, repair and growth of tissue and maintaining nitrogen balance in the body. Since it is a branched-chain amino acid, it can be used as an energy source in the muscles, thus preserving the use of glucose.

## Berry Concentrate

- Free radicals are reactive compounds, caused by factors such as stress and pollution, that damage the cells they come into contact with. Unless kept in check, excessive free radicals can cause a chain reaction that contributes to the erosion of good health. Antioxidants protect cells from the destructive effects of free radicals.
- Although impossible to avoid, we need to minimize our exposure to free radicals while simultaneously supporting our body's ability to neutralize them.

- Antioxidants can greatly decrease the damage caused by free radicals, stop them from forming to begin with, or "oxidize" them by combining with them and neutralizing their harmful effects
- Numerous long-term studies have concluded that people who consume the nutrients found in berries reduce their risk of chronic disease
- Berry concentrates are also very alkalizing and increase energy levels

### **Caffeine**

- Power and energy accelerant
- Increase mental alertness and neurologically provide the surge you need to maximize performance.
- Reaches deep into the muscle cell to provide lasting power and delaying the onset of muscle fatigue.
- Greater alertness, allowing for more intense focus.

### **Calcium**

- Insufficient dietary intake of calcium leads to the erosion of both bone and muscle.
- People who get the least calcium in their diets are six times as likely to be overweight as those who get the most.
- Alkaline forming, important for bones, teeth and the activation of many enzymes.
- Insomnia, disturbed sleep patterns, fever, poor appetite, fatigue and a high heart rate are common warnings of calcium depletion.

### **D-Ribose**

- A 5-carbon sugar found naturally in all living cells.
- Begins the metabolic process for production of adenosine triphosphate (or ATP). ATP is the major source of energy used by cells, including muscle tissue, for normal function.
- Intense exercise causes a significant decrease in skeletal muscle energy levels.
- It can take 3 days or longer for energy levels to recover following intense exercise, but supplementing with Ribose hastens energy recovery in all types of skeletal muscles.

### **Electrolytes**

- Conductors of electromagnetic energy flowing through the body, effecting nerve transmission, muscle action and gland function.
- exercise results in both water and electrolyte depletion
  - eg. Potassium, iron, zinc and chromium
- Consuming a 6-8% carbohydrate solution reinforced with electrolytes and vitamin C can extend exercise capacity and delay muscle fatigue
- Electrolyte deficiency can lead to symptoms such as fatigue, impaired glucose metabolism, muscle weakness, cramping, abdominal pain, adrenal exhaustion and headaches.
- The North American diet is high in sodium, so optimal electrolyte potassium to sodium ratio is 7:1.

## **Glutamine**

- Glutamine is in high demand throughout the body: 60% of free-form amino acids in skeletal muscles is L-glutamine. It is used in the gut and immune system extensively to maintain optimal performance.
- After intensely working out, glutamine levels in the body are reduced by as much as 50%.
- Glutamine supplementation can minimize the breakdown of muscle tissue and improve protein metabolism.
- It increases the natural production of hGH during sleep.

## **Green Food Concentrate**

- Provides the many vital nutrients that are essential for basic health but that are usually lacking in the average diet.
- Boosts immune system function and strengthens cell integrity.
- Aids in maintaining a natural pH balance.
- Supports healthy weight loss
- Cleanses and detoxifies the body from harmful toxins
- Supports healthy bone formation
- Improves brain and nerve function
- Improves digestion
- Boosts energy levels

## **L-tyrosine**

- Because L-tyrosine is a precursor of Dopamine, it may heighten mental alertness, increase feelings of well being, and offset physical and mental fatigue
- May help athletes avoid overtraining, due to its ability to offset fatigue
- L-tyrosine also serves to protect skin. Melanin, a substance which acts to protect the skin from ultraviolet light, is derived from L-tyrosine.

## **Multivitamin**

- We do not eat enough fruits and vegetables.
  - Average Canadian only 2-4 servings/day
- Common food preparation methods remove key nutrients from our foods.
- Most convenient meals are lacking in micronutrient content.
- Nutrient levels in our soil is steadily depleting due to farming practices.
- Even the most well structured diet is not providing all the nutrients we need
- Active lifestyles deplete electrolyte stores and increase free radical activity within the body
- Studies have shown that children using a multi have improved health, memory, IQ and behaviour.

## **Omega 3 - Fish Oil**

- Essential Fatty Acids (EFAs - Omega 3 & 6) are essential to our survival, but the body does not produce them on its own.
- The average North American diet is high in Omega 6, but low in Omega 3.
- Omega 3 is converted in the liver to two constituents: EPA and DHA but at a very low efficiency with significant waste.

- Fish Oil is naturally high in EPA and DHA, and does not require conversion.
- EFAs are a critical structural component of our brain, nervous system and cell membranes.
- Effective at preventing inflammation, water retention and loss of tissue elasticity.
- Aids in energy production for improved stamina and endurance.
- Decrease recovery time and inflammation after exercise and competition and speeds the healing of injuries.
- Improve protein and amino acid utilization to help build and maintain lean mass.
- Decrease fat storage and increase metabolic rate
- Improve oxygen uptake and utilization
- Optimize glandular function
- Decrease arthritic joint pain and strengthen bones
- Improve circulation and immune function
- Promote sleep and elevate mood
- Heighten reflexes and concentration

### **Vitamin C**

- Vitamin C is the single most important vitamin for health.
- It is involved in cholesterol metabolism, cell respiration, the assimilation of iron, the formation of bones, teeth, blood cells, ligaments and body tissues, and the maintenance of vision.
- It is also a powerful detoxifier, capable of eliminating lead and other poisons from the system.
- Increases the rate of collagen synthesis and wound healing.
  - All sport injuries should be supported with high-dose vitamin C.
- 2-4g of vitamin C taken before and after each workout is known to reduce the catabolic effects of cortisol.
- Supports the adrenal glands.

### **Water**

- 1% loss of bodyweight in water (600-800ml water loss) results in reduced performance, and 2% dehydration can greatly reduce exercise capacity.

### **Whey Protein**

- Athletes need at least 1 g of protein per pound of lean body weight each day
- Increases lean muscle mass
- Preserves muscle following intense activity
- Increases energy levels
- Supports healthy immune function
- Helps regulate blood sugar, making it a suitable choice for diabetics
- Aids in weight loss
- Maintains healthy pH balance