NUTRITION GUIDE

Regular exercise places great demands on the body. In order to achieve maximum performance, optimal energy and rapid recovery, the ideal training diet must be employed. The following points must be considered when planning your training diet:

- Food is Fuel
- Physical fitness does NOT presuppose nutritional health
- Nutrition starts to bridge the gap between performance and ability

Training Diet

Enjoy a wide variety of nutritional foods. You should eat food from the following food groups every day:

- Breads and cereals
- Fruit and Vegetables
- Meat and protein
- Milk and dairy foods

Carbohydrates

Aim for high levels of carbohydrates: Carbohydrates:

- Are the primary energy source for exercise
- Are easily digestible
- Rapidly replenish muscle and liver glycogen stores
- Improve endurance, recovery and concentration
- Are important for good nutrition and long term health (low in fat, cholesterol free, vitamin rich)

All carbohydrates break down into simple sugars. A little of this sugar is rapidly available as blood sugar; the rest is sent to the liver and converted to glycogen. We store glycogen in our liver and muscles and then use it during training. We must, therefore, eat enough carbohydrates each day to replace those used during training. 60% - 70% of the meal in front of you should consist of carbohydrate foods. If we do not eat enough carbohydrate each day we eventually use up our entire store (similar to petrol in a car). Consequently, we are not able to train as well as usual and we feel constantly tired.

The body's stores of muscle glycogen is generally only adequate for 90 minutes of hard exercise. After this time your levels of glycogen will fall rapidly and your performance will be affected. Therefore you can either slow down (not possible on the Trek) or you need to top up your blood glucose levels as you exercise, with glucose polymer sports drinks and easily digestible carbohydrate snacks. Sports drinks provide instant energy as blood sugar. They can improve endurance when taken during exercise/treks.

Traditional Classification of Carbohydrates:

1. Simple (sugars and fruits etc)

2. Complex (breads and cereals)

Classification System - Glycaemic Index (G.I.)

The Glycaemic Index is the method of assessing and classifying the blood glucose response of foods containing carbohydrates. High G.I. foods cause blood sugar levels to rise quickly after eating, so are ideal for recovery and during exercise. Low G.I. foods are better for endurance and sustained energy. Low G.I. foods should be taken before long periods of exertion, and High G.I. foods during long work-outs and for recovery.

Low G.I.	**High G.I.**
Pasta	Glucose
Multigrain bread	White and whole meal bread
Milk	Rice
Apples, peaches, plums	Processed plain cereals eg. Weet Bix
Dates, figs	Watermelon
Yoghurt	Honey
Legumes	Lucozade/Sports Drinks
Jelly Beans	

50g servings of carbohydrate

Bread	4 slices
Pasta (cooked)	1 1/4 cups
Weet-bix	4 biscuits
Scones	3 average
Banana	2 medium
Orange/Apple/Pear	3 average
Fruit Roll-up bars	2 1/2
Muesli Bars	2 1/2
Mars Bars	2 1/2
Power Bars	2 1/2
Orange Juice	600 mls
Gatorade	850mls

Protein

Protein should be eaten several times a day. Protein is required for tissue growth, repair and maintenance. However, if not used for energy any extra protein in your diet will be converted to fat. As a guide, people undertaking the full trek preparation program should consume approximately 1.5g protein per kg of body weight, eg. a 90kg man should consume about 135g protein per day.

Good sources of lower fat protein include:

- Lean red meat
- Poultry
- Fish and all seafood
- Low fat dairy foods
- Beans
- Rice, bread and cereals (to a lesser extent)

Fat

Avoid Fat. Excess fats, including oils, butter, margarine, mayonnaise, fatty meat, chicken skin, take away, deep fried potatoes, etc. are not a primary energy source, and are therefore stored as excess body fat!

You should also avoid salt (which leads to dehydration), too much fibre, and drink alcohol in moderation. In training peaks, alcohol leads to dehydration, storage of excess fat and exacerbates injury - definitely do not drink to excess after a big training day.

Sports Drinks

These are designed to replace lost fluids and carbohydrates. They can increase your time to exhaustion while exercising, however they are expensive. The best way to use them is as a fluid replacement after exercise. If you intend to use glucose polymer sports drinks such as Exceed, Endura, Gatorade, Isosports etc. do not take them as the manufacturer recommends - dilute with water instead. Sports drinks which are too concentrated, can cause gastrointestinal upsets and retard gastric emptying rate and carbohydrate absorption. As a rule drinks should contain moderate sodium levels - 230-460mg, 120-195mg of potassium and 6-8% carbohydrate per litre.

Before Training

The night before big training sessions is the crucial time for refilling your energy stores. A meal consisting mostly of carbohydrate is recommended, eg. a large serve of pasta, with smaller serves of meat. Complement your meals with bread, juices and water, and if desired finish with a fruit-based dessert. Other good foods include rice, vegetables, chicken (no skin), lean red meat, broccoli, cauliflower and mushrooms.

Carbohydrate super snacks to remember are: strawberry Quick in skim milk, crumpets with honey and jam (no butter) and dry fruit (eg. banana chips).

After Training

Recovery = Replenishment of Glycogen Stores + Rehydration of Fluids. The first 30-60 minutes after a training session are the most important for recovery. It is believed that between 50g and 100g of carbohydrate consumed during this time will promote a more rapid uptake of glucose by the muscle. This leads to a more rapid recovery, as the muscle is able to restore glycogen at a faster rate. Delaying carbohydrate intake for more than 2 hours can delay full recovery for several days.

Choose foods that are high on the Glycaemic Index for recovery. A High G.I. snack straight after exercise will give you the kick start you need to refuel your muscle energy demands. A commercial sports recovery drink containing added electrolytes may be beneficial if you cannot eat immediately after exercise. Remember: keep your energy levels up and you will train better!

Water also helps your body to replenish energy stores, so make sure you drink plenty.