ROCKY TRAIL
ENTERTAINMENT

**Rocky Trail Entertainment - How to prepare for an endurance event.**

**By Food & Nutrition Australia (www.foodnut.com.au). September 2008.**

FOOD& nutrition AUSTRALIA

Endurance exercise has it's own special nutritional needs so what you eat and drink before and during an event can make a big difference to your performance on the day. It can also be quite different to what you might eat usually! The following information has therefore been prepared by Food & Nutrition Australia to help get you on the right track when preparing for a cycling event, such as the Jetblack twenty four hours race in Sydney, developed by Rocky Trail Entertainment.

**The importance of carbohydrate**
When it comes to preparing for an endurance event such as a long cycling event, it's the amount of carbohydrate you get from food and drinks that is one of the most important considerations. That's because carbohydrate is the part of food your body prefers to use as a source of energy. How much you eat before and during the event will have a major impact on your overall performance. What you eat after the event will also make a difference to how well you recover and will affect the amount of energy you have to get up and going the next day!

**What is carbohydrate?**
Carbohydrate is found in foods as either starches or sugars.

**Starches**
Breads and cereals
Pasta, noodles, rice
Potatoes, pumpkin, corn, peas
Legumes

**Sugars**
Fruit
Table sugar
Milk, yoghurt and ice-cream
Lollies, cakes, biscuits, soft drinks
Sports drinks

Both starches and sugars are broken down in the intestine during digestion and absorbed into the bloodstream. The form of sugar found in the blood is glucose. Glucose is the most important fuel for working muscles, particularly during moderate to high intensity exercise. Exercising muscles can also use fatty acids, but significant amounts of fatty acids are only used after 2-4 hours of moderate intensity exercise. Even at this intensity, muscles are still obtaining at least 50% of their fuel needs from glucose.

**How is glucose stored in the body?**
Glucose is stored in the liver and muscles as "glycogen". It is important that the muscles and liver are provided with plenty of glucose between training and events so they can build up their glycogen stores. This means it is important to eat carbohydrate rich foods regularly throughout the day, and even on rest days. Having good glycogen stores allows you to train and perform more effectively without tiring as quickly because the muscles can draw on their glucose stores for longer. If these stores are not topped up adequately, your next training session or event will seem harder and you will tire much earlier.

**Maximising carbohydrate stores in the body prior to your event**
While you are training for your cycling event, eat a diet that is high in carbohydrate, contains adequate amounts of protein, and is low in fat. It is important to consider the fat content of carbohydrate rich foods as a diet high in fat may lead to weight gain, which could negatively affect performance. Remember to include carbohydrate rich foods that provide other nutrients as well e.g. protein, fibre, calcium and iron to ensure your carbohydrate rich diet also meets your other nutrient requirements.

**Putting it altogether**
Use the following guide regarding the types of foods and the amounts required daily to develop a high carbohydrate training diet.

| **Light Vegetables – for antioxidants that help repair muscles.**<br><br>**Choose at least 5 serves daily.** | **Grains and starchy vegetables – for carbohydrates needed for energy and fibre for healthy digestion.**<br><br>**Choose at least 4 serves daily.** |
|---|---|
| *One serve equals:*<br><br>½ cup cooked vegetables (broccoli, carrots, mushrooms, green beans, capsicum, eggplant) or 1 cup salad (lettuce, tomato, cucumber and celery) | *One serve equals:*<br><br>2 regular slices bread or 1 medium bread roll or 1 cup flaky cereal or 3 wheat-cereal biscuits or ½ cup untoasted muesli or 1/3 cup dry rolled oats or 1 small breakfast cereal bar or 2/3 cup cooked rice, ¾ cup cooked pasta or noodles or 4 large crisp biscuits (e.g. Ryvita) or 6 small crisp biscuits (e.g. Vita Weat)<br><br>1 cup sweet potato or 1 large corn-on-the-cob or ¾ cup corn kernels or1 large potato |
| **Fruit - for carbohydrates needed for energy, fibre for healthy digestion and antioxidants that help muscle repair.**<br><br>**Choose at least 3 serves daily.** | **Dairy and alternatives – milk and yoghurt contain carbohydrate for energy. All choices provide protein for muscle growth and repair and calcium for bone strength.**<br><br>**Choose at least 2 serves daily. *Preferable choices are milk and yoghurt for extra carbohydrate.*** |
| *One serve equals:*<br><br>1 medium apple, pear, banana, orange or 2 cups berries or 1 cup fresh fruit salad or ¾ cup grapes or 4 small plums or apricots or 10 tinned apricot halves or 12 dried apricot halves or 2 cups diced watermelon or 4 rings of tinned pineapple or 5 prunes or 2 tablespoons raisins, currants or sultanas or 200ml fruit juice | *One serve equals:*<br><br>250ml skim/non fat milk or 250ml calcium enriched soy milk or 30g reduced fat cheese or ½ tub (100g) low fat fruit yoghurt or 1 tub (200g) low fat natural yoghurt or 1 tub (200g) diet yoghurt or 3 level scoops of low fat ice cream |

| | |
|---|---|
| **Meat and alternatives – provide protein for muscle growth and repair. Also provide iron needed for energy release.**<br>***Choose at least 2 serves daily. Ensure lean/low fat choices are made.*** | **Healthy fats – provide vitamin E which is an antioxidant for protection of cells.**<br>***Choose at least 2 serves daily.*** |
| 120g raw lean meat (beef or pork) or 1 large trim lamb chop or ½ cup lean cooked mince or 2 slices of deli meat or 100g raw lean chicken, skin removed (eg. ½ chicken breast) or 2 eggs or 125g raw fish or 100g tinned fish or ¾ cup baked beans in tomato sauce or 3/4 cup canned drained legumes or 120g hard tofu/tempeh | 3 tsp poly/monounsaturated margarine or 2 tsp oil or 2 tblsp avocado or 10 nuts (10-15g) (unsalted and raw or dry roasted) or ½ tblp peanut butter or 5 tsp pumpkin seeds, sesame seeds or mixed seeds |
| **Extras – provide extra kilojoules. Some provide carbohydrate which will be used for energy.**<br>***Enjoy occasionally.*** | **Fluids – needed for energy and hydration.**<br>***Drink at least 8 glasses daily – more in warmer weather and when exercising.*** |
| 3 level scoops regular ice cream or 4 plain sweet biscuits or 2 chocolate-topped biscuits or 25g packet of potato crisps or 1 row (5 squares) milk chocolate or 40g slice of cake or 300ml regular soft drink or 2 tablespoons non-whipped cream or 50g packet jelly beans or 12 hot chips (½ bucket). | Plain water, mineral water, soda water (squeeze lemon or lime for extra flavour), herbal, fruit, green and black tea. |

*Note: your individual needs are best determined by an Accredited Practising Dietitian/Sports Dietitian. The above provides a guide only and individuals may require more or less depending on their particular needs and goals.*

**Example High Carbohydrate/Low Fat Meal Plan Leading into an Endurance Cycling Event**

| | |
|---|---|
| Breakfast | Wholegrain toast + thin spread polyunsaturated margarine/other spread OR bowl of wholegrain flaky cereal with skim milk PLUS small glass fresh juice or whole piece of fruit |
| Mid-morning | 2 pieces of fruit or 200g low fat fruit flavoured yoghurt |
| Lunch | One grainy roll/thick bread sandwich + tuna/egg/salmon/chicken/lean red meat + plenty salad + spread of mayo or avocado OR<br><br>Salad with tuna/egg/salmon/chicken/legumes + bread roll on the side or include rice or pasta in the salad |
| Afternoon | Handful of nuts (raw or dry roasted)<br><br>PLUS skim coffee OR low fat flavoured milk/smoothie or yoghurt |
| Dinner | Chicken/lean red meat/fish/legumes/tofu (1/4 of plate) + plenty of vegetables (1/2 of plate) + potato/rice/noodles/pasta/corn (1/4 of plate) + small amount of oil in cooking or as a dressing<br>Example meals:<br>Grilled steak with vegetables and a baked potato<br>Stir fry chicken with vegetables and noodles<br>Curry made with tofu and vegetables, served with rice<br>Kidney beans with cous cous and a side salad<br>BBQ fish with green salad and sweet potato |
| Supper | Fruit and low fat ice-cream/custard/yoghurt |

**Pre-event meal**

On the day of your event, it's important to top up your carbohydrate stores with a high carbohydrate, low fat meal 2-4 hours before your event. This will help further to provide the fuel needed by the body during your event.

Good choices include:

- Spaghetti or baked beans (1 cup) + 2 slices toast
- Toast (2 slices) with honey/jam + fruit juice (1 glass)
- Steamed Rice (1.5cups) with soy sauce +/- stir-fried vegetables
- Corn or rice cakes with jam or honey
- Bowl of breakfast cereal with skim milk and a fruit snack pack

If you find fibre rich foods result in gastro-intestinal problems, choose lower fibre foods such as white bread, corn or rice crackers, fruit juice and white rice.

It's also a good idea to drink 400-600ml of fluid from here on until your event commences.

**During exercise**

If your event is less than an hour, the main concern will be to ensure your fluid intake is adequate. For short duration events, plain water is fine and aim to drink 150-250ml every 15 minutes of exercise.

If your cycle lasts longer that 60 minutes you will need to top up your carbohydrate stores during the event to prevent 'hitting the wall". Aim to consume 1g carbohydrate per kilogram body weight for every hour of exercise. This means if you weigh 70kg you'll need 70g carbohydrate per hour. This is ideal however not always achievable so ensure you practice your nutrition strategies during training to get it right for your event. Some people may more or less for optimal performance. Sports drinks can be a good choice during exercise as they provide carbohydrate and minerals lost in sweat, as well as assisting to keep your fluid intake up.

As a guide, aim to drink 150-250ml of sports drink every 15 minutes during your ride if it lasts longer than one hour.

A typical sports drink provides 7g carbohydrate per 100ml. This means around 1 litre per hour will provide sufficient fluid as well as an adequate amount of carbohydrate. If this is too much, you may like to try foods such as bananas (20-25g carbohydrate), muesli or cereal bars (15-25g carbohydrate), some sports bars (15-25g carbohydrate) or carbohydrate sports gels ( 25g carbohydrate for each sachet).

**After exercise**

After your ride, a recovery meal containing both carbohydrate and protein will help replenish glucose stores for the next session and also provide the protein needed to repair any damage that occurred in the muscles. It's also important to replace fluid lost through sweating. Include some fruit and veg will also provide antioxidants needed for optimal muscle recovery and repair. Examples of suitable meals/snacks include:

- a tuna or egg and salad sandwich
- fruit flavoured yoghurt
- a nut muesli bar with a piece of fresh fruit
- stir fried chicken with rice and vegetables
- smoothie made with low fat milk and a banana/other fruit

Enjoy your recovery meal with a large bottle of water, sports drink or even a soft drink which helps with fluid and carbohydrate replenishment!

**A Note on Fluids**

Remember to drink plenty of fluid daily (at least 2 litres or 8 cups) and more during exercise. When exercising, drink at a rate that's comfortable for you and replace all of the fluid lost through sweat. Plain water is suitable for short duration, low intensity events while sports drinks are useful for long duration, higher intensity events.

For further information and a tailored plan to suit your exercise and training goals, make an appointment with a sports dietitian at Food & Nutrition Australia. Click here for further information www.foodnut.com.au.