SNACKS FOR COMPETITION AND AFTER TRAINING

Rolls/Pitta bread

Muesli bars and dried fruit bars

Popcorn

Fresh/dried/canned fruit

Rusks or dried cereal

Currant buns/Tea cakes/Malt loaf/Raisin bread/Fruit cake

Oasters/Twiglets/Tortilla chips

Sesame snacks/sticks

Plain type biscuits e.g. Rich tea/Digestive/Garribaldi/Fig rolls

Pop Tarts

Jelly cubes

Scones/Muffins/Brioche/Crumpets

Bowl cereal

Toast

Carton low fat rice pudding

Low fat fruit yogurts

Crispbreads/rice cakes/crackers

Slice of pizza (thick base)

Bread pudding/Cheese bins/Scotch pancakes

Drinks – Juices/Squashes/Commercial carbohydrate drinks

THE GOOD CARBOHYDRATE FOOD GUIDE

- **Breakfast cereals – try to include some wholegrain varieties, e.g. shredded wheat, weetabix, branflakes, muesli, porridge, allbran etc.**
- **Bread – All types (include some whole wheat), pitta bread, muffins, crumpets, bagels, naan, chappatis, raisin bread, malt loaf, fruit loaf**
- **Crispbreads, water biscuits, oatcakes and rice cakes**
- **Pasta, rice and noodles – try to include some whole wheat varieties**
- **Potatoes and potato products**
- **Pizza bases – try to watch what you have on top. Lower fat toppings include ham and pineapple, vegetarian and mushroom, ham and tomato**
- **Sweetcorn and popcorn**
- **Beans (e.g. baked, green, kidney, aduki and butter beans)**
- **Peas and chickpeas**
- **Lentils and pearl barley**
- **Root vegetables (carrots, parsnips, swedes, etc.)**
- **Twiglets, sesame sticks, Japanese rice crackers**
- **Fruit**
- **Chocolate confectionery and cereal bars**
- **Sugar confectionery (jelly beans, jelly babies, boiled sweets, liquorice allsorts)**
- **Jam, marmalade, honey and fruit spreads**
- **Biscuits – the 'plain' varieties contain less fat**
- **Pop tarts**
- **Buns – currant, tea cakes, scones and other 'plain' buns**
- **Cakes – fruit cake, gingerbread, parkin, rock cakes and other 'plain' cakes**
- **Puddings – e.g. fruit crumble, bread pudding, rice pudding, jelly and custard, banana custard**
- **Fruit yogurts**
- **Sweetened soft drinks and fruit juices**
- **Sugar added to food**
- **Commercial carbohydrate drinks, e.g. Lucozade Sport, Gatorade, Isostar**
- **Glucose Polymers, e.g. High Five, Maxim, PSP22**

MEALS BASED AROUND:

- **Pasta**
- **Rice**
- **Noodles**
- **Pizza**
- **Potatoes**
- **Beans, corn and pulses**
- **Breads**

PUDDINGS

Lower fat:	More fat (but high in carbohydrate):
Yoghurts and fruit	Fruit tart/pie
Stewed fruit	Trifle
Baked fruit	Fruit crumble
Yoghurt and ice cream	Bread and butter pudding
Sorbet	Bread pudding
Rice pudding	Treacle tart/sponge
Pancakes with syrup/sugar	Banana split
Jelly and fruit	Sponge puddings
Banana custard	

OTHER THINGS TO REMEMBER

Milk is an excellent food because it is a good source of vitamins, minerals and protein. Try to drink a pint or more a day. Drink the milk, have it as a milkshake or put it on cereals. You could also have milk as part of a pudding e.g. rice pudding, custard or milky drinks such as hot chocolate.

If you do not drink milk then try to eat some cheese and plenty of yoghurts to make up the nutrients.

Do not forget to eat lots of fruits and vegetables!! If you get bored of fresh fruit try tinned or dried fruit. Frozen or tinned vegetables (including baked beans) are an alternative to fresh vegetables.

Many people eat too much fat and not enough carbohydrate. At your age it is not necessary to drastically reduce the fat in your diet but keep an eye on your fat intake by:

- Not putting too much butter/margarine on your bread etc.
- Not eating chips and roast potatoes all of the time!! Try to have baked, boiled and mashed potatoes sometimes or try oven or microwave chips (they contain less fat).
- Fill up on the carbohydrate rich foods and do not cover your plate with fatty meats and creamy sauces. Make these the smaller part of the meal.
- Higher fat snacks include crisps and chocolate. These are fine if you eat them (as with everything) in MODERATION. (They will also give you a good source of carbohydrate). Try some of the other snacks off the list for a change.
- VARIETY is the key to a good diet. Try to eat lots of different foods and try new foods whenever you can

ALWAYS CARRY SOME FOOD AND DRINK IN YOUR KIT BAG

NUTRITION – WE ARE WHAT WE EAT

Coaches and athletes are becoming more and more aware of the importance of our diet as a contributory factor to bodily health and athletic performance. Researchers tell us that carbohydrates and fluids are two factors which can considerably influence your performance as athletes.

Based on modern nutritional data, it is recommended that diets of senior swimmers should contain the following percentages of the three basic food stuffs.

Carbohydrates 70 – 75% of daily calorific intake
Fats 10 – 15% of daily calorific intake
Protein 15 – 20% of daily calorific intake

The estimated calorific intake for swimmers in training is:

	BOYS	GIRLS	
10 & Under	**2,800 – 3,000**	**2,800 – 3,000**	**assuming 1 hours training per day**
11 – 12	**3,600 – 4,200**	**3,200 – 3,800**	**assuming 2 hours training per day**
13 – 14	**4,800 – 5,500**	**4,000 – 5,000**	**assuming 4 hours training per day**
15 – 18	**5,000 – 6,000**	**4,100 – 4,800**	**assuming 4 hours training per day**
18 – 25	**5,000 – 6,000**	**4,100 – 4,800**	**assuming 4 hours training per day**

Carbohydrates are stored in the form of glycogen in the muscle cells and the liver. In all swimming races, with the possible exception of the 1500m, the demand for energy is so rapid that it must be met by the breakdown of glycogen in muscular cells. Liver glycogen and fats contribute very little to energy production during competition. During long training sessions, stored fat becomes an increasingly greater contributor. This has the effect of reducing muscle glycogen depletion and making it possible to train at fairly intense levels from day to day. The fact that large amounts of fats are burned for energy in training does not mean that the athlete's diet must have a high fat content. There will usually be enough fats in the average diet to meet all needs.

There is evidence that athletes in hard training may accomplish more work on diets that contain 70-75% carbohydrates because a high carbohydrate level will allow them to replace the energy supply in their muscles more rapidly from day to day. 60-70% of the glycogen stored in muscles can be depleted by 15 minutes of intense training. Once depleted, 48 hours is needed to replenish glycogen supplies on a diet containing less that 50% carbohydrates. Failure to replace glycogen can lead to chronic fatigue with performance and motivation for training deteriorating. A diet with 70-75% carbohydrate can replenish supplies within 24 hours.

Parents should note that if muscle glycogen is depleted swimmers physically cannot perform well. Therefore, you should be wary of being over critical of swimmers who do not produce fast effort swims in consecutive training sessions. They may be physically incapable of doing so. The knowledgeable coach understands this and manipulates the various training techniques so as not to place heavy demands on the same muscle fibres and energy systems day after day.

Carbohydrates are available from foods that contain sugars and starches.
Some of these are listed below (taken from Maglischo 1982)

Sugar forms

Cakes, Sweets, Chocolate, Syrup, Biscuits, Honey, Milkshakes, Pies and Puddings

STARCH FORMS	
Beans green or red	**Milk**
Bread and rolls	**Noodles**
Cereal	**Pancakes**
Peas	**Potatoes**
Chilli	**Poultry**
Chop Suey	**Rhubarb**
Corn	**Rice**
Fruits	**Spaghetti**
Leafy vegetables	**Waffles**
Lentils	**Macaroni**
Pasta	**Pizza**

Athletes are advised to seek carbohydrate from starch sources rather than sugar. The body can use starch or sugar for glycogen replenishment with ease but sugar forms provide almost no nutrients except carbohydrate. Where as with starches you receive an additional bonus of several vitamins and minerals. With starch as your primary energy source, a higher work rate can be maintained for a longer period, symptoms of hunger are reduced and replacement of liver and muscle glycogen proceeds at a faster rate. Another possible problem that may result from a high sugar intake is a vitamin deficiency. There are indications that sugar metabolism requires large amounts of vitamin B, (Krause and Hunscher 1972). Therefore swimmers who consume large quantities of sweets and other junk foods may find themselves deficient in one of the vitamins that play an important part in energy metabolism during exercise.

Fluids

The importance of fluids can be seen by the fact that some researchers believe that a loss of as little as 2% of body fluid can measurably reduce athletic performance. Work increases body heat which accelerates the perspiration rate. This in turn causes dehydration which can result in heat cramps. (Swimmers who suffer from cramp in training should try taking extra fluid).

Dehydration is not as serious a problem among swimmers as other athletes because of the cooling effect of the water but nevertheless swimmers do perspire in training and lose more fluid than the average person. The average daily intake of fluid is 1½ - 2½ litres. The recommended intake for swimmers in training is 4-8 litres daily: because most foods contain considerable amounts of fluid, much of this amount will be obtained from eating solid food. Perhaps half the required quantity will be consumed in this way. The remaining amount can be provided by drinking 6-10 glasses of liquid such as water, juices and milk per day.

Two points to note:

1. Fluid loss at competitions may be very insignificant to swimmers performance because of the difficulties of obtaining sufficient to drink when away at a competition. I strongly recommend swimmers to take fluids with them to competitions to maintain the daily intake recommended above.

2. The fluid needs cannot be supplied by drinks such as coffee and alcohol. The caffeine in coffee and alcohol will cause the body to lose fluid and therefore cause dehydration.