

Nutrition for Sport

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Why is Nutrition important for swimmers?

- Sports People:
 - Use more energy (source of fuel for the body)
 - Strain muscles, joints, bones (tiny muscle fibres get damaged training).
 - Lose more water.
- Good nutrition provides energy, helps maintain optimum performance, prevents injury & aids recovery.

Use the Food Pyramid to plan your healthy food choices every day and watch your portion size

Choose **very small** amounts

Fats, High Fat/Sugar Snacks, Foods and Drinks

Use sparingly – choose fats high in monounsaturates or polyunsaturates. Limit fried foods to 1-2 times a week. Only have small amounts of high fat/sugar snacks and drinks and not too often.



Choose any **2**

Meat, Fish, Eggs & Alternatives

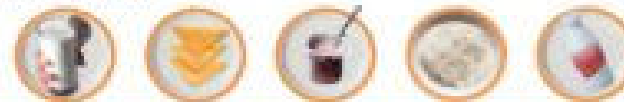
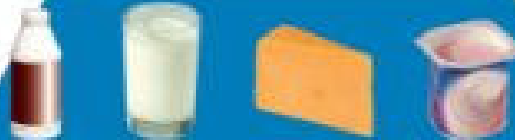
Choose lean cuts of meats. Eat oily fish.



Choose any **3**

Milk, Cheese & Yogurt

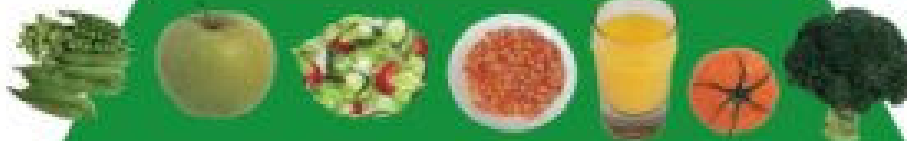
Choose low fat varieties.



Choose any **5**

Fruit & Vegetables

Choose green leafy vegetables and citrus fruit frequently. Fruit juice only counts for one serving, each day.



Choose any **6+**

Bread, Cereals & Potatoes

Eat these foods at each meal – high fibre is best.



Drink water regularly - at least **8** cups a day

FOLIC ACID - AN ESSENTIAL INGREDIENT IN MAKING A BABY. YOU CAN GET IT FROM MANY VEGETABLES BUT IF THERE IS ANY POSSIBILITY THAT YOU COULD BECOME PREGNANT THEN YOU SHOULD BE TAKING A FOLIC ACID TABLET (400 MICROGRAMS PER DAY).

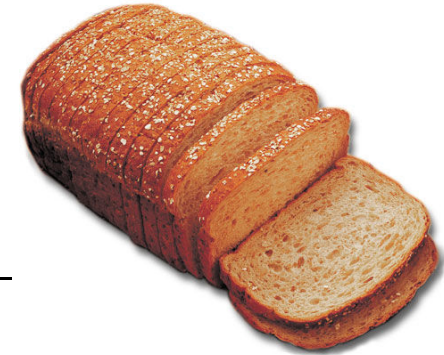
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Carbohydrate – The mainstay of a swimmer's diet

- Chains of glucose (sugar units)
- Simple chain = sugars
- More complex chains = starch
- Carbohydrate is stored as glycogen
- Glycogen is broken down to glucose to provide energy
- Inadequate glycogen stores leads to poor performance and tiredness.

Carbohydrate Foods



- **(a) STARCH**

- Bread
- Potatoes
- Breakfast cereals
- Rice
- Pasta
- Noodles
- Scones
- Crackers
- Popcorn

- **(b) SUGAR**

- Sugar
- Glucose
- Jam
- Honey
- Sweets
- Biscuits
- Jelly
- Soft drinks
- Cereal bars



How to increase your carbohydrate intake

- Base every meal around a carbohydrate rich food e.g. Pasta, potatoes
- Consume a high carbohydrate snack between meals e.g. Cereal bar, dried fruit
- Add fresh or dried fruit to breakfast cereals
- Add potatoes to soups and salads
- Use thicker slices of bread



Protein

- Protein is necessary for growth, maintenance and repair of body tissue.
- Athletes need slightly higher requirements than non athletes
- BUT a varied, balanced diet should provide all the protein you need
- NO need for specialised protein shakes/bars/supplements

Good Protein Sources

- Lean red meat
- Low fat yoghurt
- Chicken/turkey
- Pulses (beans, peas, lentils)
- Eggs
- Nuts
- Milk



Vitamins and Minerals



- Provide no energy but are needed to enable the body to perform efficiently and effectively
- Especially iron, calcium, vitamin D

IRON	CALCIUM	VITAMIN D
Lean meat	Milk	Sunshine
Fortified cereals	Cheese	Oily fish
Eggs	Yoghurt	Fortified cereals
Chicken, Fish	Green Veg	
Green Vegetables	Nuts	

Fats



- Small amounts only
- Excessive intakes lead to lower carbohydrate intakes
- Excessive intakes can lead to excess weight gain
- Much slower to digest
- Avoid high intakes of: pastries, chocolates, fat foods, fried foods

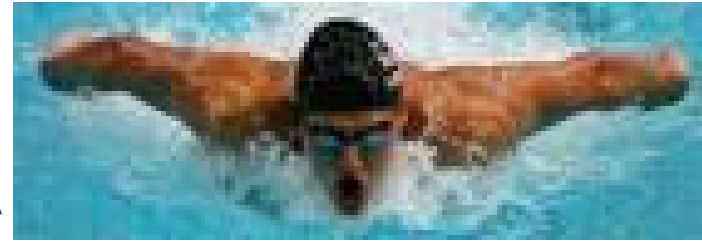


Putting it all into practice....

What should I eat before a gala?

- Its what you eat 1-2 days before that counts
- Increase portion sizes slightly, especially carbohydrate (e.g. Potatoes, pasta, rice, breakfast cereal)
- Increase fluids (will discuss later)
- Balanced diet, remember food pyramid!
- Get plenty of sleep!

On the day of Gala



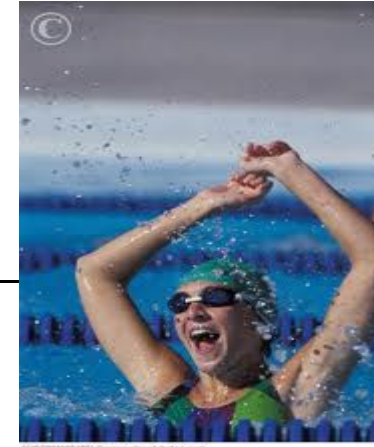
- Eat your breakfast before you leave!
- Less than one hour before the race: just fluid replacement (see later)
- More than one hour before the race: eat small snack (see next slide)
- Eat little and often during the day to keep energy levels up
- Take your own food with you ideally
- Avoid high fat foods as they take too long to digest.



Snacks to have between races (more than 1hour breaks)

- Bananas and other fruits
- Small sandwich/bagel with a light filling (e.g. banana sandwich or jam sandwich)
- Hot cross bun or raisin bread
- Rice cakes (a little honey or jam)
- Fruit scone
- Plain crackers with jam
- Digestive biscuits/ rich tea/ jaffa cakes/ fig rolls (don't eat the whole packet!!)

After the Gala



- Fluids...fluids...(see later)
- You need to replenish your glycogen stores
- Include a high carbohydrate snack which contains a small amount of protein within 2hours (see next slide)
- Perhaps have small snack on bus home and have your dinner when you get home
- Try a bowl of cereal if too tired to eat



Foods after exercise

- Sandwich (ham/turkey/tuna etc)
- Yogurt drink and jaffa cakes
- Low fat yogurt and fruit
- Dinner based on starchy carbohydrate food e.g. Spaghetti bolognaise, chicken and rice dish etc



After Intensive Training (e.g. 16hrs training in 4days!)

- “Rest and Replenish” are the golden rules!
- After a hard session glycogen stores will be depleted. It can take up to 20hrs to replace glycogen stores
- Eat a snack with carbohydrate and protein immediately after session
- Follow food pyramid (with extra carbohydrate)

Fluids



- Body fluid is lost during swimming.
- Need to drink approx 125mls fluid per 1km swim (40lengths of 25m pool)
- Avoid high energy drinks before exercise as they are too slow to absorb.
- Drinks that provide fluid & small amounts of sugar (isotonic) are well absorbed by the body.



Different Types of Fluids

- **Isotonic:** Absorbed as quickly as water and provide a boost of carbohydrate for the working muscle. Can be taken **before & after** exercise.
- **e.g.** Lucozade Sport, Powerade, Gatorade or make your own
- **Hypotonic:** contain less carbohydrate but are still useful in providing fluid to the body. Drink before & after exercise e.g. Lucozade low calorie.
- **Hypertonic:** These fluids should only be used **after** a swim to help refuel the muscles carbohydrate (glycogen) stores e.g. Lucozade NRG or make your own



Make your own sports drink

Ingredient	Hypotonic	Isotonic	Hypertonic
Glucose	20g	50g	100g
Warm water	1litre	1litre	1litre
Salt	pinch	pinch	pinch
Unsweetened fruit juice	250ml	500ml	1litre
Water	750ml	500ml	-
Salt	pinch	pinch	pinch
Orange squash	100mls	200mls	400mls
Water	1litre	1litre	1litre
Salt	pinch	pinch	pinch

Example of fluid regimen



AVOID CARBONATED (FIZZY) DRINKS e.g. coke

Before exercise	During	After exercise
Water or	Water or	Sports Drinks or
Squash or	Squash	Water AND fruit/ cereal bar or
Fruit juice (1-2hrs before)		Fruit juice

What should you drink?

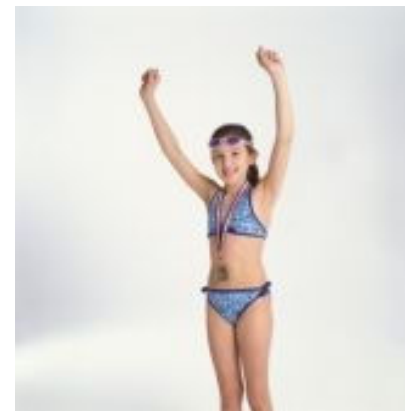
- Drink plenty of water everyday (urine should be “clear & copious”).
- Don't wait to become thirsty.
- Drink water or diluted squash before training.
- Bring a water bottle to training or competitions filled with water or dilute squash.
- A high energy drink may be taken **AFTER** training or competitions (or water with a carbohydrate food).



Summary



- Variety of foods to give you all the nutrients you need.
- High carbohydrate for energy.
- Plenty of fluids.
- Be sure to have your drinks and food ready before & after exercise.
- Avoid alcohol & smoking.
- Enough sleep.
- **GOOD LUCK!**



Now what do you think about the foods you picked?

