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Nutrition for sport and marathon running

Dr Alison M Gallagher

Walled City Marathon Q&A Session
Venue: AN CULTÚRLANN

Overview

- **Importance of sports nutrition for training**
  - Where do I get my energy
  - Are their nutrients I need to pay attention to?
  - What about fluid ?
  - Sports products ?
- **The run up to the marathon ?**
  - week before
  - night before
  - morning of….
- **Key nutrition messages ?**

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‘Diet significantly influences athletic performance. An adequate diet in terms of quantity and quality, before, during and after training and competition will maximise performance’

IOC Consensus Statement, Lausanne, 2011

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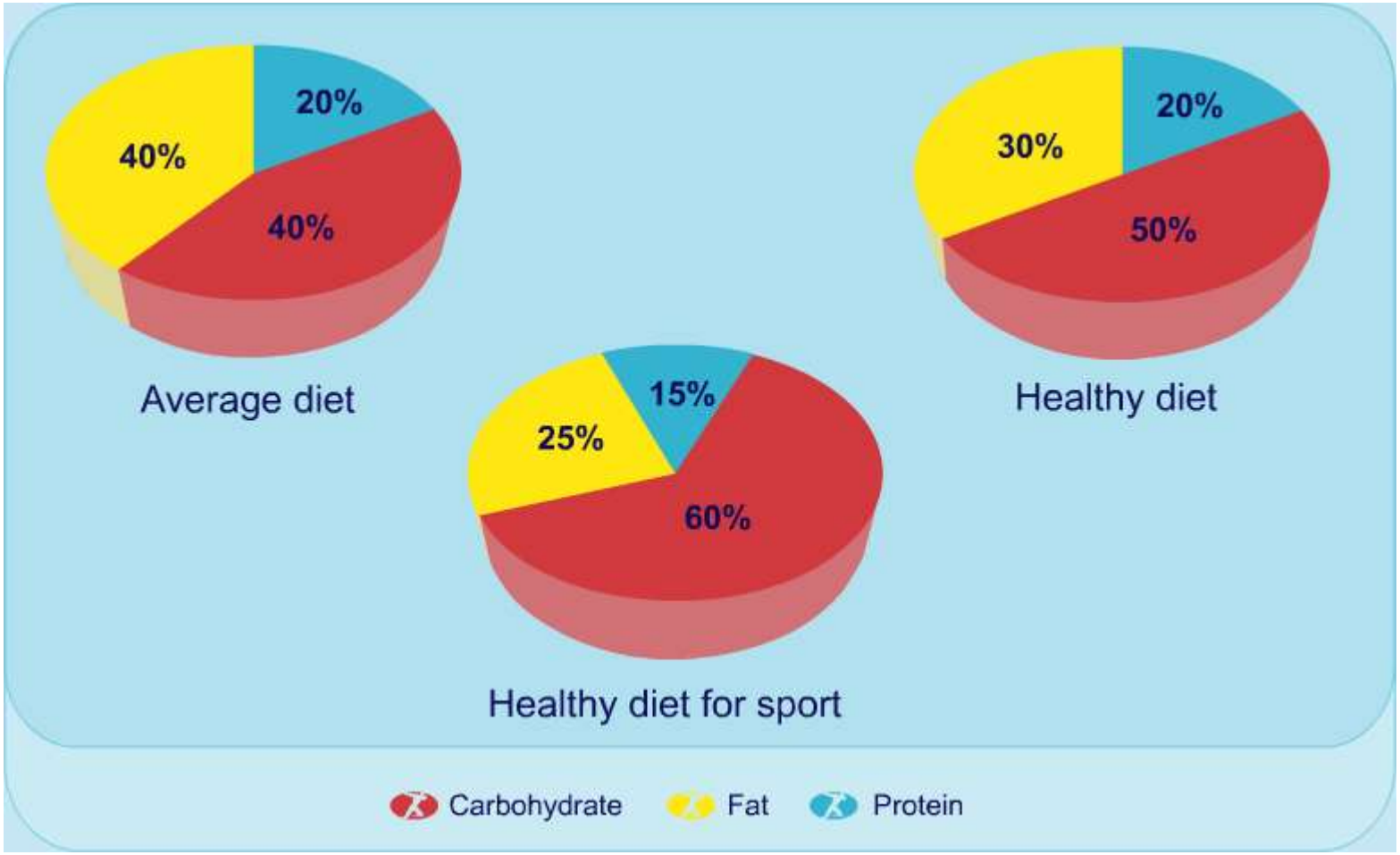
Aims of Sports Nutrition

- Improve performance
- Decrease recovery time from strenuous events
- Prevent exercise injuries due to fatigue
- Provide the fuel required during high intensity exercise for training and competing
- Control weight

Diets for sports persons ?



% of total energy intake

LSSA, 2009

How much energy?

- Sedentary females require ~ 2000kcal per day
- Sedentary males require ~ 2500kcal per day
- Sports persons require ~ 2300-6000kcal/day depending on the level and duration of intensity.

It is important to make sure your energy intake is high enough to maintain your performance during training.

Energy from food

- Carbohydrates (e.g. pasta) 4 kcal/g
- Protein (e.g. meat) 4 kcal/g
- Fat (e.g. butter/margarine) 9 kcal/g
- Alcohol (e.g. wine/beer) 7 kcal/g

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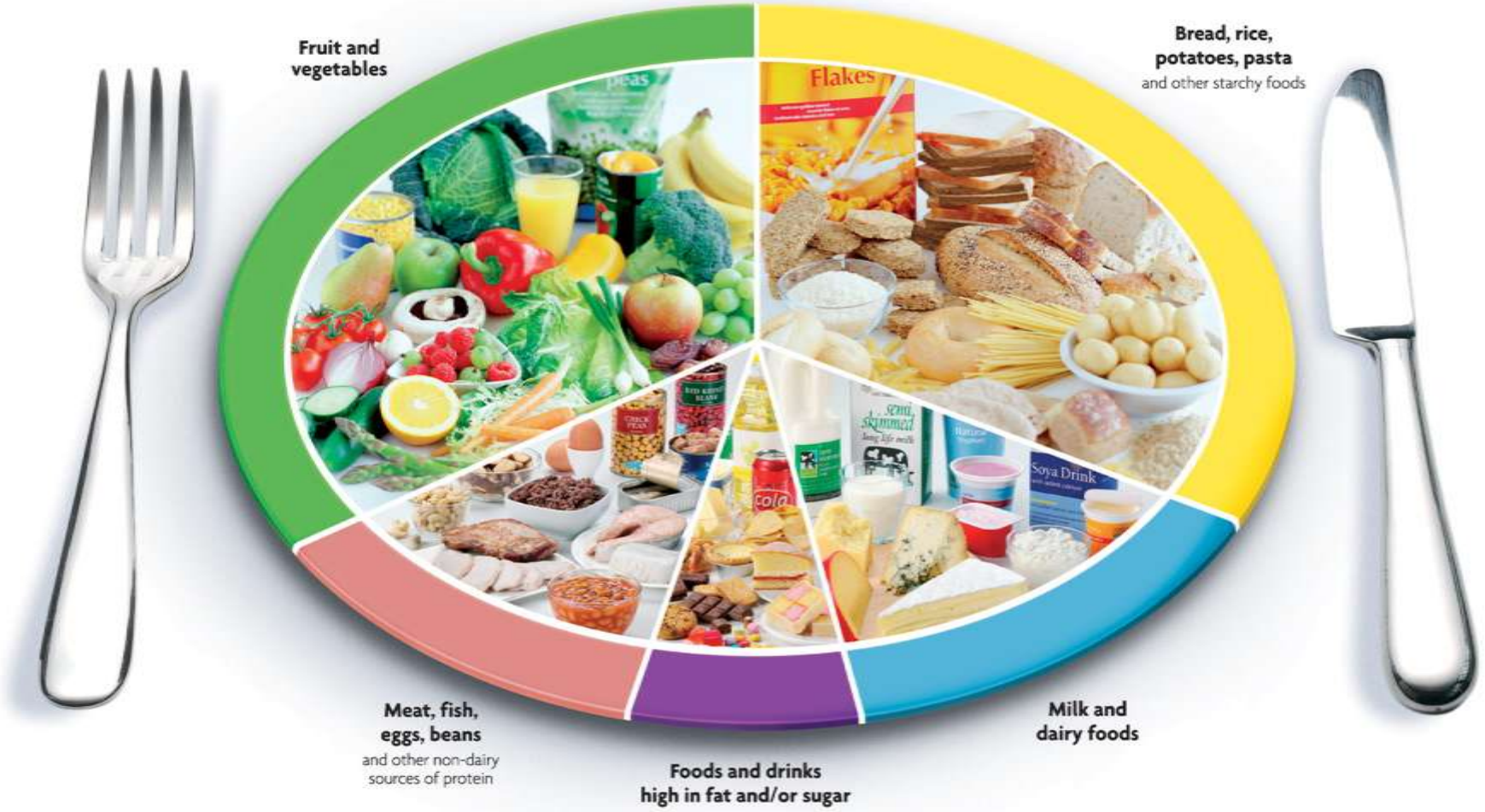
The eatwell plate

FOOD STANDARDS AGENCY
food.gov.uk

Use the eatwell plate to help you get the balance right. It shows how much of what you eat should come from each food group.



Department of Health in association with the Welsh Assembly Government, the Scottish Government and the Food Standards Agency in Northern Ireland.

Food energy and nutrients

- Carbohydrate *
- Protein
- Fat
- Vitamins and minerals....

- Fluid *

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Carbohydrate

- Body's main source of fuel.
- Need to get carbohydrate strategy right
  - 'Top up' glycogen stores before exercise
  - Provide enough energy to sustain exercise
  - Prevent fatigue
- Improve performance & recovery after exercise

Carbohydrate-rich breakfast suggestions

- Porridge with honey or golden syrup
- Warm rolls or muffins with sliced banana, honey, marmite, jam, peanut butter
- Poached egg on thick sliced wholemeal toast
- Muesli or breakfast cereal with semi-skimmed milk and sliced fresh fruits
- Fruit Juice
- Grilled tomatoes with thick sliced wholemeal toast
- Baked beans/scrambled eggs on toast with mushrooms
- Pancakes with maple syrup

Try making your own fruit smoothie with fresh fruit of your choice, milk and low fat yoghurt

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Carbohydrate-rich lunch suggestions

- Sandwiches: thick white bread
- Lean meat: tuna, ham, chicken & beef
- Salad fillings: lettuce, tomato, cucumber, onion, peppers, pineapple, cottage cheese & grapes, egg & onion
- Pasta/rice salad with added vegetables sweetcorn/peppers/mushrooms/courgette
- Avoid creamy sauces/mayonnaise
- Baked potatoes with beans/cheese/tuna/cheese/pepper
- Instant soups/noodles/couscous ‘just add water to’

Carbohydrate-rich main meal suggestions

- Deep pan pizza (thick crust)
- Rice with low fat meat sauce
- Pasta with tomato or meat sauce
- Stir fry with your choice of meat and lots of vegetables
- Baked/poached fish with jacket potatoes and vegetables
- Roast chicken with jacket potato and steamed vegetables
- Macaroni cheese

Post exercise it is important to have a carbohydrate snack followed up by a carbohydrate rich main meal as soon as possible (preferably within 1-2 hours)

Carbohydrate-rich snack suggestions

- Multigrain cereal bars
- Fresh fruit, dried fruit and nuts
- Bananas
- Low fat crisps
- Cereal with semi skimmed milk
- Scones and muffins
- Fruit yoghurt or flavoured milk drink
- Toast with low fat spread and jam
- Fruit squash, fruit juice or sports drink
- Jellybeans/jelly babies/chewy sweets

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Protein

- Body uses dietary protein for growth and repair of tissues
- Important if you suffer from strain/injury during training
- Aim to repair/prevent muscle damage which can be a feature of overtraining

Important to incorporate good sources of protein into diet along with carbohydrate

Good sources of protein

- Tuna, turkey, fish, eggs, lean red meat
- Cottage cheese, low fat yoghurt, cheese, skimmed milk
- Peanuts, baked beans, wholemeal bread, tofu, almonds, chick peas, lentils

Avoid/reduce sources of protein that are high in fat !

Protein and recovery

Some evidence that the combination of carbohydrate and protein helps to replenish the body's carbohydrate stores more effectively and prepares you for your next workout.

Try and include protein in your post exercise meal.

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Vitamins and Minerals

Vitamins and minerals are essential micronutrients found in small amounts in a wide variety of foods which help keep you fit and healthy.

How do I make sure I have all the vitamins and minerals I need?

The best way is to eat a healthy balanced diet aiming to eat 5 or more portions of fruit and veg. per day (1 portion 80-100g)

Hydration strategy

Pre exercise:

- Fully hydrate (400-600mls fluid) 2 hours prior to exercise
- Use pee charts for urine analysis
- Need to practice hydration strategy to avoid GI disturbances/ feeling bloated / heavy

During exercise:

- Replace fluid losses incurred by sweating
- If possible provide a source of CHO to supplement limited stores sustaining exercise (sports drinks)
- 150-250mls every 15-20 mins can be a challenge !
- Preparation is key
- Weather is a crucial factor

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Hydration strategy

Post exercise:

- Aim is to replace potassium, sodium and fluid lost through sweat
- Top up glycogen stores ready for next session making use of ‘1-2 hour window’
- Aim is to fully rehydrate
- Avoid alcohol as this will further dehydrate

Sports products

Should you use sports drinks powders/bars/gels to provide extra energy during training and on race day ?

- How do they work ?
- Possible advantages ?

Sports products

Carbohydrate Gel and Bars

- Gels and bars a concentrated source of easily digested carbohydrate.
- Useful for topping up glycogen levels before, during and after exercise when it may be difficult to eat large amounts of food. Easy to carry.
- Follow instructions, TEST USE DURING TRAINING

Sport Powders

- A powder which, when made up as directed makes An isotonic drink. To quench thirst, help replace lost fluid and energy and quickly put the body back into balance.

Sports products

Sports Drinks

Designed to tackle both fluid and energy loss by providing:-

- Fuel in the form of carbohydrate
- Fluid to replace what is lost as sweat and help prevent dehydration
- Electrolytes, especially sodium to enhance fluid absorption into the bloodstream and help maintain hydration
- Can be consumed before, during and after exercise helping to rehydrate and ‘top up’ for next training session / race
- Make use of drink stations along the way as per training, don't make any dramatic changes on the day of marathon as this may have side effects

Sports products

Sports Drinks - Correct use of them....

- Aim to drink around 200 - 500ml shortly before exercise. This will ensure you start your exercise well hydrated and your energy stores are given a last minute top up.
- During exercise drink 125–150ml every 15-20 minutes. This replaces fluid lost as sweat as well as delivering a boost of carbohydrate energy to the working muscles.
- After exercise drink at least 500ml to ensure that you are fully rehydrated.

- Lost fluids and depleted energy stores are more effectively replenished in the 1st two hours after sport, speeding recovery ready for your next match / training session

Word of caution

For good dental health:

- Drink quickly and avoid sipping slowly
- Don’t ‘hold’ or ‘swish’ drinks around your mouth
- Brush teeth twice a day using fluoride toothpaste
- Visit your dentist regularly

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Nutritional strategies for marathon training

3-4 days before marathon

- Increase carbohydrate content of the diet
- Taper training
- Carbohydrate rich breakfast/lunch/dinner/snacks
- Increase carbohydrate intake to top up glycogen stores

Nutritional strategies for marathon training

Day before the marathon

- Eat a larger meal earlier in the day and a lighter snack in the evening or whatever you normally do before your long runs, put your training into practice !

Day of the marathon (breakfast)

- Low fat, low protein, high carbohydrate is desirable
- Avoid high fibre foods as this can cause stomach upset
- Nervous? Opt for an energy drink or even a meal replacement

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The race

- Make full use of water/nutrition stations as per practice runs!!

- Afterwards, allow yourself time to rest and rehydrate

Good luck !

Thank you for listening!
Any questions?

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