



LOUGHBOROUGH
SPORT

INTRO TO NUTRITION

Sam Abbott
Performance Nutritionist



How is nutrition important to achieving success in swimming?

Provide energy for training/comps

Injury prevention

Improve recovery from training/comps (reduced DOMS)



Maximise strength gains

Improve concentration and decision making

Illness prevention



LOUGHBOROUGH
SPORT

FOUNDATIONS OF NUTRITION



LOUGHBOROUGH
SPORT

WHERE HISTORY BEGINS



Loughborough
University



Dietary supplementation on a needs basis

Refinement of sport specific nutrition strategies

Get the basics right
'Food First' approach

Food Groups



Protein



Fats



Carbohydrates



Fruit & vegetables

What do we use carbohydrates for?

- To provide energy for:
 - Growth
 - Brain function
 - Central nervous system
 - Red blood cells
 - Immune function
 - Exercise
- The body stores enough carbohydrate for approximately 90 minutes of exercise
- Source of fibre



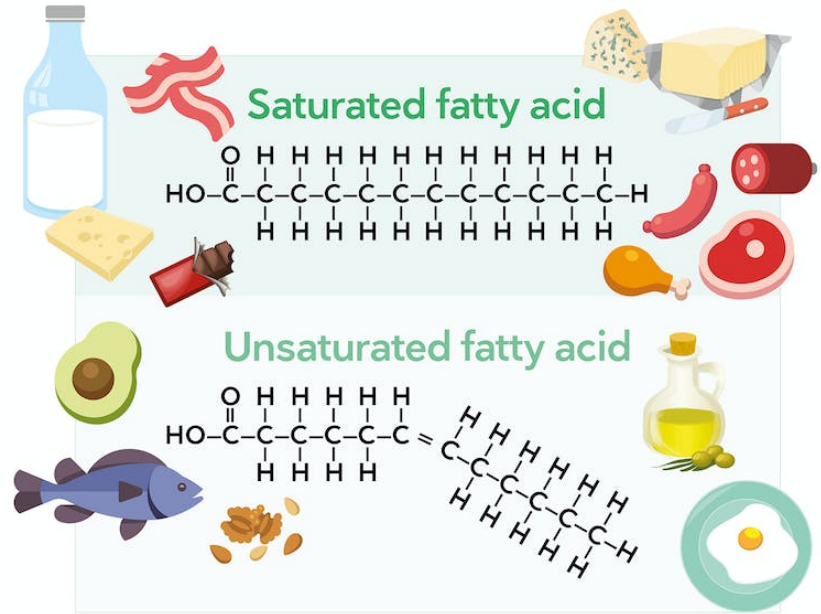
What do we use protein for?

- Proteins are the building blocks of most of the cells in your body, including:
 - Skin
 - Immune cells
 - Internal organs
 - Muscles
- Protein is vital for growth during childhood and adolescence.
- Protein is also used for **muscle repair** and **recovery**.



What do we use fats for?

- During exercise at lower intensities, fat is used as an energy source
- Vitamin and mineral store
- Omega-3/6 → brain function; immune support; anti-inflammatory



What do we use fruit/veg for?

- Provide vitamins and minerals, required for hundreds of important functions throughout the body.
- Source of carbohydrates.
- Add fibre to your diet.

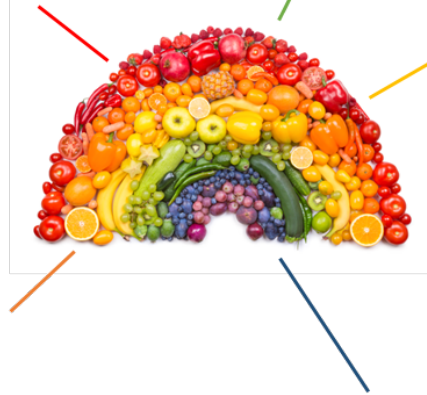


Try to roast or steam veg as other cooking methods can cause nutrients to be lost

Antioxidant properties
e.g. cherries, cranberries, radishes,
red apples, red grapes, red
peppers, tomatoes, watermelon

Leafy green veg contains nitrates which can improve endurance performance by increasing oxygen delivery to muscles
e.g. spinach, kale, rocket, swiss chard, watercress, celery, lettuce, cabbage, leek, broccoli

Converted to vitamin A in the body which helps with hormone production and eye health
e.g. cantaloupe melon, mangoes, apricots, nectarines, orange peppers, pumpkin, sweet potatoes



Converted to vitamin A in the body which helps with hormone production and eye health
e.g. butternut squash, honeydew melon, lemons, papaya, peaches, yellow peppers

Blue/purple fruit and veg have anti-inflammatory properties
e.g. aubergine, blackberries, blueberries, raisins, purple grapes, blackcurrants

Vitamins & minerals



IRON



CALCIUM



VITAMIN D



LOUGHBOROUGH
SPORT

BEFORE TRAINING



LOUGHBOROUGH
SPORT

WHERE HISTORY BEGINS



Loughborough
University

Main focus: carbs



- #1 nutrition priority before competition and training
- Carbs are the body's main source of energy
- Lack of carbs = reduced performance; fatigue; health consequences

Not all carbs are the same...

**COMPLEX
CARBS**



**SIMPLE
CARBS**



Hydration

- Stay well-hydrated in the 24 hours before and during training/competition
 - Drink little and often
- **Dehydration** can lead to...
 - Fatigue
 - Poorer skill performance
 - Increased feelings of tiredness
 - Reduced decision making and concentration



Are you hydrated?



Adequately hydrated



Possibly dehydrated



Probably dehydrated



What not to eat...

- Foods to avoid close to training...
 - Foods high in fat
 - Foods high in fibre
 - Foods you are unfamiliar with
- These can cause stomach issues which are likely to affect your performance





LOUGHBOROUGH
SPORT

AFTER TRAINING



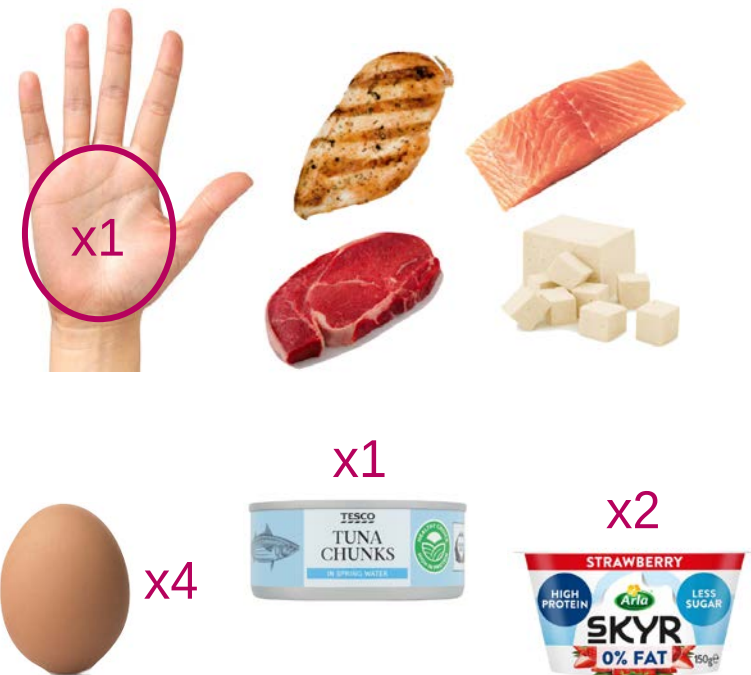
4 Rs of Recovery

- **REFUEL** → Replenish carbohydrate stores 
- **REHYDRATE** → Replace water lost as sweat 
- **REPAIR** → Repair damaged muscles 
- **RELAX** → Allow your body to recover 

CARBS 60 - 70g



PROTEIN 20 - 30g



Recovery snack ideas...

- ✓ Protein balls
- ✓ Chocolate milk
- ✓ Flapjacks
- ✓ Overnight oats/porridge with fruit and nuts/seeds
- ✓ Smoothie made with milk/yoghurt and oats
- ✓ Bagel with a protein filling
- ✓ Greek yoghurt with granola and fruit

Recovery meal ideas...

- ✓ Scrambled egg on toast with chicken sausages
- ✓ Chicken or bean fajitas
- ✓ Chilli con carne
- ✓ Spaghetti Bolognese
- ✓ Chicken/tuna/Quorn pasta bake
- ✓ Jacket potato with tuna/beans
- ✓ Chicken/chickpea curry
- ✓ Jambalaya
- ✓ Chicken/prawn stir fry



~ 1 hour before:

Fast Release Carbs - Fluids



ASAP post-training:

Carbs - Protein - Fluids



Pre-training: avoid foods
high in fat and fibre

Training

Post-training: avoid caffeine
(coffee, tea, cola) and alcohol



3-4 hours before:

Brown Carbs - Colour - Protein - Fluids



During:

Fast Release Carbs - Fluids



Recovery meal:

Carbs - Colour - Protein - Fluids

Repeat every 3-4 hours



How can we improve?



Nutrition isn't black and white

Regularly ask yourself, "how can I make this a little bit better"

Make sustainable changes and create habits



s.abbott2@lboro.ac.uk