

Intro to Sports Science

What is Sport Science?

“application of scientific principles to the promotion, maintenance and enhancement of sport and exercise related behaviours.”

BASES

Principles:

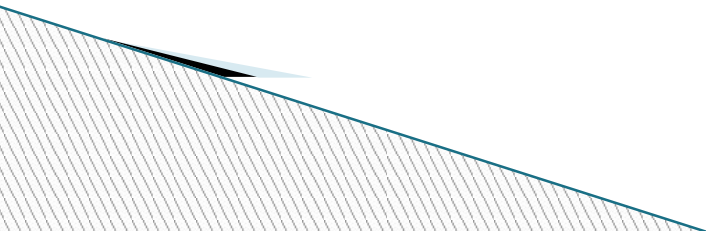
Anatomy & Physiology

Psychology

Biomechanics

Nutrition

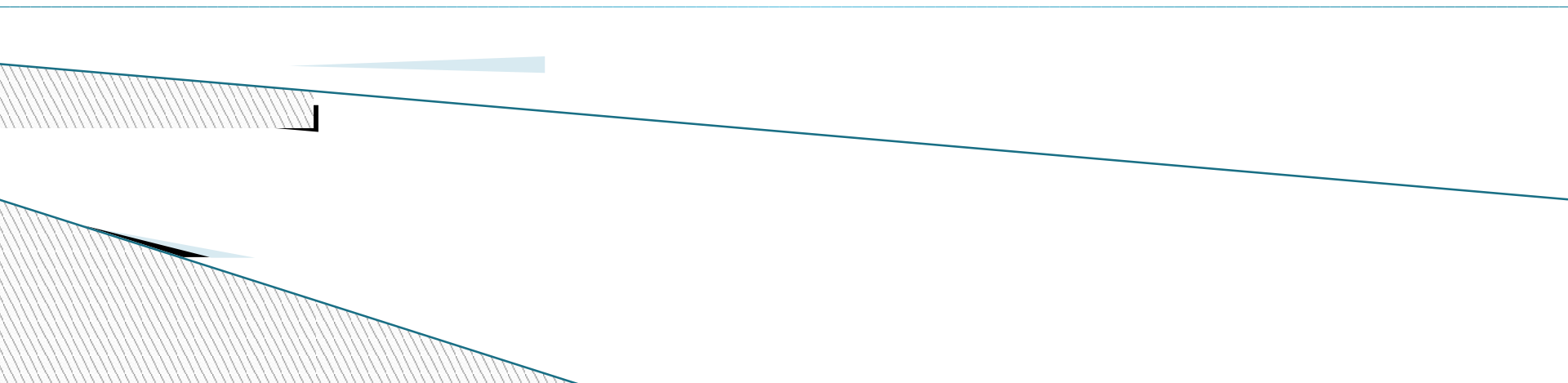
Performance Analysis





Forfar Road Runners

Nutrition = Performance



Fluid - Preparation

Get a good starting point - 2L per day



Fluid - Preperation

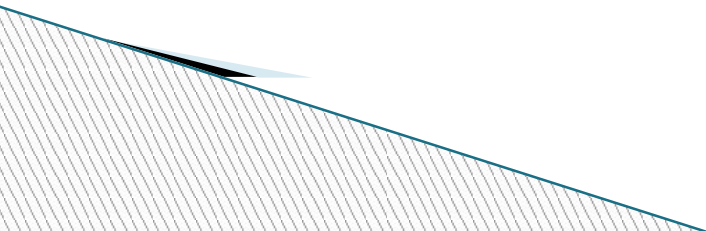
Do you drink enough?

Weigh yourself before and after

Aim to be as close to the same as you can.

- <2% of body mass

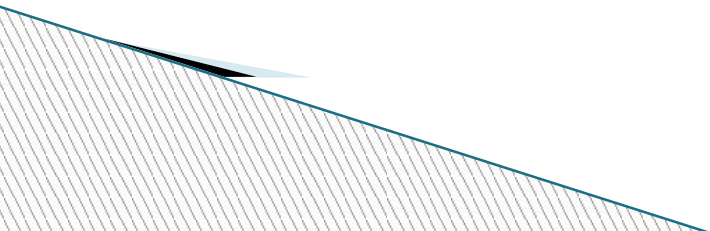
Along with 2L a day, 350-500 pre exercise is good too.



Fluid - During

How much fluid should you consume every 15mins of exercise?

- a) 75ml
- b) 100ml
- c) 150ml
- d) 200ml

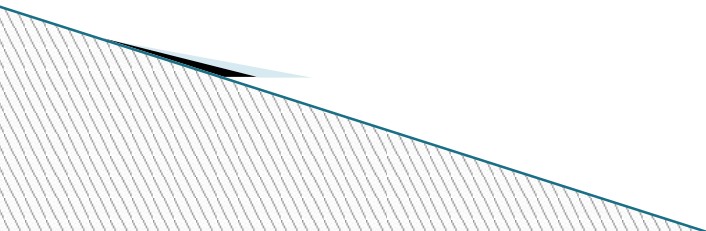


Fuel - Carbs

The preferred source of energy for muscles and the brain.
Should be majority of energy intake, 60-70% (6-10g per kg of body mass)

High Glycaemic Index(GI) foods sports drinks, honey, jaffa cakes before, during and after.

Take little and often to avoid stressing the stomach



Fuel - Carbs

Prepare

High Carb meal 3-4hours before exercising. 1-4g per kg of body mass.

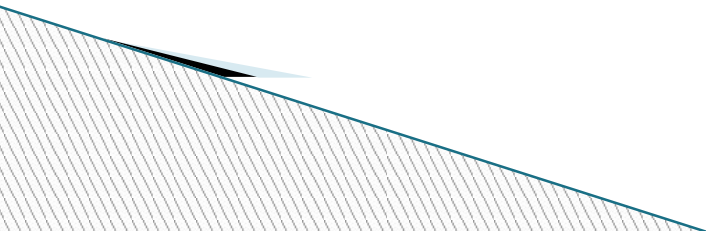
- 4 slices of toast with jam and a banana
- 200g baked beans with a baked potato

Perform

Take on 30-60g of carbs per hour of exercise

Recover

Replace what you've lost over time after the race/training. Little and often.



Fuel - Protein

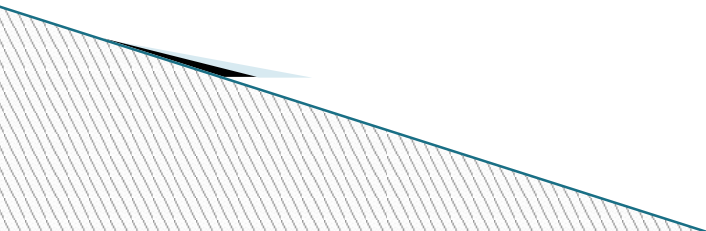
Should make up ~15% (1.2-2g per kg of body mass) of energy intake
Lean meat, fish, eggs, nuts, yoghurt

Although dairy products have high levels of protein they also have high levels of fat, so choose low fat foods.

Protein = Recovery
Muscle Repair

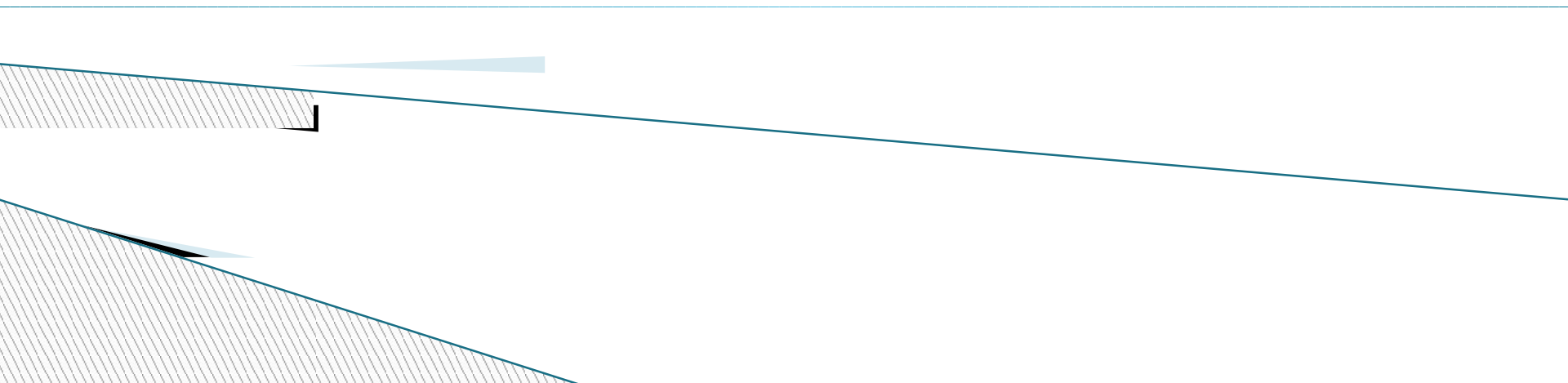
Building blocks to making hormones and enzymes

Small energy release but every little helps



Nutrition Products

What and When?



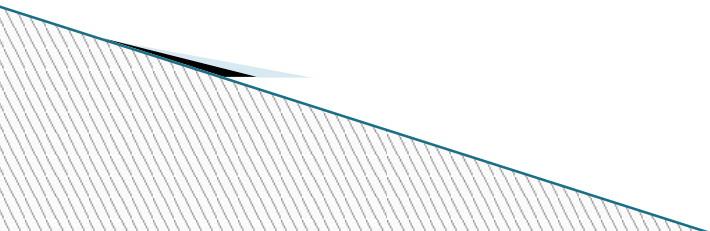
Lucozade Orange - What is it?

ISOTONIC

Good source of
CARBOHYDRATE



ELECTROLYTES



Isotonics

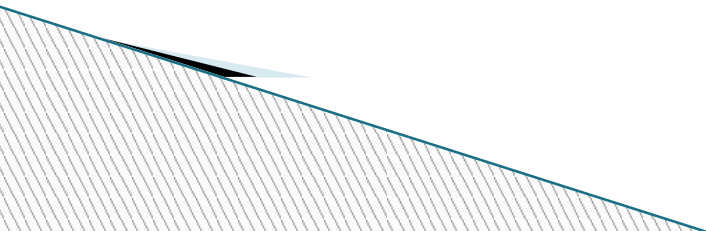
What do they do?

Effectively replace fluid and minerals lost via sweating

4-7g Carbohydrates per 100ml

When to use:

For endurance events and those exercising for 30 minutes or longer at a high intensity, or for 60 minutes or longer at any intensity.



Lucozade Lite - What is it?

HYPOTONIC

ELECTROLYTES

Low in
CARBOHYDRATE



Low in
calories

Hypotonics

What do they do?

Quickly replace fluids and minerals

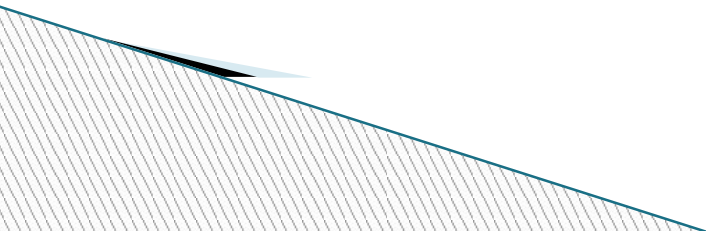
Usually contain ~3g per 100ml

When to use?

When you need fluid and minerals but not carbs

Lighter intensity sessions less than 60minutes (Recovery sessions)

If you're trying to manage your weight



Carbo Gels



What do they do?

~30g Carbohydrates per sachet

When to use?

- During intense exercise, one gel should be consumed every 30 mins with approximately 150ml of fluid.
- Before or after exercise as a way of topping up or replacing the carbohydrates within the muscles.