

Performance nutrition for runners

AINE KELLY, RD

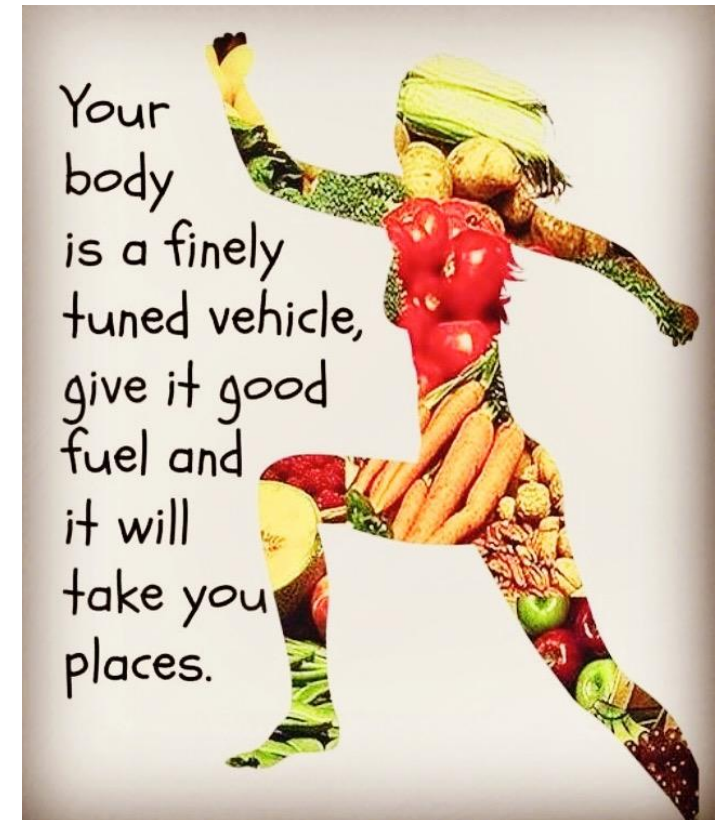


Eating well so I can Run Better

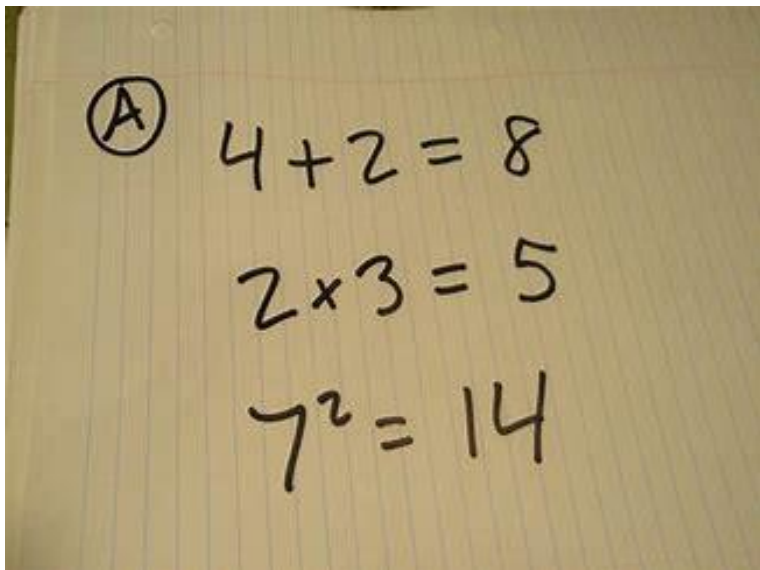
Why Bother with Nutrition?

Nutrition plays a role at **every** stage of your running:

- ▶ Lifestyle
- ▶ Training
- ▶ Competition
- ▶ Recovery
- ▶ General health



Common Mistakes of runners

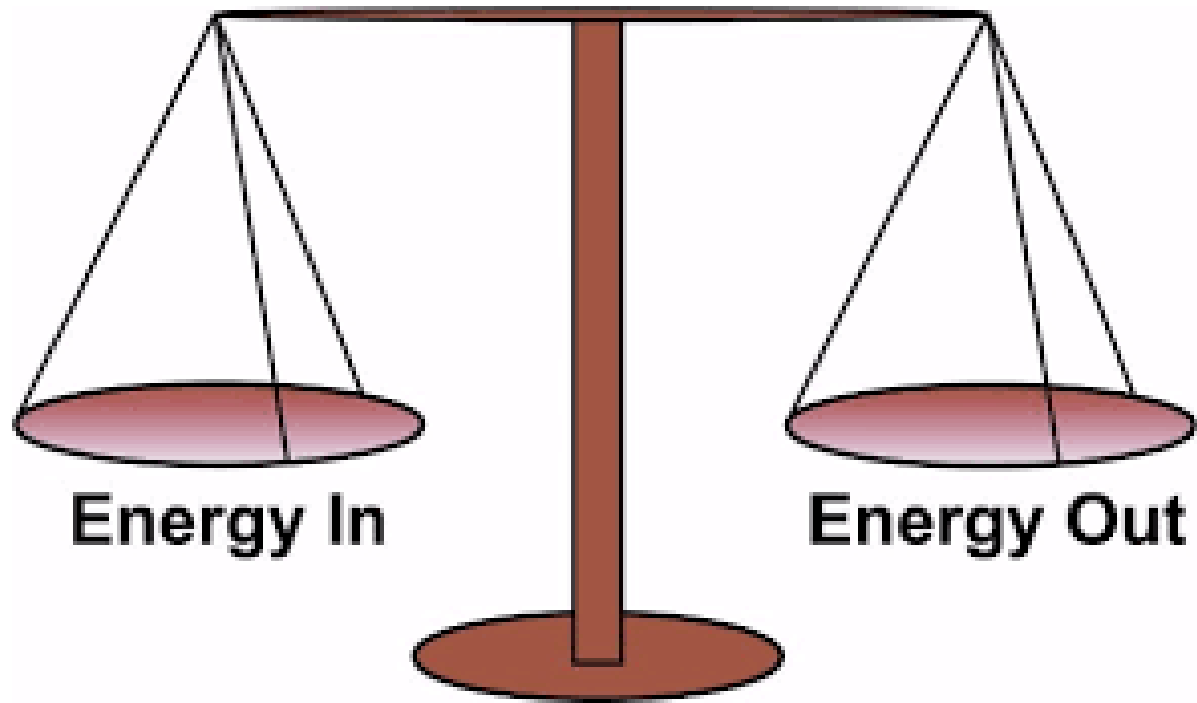


1. Watch out for 'trendy foods' or fads
2. Periodise your nutrition
3. Recovery
4. Practice, practice, practice
5. Work out what works for you



Fuelling performance

Energy (calories)



- Running burns ~ 500-800kcal/ hour
- Inadequate energy = muscle loss & fatigue
- Excess energy = weight gain & sub optimal performance

Overview: Essential nutrients

MACRONUTRIENTS

VS

MICRONUTRIENTS



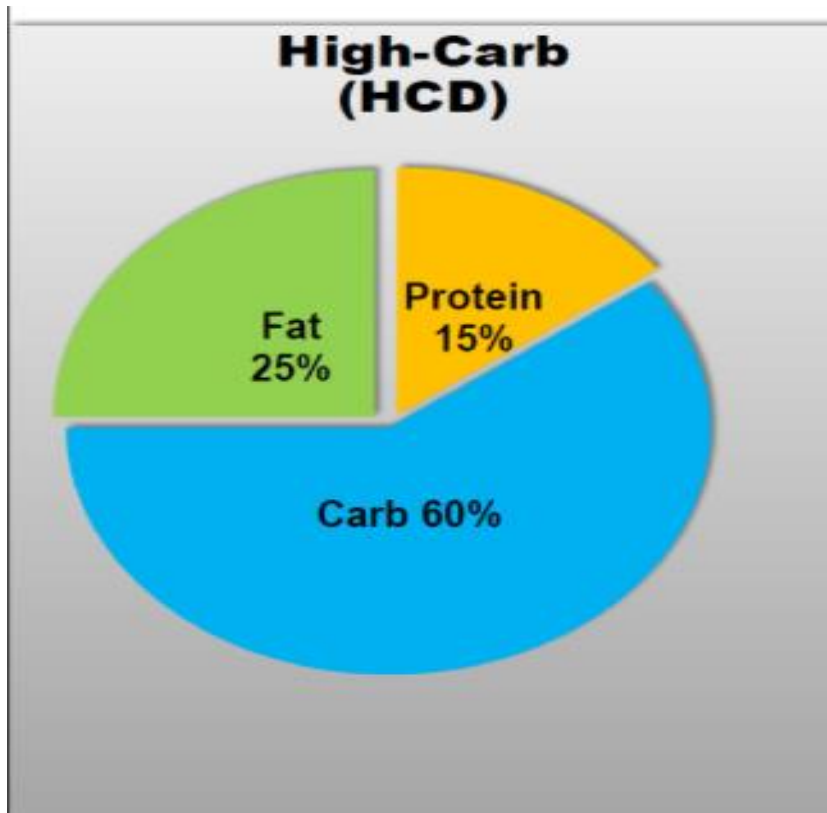
- ✓ Calories are not created equal
- ✓ Healthy eating v performance nutrition
- ✓ One diet does not fit all

Practice makes perfect



Performance Nutrition

Carbohydrates are king!



Carbs are stored as glycogen. These Stores supply ~ 1600 – 2000 calories. Enough for 60–90 minutes of exercise



Daily Carbohydrate requirements in training

30-45 minutes	3-4 g/kg
46-60 minutes	4-5 g/kg
61-75 minutes	5-6 g/kg
76-90 minutes	6-7 g/kg
90 minutes	7-8 g/kg
>120 minutes	8-10 g/kg

Example:

Weight: 70kg

Exercise: 60minutes

Carb requirements: 350g

Breakfast

1 bowl porridge (75g oats) + banana + nuts

Snack

1 handful nuts + seeds

Lunch

1 baked potato (200g) + tuna or cheese + salad+ fruit

Snack

1 flapjack or fruit & nut bar + 500ml milk

Dinner

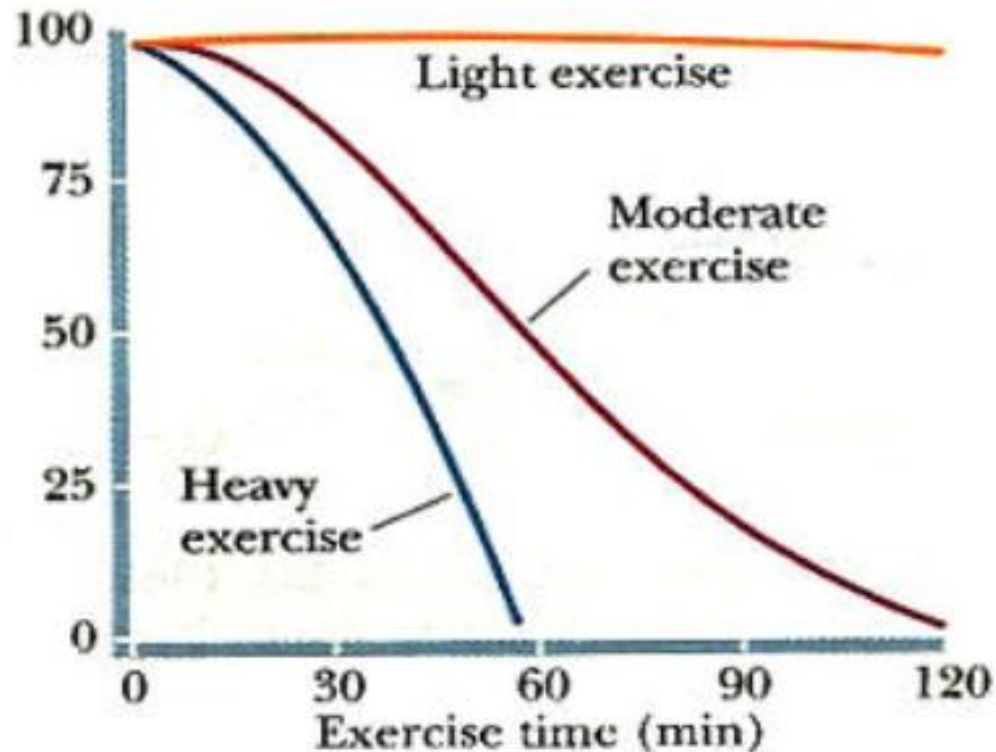
1 bowl pasta (75g), grilled chicken or beans, veg

snack

1 yogurt + fruit

Adjusting carbs to your training requirements

Glycogen Utilization in Working Muscle



Adjusting carbs to your training requirements

Example

Nutrition periodisation

	Breakfast		Lunch		Dinner	
Monday	High Carb	Low Carb	High Carb	Low Carb	Low Carb	Low Carb
Tuesday	High Carb	Low Carb	High Carb	Low Carb	Low Carb	Low Carb
Wednesday	High Carb	Low Carb	High Carb	Low Carb	Low Carb	Low Carb
Thursday	High Carb	Low Carb	High Carb	Low Carb	Low Carb	Low Carb
Friday	High Carb	Low Carb	High Carb	Low Carb	Low Carb	Low Carb
Saturday	High Carb	Low Carb	High Carb	Low Carb	Low Carb	Low Carb
Sunday	High Carb	Low Carb	High Carb	Low Carb	Low Carb	Low Carb

LOW CARB (not no carb)	MOD CARB (moderate amounts)	HIGH CARB (normal amounts)
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Carbohydrate

Pre training snacks (30-60 mins)



Mixed Nuts
+ Dried Fruit



Piece of Fresh Fruit



Whole Grain Crackers
+ Choice of Spread



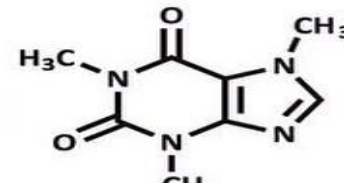
Whole Grain Bread
+ Fresh Nut Butter



DIY Muesli +
Non-Dairy Milk



DIY Energy Bar



Carbohydrate and performance

(Training)

2-3 hours before

- Whole meal sandwich
- Bagel, banana, peanut butter
- Scrambled egg and toast x 2
- Beans on toast x 2
- Cereal, milk and fruit
- Granola and yoghurt
- Porridge with honey
- Medium bowl of Pasta salad
- Fruit bread x 2 slices (Soren loaf)
- 3 x oatcakes + peanut butter or cheese

30 minutes before

- 2 small bananas
- Jam sandwich
- Handful jellies
- Handful dried fruit
- Glass fruit juice
- 500ml sports drink e.g Lucozade sport
- 1-2 dried fruit bars
- Nutrigrain bar

30 minutes after

- 1 Pint low fat milk and Large banana
- Michaels recovery smoothie
- 500ml mooju milk
- Granola, Fruit, honey and low fat yoghurt
- Bowl cereal + milk + fruit
- Toast x 2 with banana

Carbohydrate and performance (Race Day)

- ▶ Glycogen stores fuel 60-90 minutes intense exercise (if full)
- ▶ > 60 minutes, start refuelling at 40 minutes and continue every 20-30 min
- ▶ Aim: 60g carbohydrate/ hour of intense exercise required



Recovery (R&R&R)

- ▶ **R**ehydrate
 - ▶ Replace 1kg weight (1000ml) loss with 125-150% fluid in next 2-6 hours
- ▶ **R**efuel
 - ▶ 1g carb/kg. 30 minute window if training twice a day.
- ▶ **R**ebuild
 - ▶ 0.2g protein/kg. Focus on protein distribution.



R & R & R

Michaels recovery smoothie



Ingredients

- 400ml Low fat milk
- 1 scoop greek yoghurt
- 1 banana
- mixed berries
- 2 tbsp honey

25g protein 70g carbs

R & R & R

Coins recovery smoothie



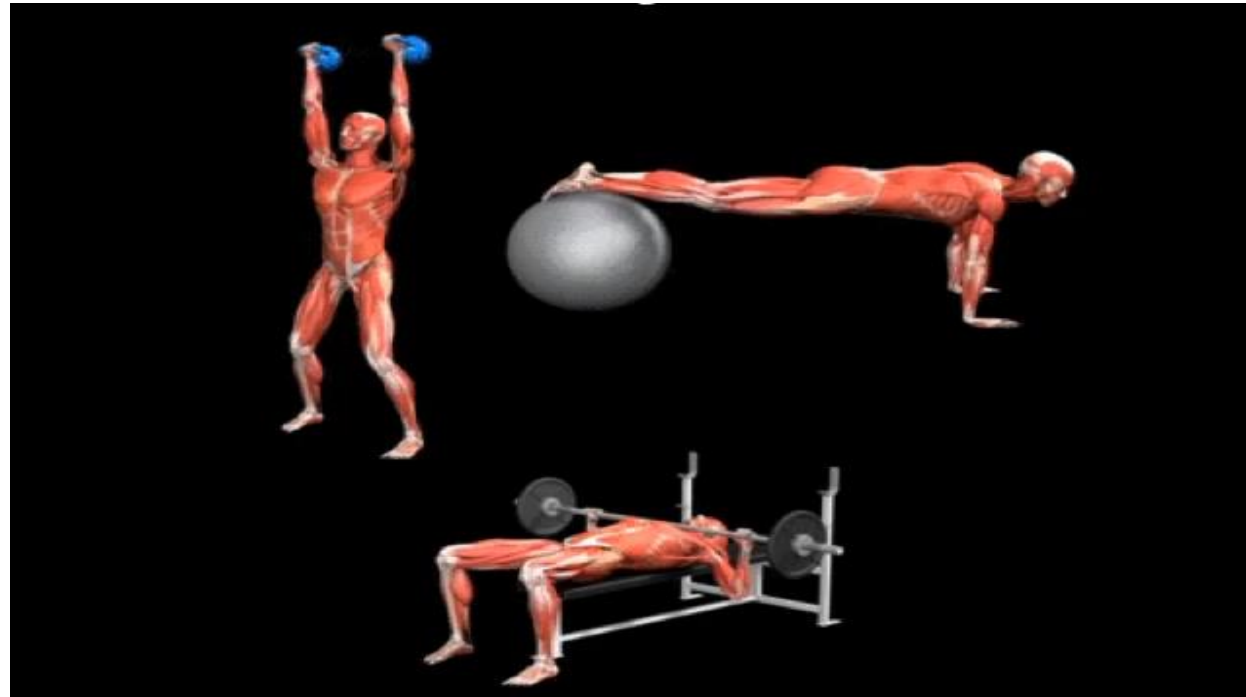
- ✓ Low fat
- ✓ Whey protein
- ✓ Replenish glycogen stores
- ✓ Liquid form
- ✓ Transportable
- ✓ Taste

- Mooju = 2:1 carbs:protein
- Avonmore = 1:1 carbs:protein




Protein requirements

R&R







What happens to EXCESS protein?

 • **1) CONVERTED TO GLUCOSE AND BURNED FOR ENERGY**

OR

• **2) STORED AS GLYCOGEN OR FAT**

Protein requirements

(*Rebuild and Repair (R&R)*)

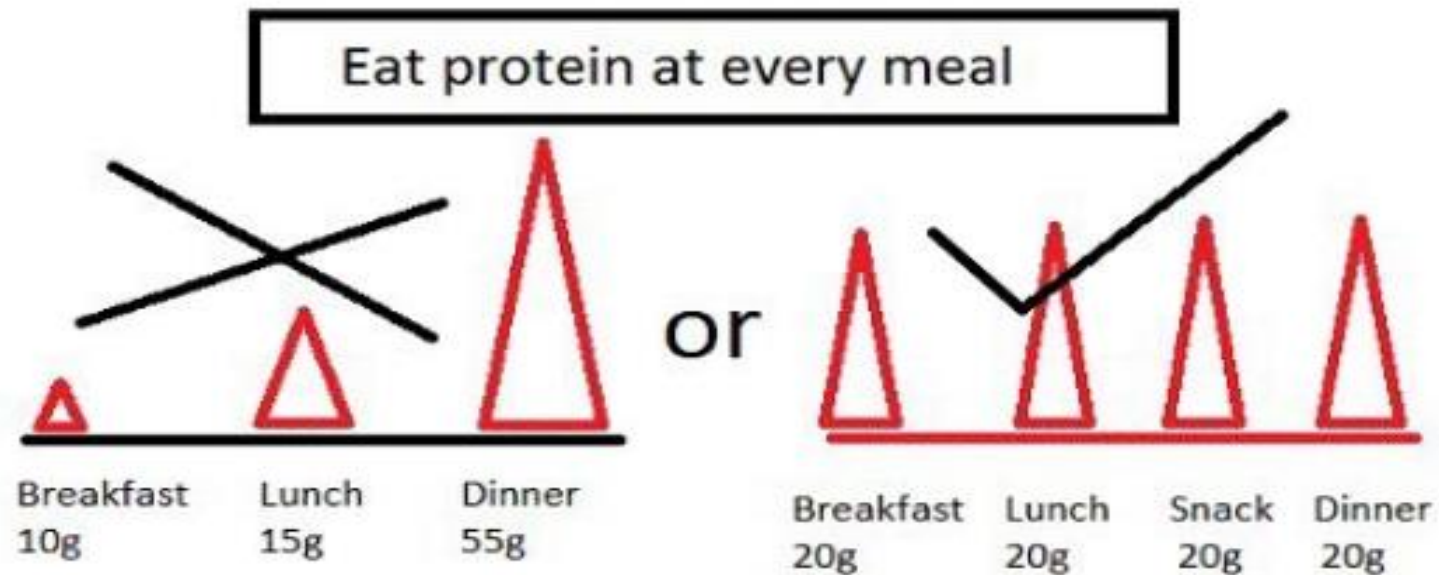
0.75 g / kg	Normal	Sedentary
1.2 – 1.4 g / kg	Endurance	Distance running
1.4 – 1.7 g / kg	Strength / resistance	Rugby / football / swimming
1.7 – 2.4 g / kg		Weight lifting / body building*

Protein distribution



R&R:

Muscle Protein Synthesis (MPS)



Putting it into practice

1. I am doing a run 4 hours after my last meal. Do I need a snack
2. Do I need to eat before an early morning run
3. Are fasted runs ok
4. Should I eat during training



Hydration



Hyd

homemade sports drink

Isotonic (6-8% carbs)

100ml Mi wadi
400ml water
Pinch salt



% fluid*

an just
exercise.

SWEAT = SALT & WATER



- ✓ Depletion= Muscle cramp, nausea, vomiting, headache, confusion
- ✓ Heavy salt sweater: 750-1000mg Na/hour.
Temperature
- ✓ Equivalent to ½ tsp salt every hour

Salt: Practical advice





Caffeine and supplements

Are supplements safe?



thejournal.ie

Warning that dietary supplement 'not fit for human consumption' due to presence of illegal steroids

The FSAI has told people not to purchase or consume Falcon Labs products.



1 hour ago



6,461



8



Commercial products

Protein powders

Ingredients: Grass Fed Micro-Filtered Whey Protein Isolate, Grass Fed Whey Protein Concentrate, Raspberry Powder, raspberry flavouring, citric acid, sweetener (steviol glycoside), digestive enzymes.



Powder (chocolate smooth), chocolate caramel and mocha flavours only), Flavouring (flavoured options only), Citric Acid (raspberry, vanilla and raspberry, strawberry jam roly poly & summer fruit flavours only), Malt Extract (latte, toffee, chocolate caramel & banoffee flavours only), Emulsifier (Soy Lecithin), Malic Acid (choc coconut flavour only), Sweetener (Sucralose® (flavoured options only)), Colourings (Beetroot Red [raspberry, vanilla and raspberry, strawberry cream, strawberry jam roly poly, summer fruits and rhubarb & custard flavours only], Anthocyanin [raspberry flavour



Protein Blend (Whey Protein (milk) Isolates [contains Emulsifier: Soy Lecithin], Whey Protein Concentrate (milk), Whey Peptides (milk)), Fat-Reduced Cocoa Powder, Flavourings, Sweeteners (Acesulfame Potassium, Sucralose), Enzyme Complex (Amylase, Protease, Cellulase, Beta-D-Galactosidase, Lipase).



Commercial products



chocolate with fibres and sweeteners 23,6% (cocoa mass, dextrin, cocoa butter, sweetener (erythritol, steviol glycosides), inulin, oligofructose, low fat cocoa, emulsifier (**soy** lecithin), natural flavour), mint flavoured layer (bulking agent (polydextrose), cocoa butter, xylitol, skimmed **milk** powder, salt, emulsifier (citric acid ester (E472c)), colouring agent (titanium dioxide (E171)), sweetener (sucralose), natural peppermint flavour), **milk** protein, gelatine hydrolysate, humectant (glycerol), **soy** crisps (**soy** protein, tapioca starch, salt), **soy** crisp (**soy** protein, low fat cocoa, tapioca starch), **soy** oil, low fat cocoa, cocoa nibs, sugar mint (sugar, vegetable oil (shea oil, palm oil), flavours, colouring agent (copper chlorophyll), emulsifier (**soy** lecithin)), vitamins (vitamin C (ascorbic acid), nicotinamide, vitamin E (tocopheryl acetate), calcium pantothenate, vitamin B2 (riboflavin), vitamin B6 (pyridoxine hydrochloride), vitamin B1 (thiamin hydrochloride), folic acid, vitamin B12 (cyanocobalamine), salt, flavours.



Food trends

Milk alternative



Protein in 300ml

Cows milk = 10g

Protein milk = 15g

Soy milk = 10g

Lactose free milk = 10g

Almond milk = 1.0g

Rice milk = 0.9

Vitamins and minerals

Vitamins

- ▶ Huge amount of attention given to vitamins - supposed role in enhancing performance
- ▶ Use very popular - intakes of 10 - 100 times RDA reported
- ▶ Low vitamin status will result in impaired performance
- ▶ Little evidence that long-term vitamin intakes among athletes are inadequate



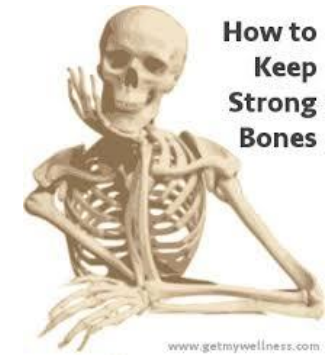
Vitamins and minerals

Minerals



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Zinc, Iron e

due to bloo
oves perfo
ine



How to
Keep
Strong
Bones

www.getmywellness.com



Legal supplements

Caffeine



70kg Needs ~210mg

- 45-90mins to work
- Lasts 6-7 hours
- 1 gel = ~ 30-50mg
- Tea = ~ 30-50mg
- 1 can cola = 49mg

E.G

- 1 espresso + 4 caffeine gels
- 1 Americano + 1 gel

Caution

- GI issues
- Anxiety / HR
- Dehydration

Legal supplements

Beetroot juice - Nitrates



- Vasodilator = O₂ transport
- 140ml - 500ml 1.5 – 3 hrs pre event = 15-20% improvements in time to exhaustion in cycling and treadmill running
- Take 6/7 days pre event
- Most beneficial in 5-30 min events

Diet & Race Day Nerves

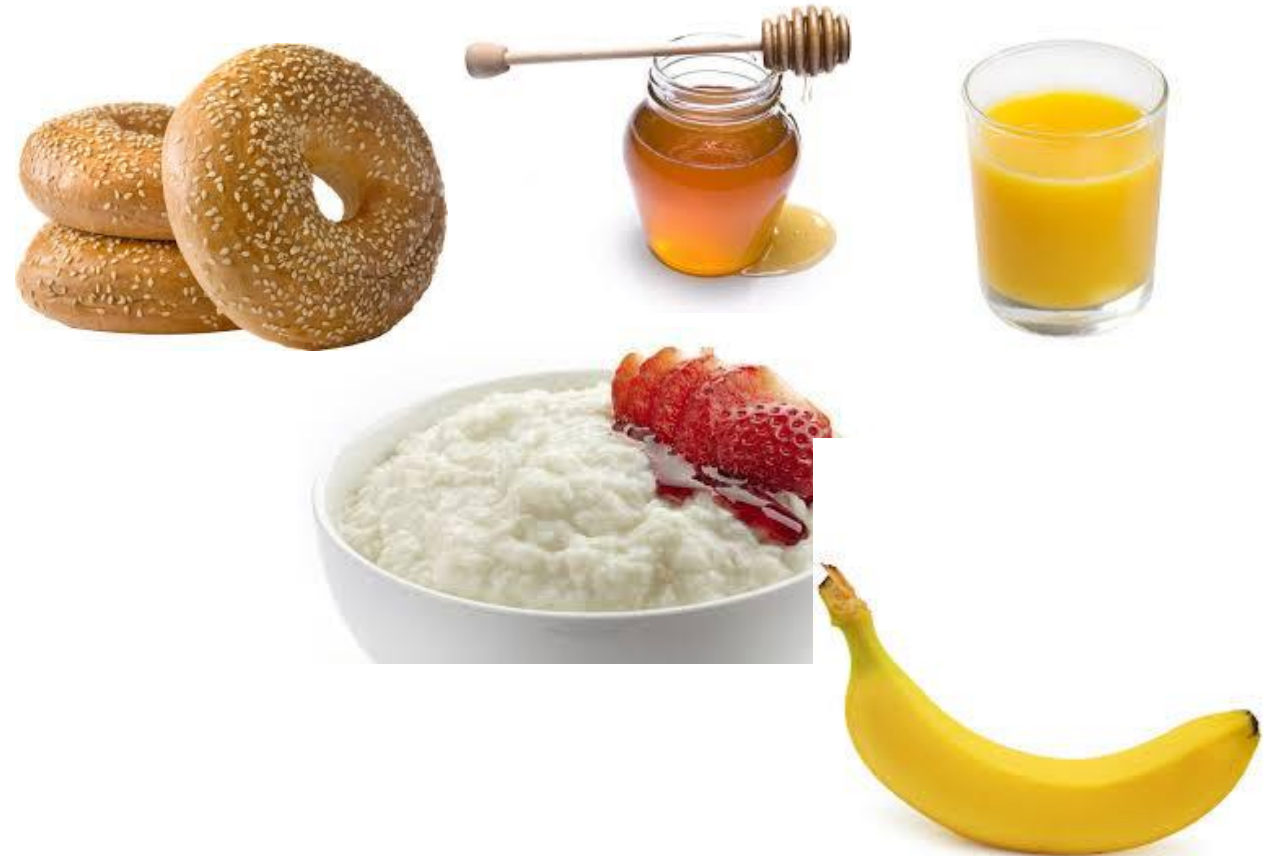


- Reduce fibre two days pre race
- Limit beans/legumes/seeds
- 6pm cut off for dinner x 2/7
- Eat BF 3 hours pre race
- Nothing different
- Avoid over concentrating sports drinks/powders
- limit solids x 1 hour pre run
- Avoid excessive use gels/electrolytes
- Practice race day nutrition



Pre race nutrition(2-4 hrs)

- ▶ 200-400g carbs
- ▶ Low in fat
- ▶ Contain some but not excessive protein
- ▶ Avoid excess fibre
- ▶ Be readily digested
- ▶ 500 mL fluid 2 hours before exercise



Motivation in athletes

**You're the reason I wake up
in the morning**



**Just kidding
I have to go for a run**

Find the time

“I HAVE NO TIME”



“I FIND THE TIME”



@LiveVitae

Make nutrition a priority



Find what works for you

Billy has 7 bikes. He just bought 2 more. What does he have now?



Happiness.
Billy Has Happiness.

