

**PERFORMANCE
NUTRITION
Fundamentals**

HEALTHY



EATING



Australian Guide to Healthy Eating

Enjoy a wide variety of nutritious foods from these five food groups every day.

Drink plenty of water.

Grain (cereal) foods, mostly wholegrain and/or high cereal fibre varieties



Vegetables and legumes/beans



Lean meats and poultry, fish, eggs, tofu, nuts and seeds and legumes/beans



Fruit



Milk, yoghurt, cheese and/or alternatives, mostly reduced fat



Use small amounts



Only sometimes and in small amounts



Macronutrients



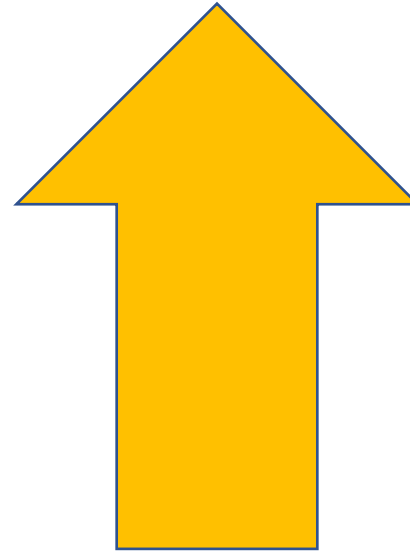
FUEL & RECOVER FOR YOUR TRAINING

HOW MUCH
CARBOHYDRATE DO YOU
NEED?

Carbohydrate Requirements.



**LOW FUELLING
NEEDS** (light
training day,
reducing/managing
weight/fat)








**HIGH FUELLING
NEEDS** (intense
training, increasing
size/mass)



Nutritional Periodisation

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Breakfast (7-7:30am)	Yellow	Green	Yellow	Green	Yellow	Green	Yellow
Morning snack	Yellow	Green	Yellow	Green	Yellow	Green	Yellow
Lunch	Red	Yellow	Red	Yellow	Green	Yellow	Red
Afternoon Snacks	Red	Yellow	Red	Yellow	Yellow	Yellow	Red
Dinner	Yellow	Red	Yellow	Red	Yellow	Red	Red
After dinner	Yellow	Red	Yellow	Red	Yellow	Red	Red

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Dinner							
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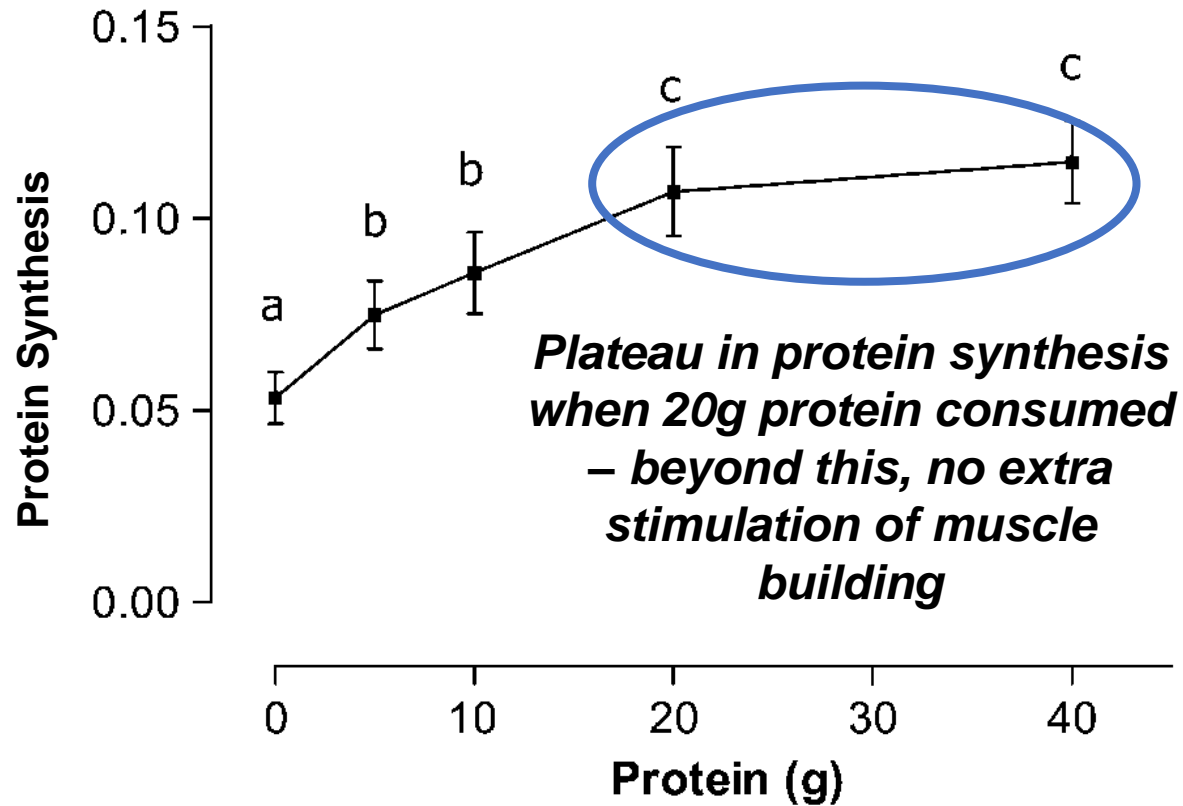
Breads, cereals & other grains	Starchy vegetables & legumes	Fruit	Dairy products	Sugary foods and drinks
Breakfast cereals	Potato	Fresh fruit	Milk	Lollies and sweets
Rice	Sweet potato	Tinned fruit	Yoghurt	Honey
Pasta	Legumes (lentils, chick peas, beans, baked beans)	Dried fruit	Custard	Jam
Noodles		Fruit juice	Ice cream	Cakes
Bread/ buns				Regular soft drinks and cordial
Chapattis / Naan	Corn			
Flour				
Biscuits / crackers				
				

Building blocks = Protein

- Protein is an important nutrient in muscle synthesis and repair.
- Proteins are made up of 20 amino acids (9 essential)
- Muscle is continuing to breakdown and be synthesised even without exercise. When training is increased the demand of protein is always increased.
- Lean and nutritious protein is found in.....
 - Animal foods: red meat, chicken, fish, eggs, milk/milk products
 - Plant foods: soy products, legumes, nuts, pasta, bread, cereals



Surely More Must Be Better?



Moore D. et al. (2009). "Ingested protein dose response of muscle and albumin protein synthesis after resistance exercise in young men". *Am J Clin Nutr.* 89:161-168.

Surely More Must Be Better?



Similar results have been seen using real foods:

113g steak maximally stimulated synthesis and 340g steak did not provide any additional benefit/stimulus

Make healthy protein choices



LEAN BEEF
150G (RAW)



CHICKEN
150G (RAW)



FISH
150G (RAW)



TUNA
95G (CAN)

**LEAN MEAT,
POULTRY
AND FISH**
20-35G PROTEIN
EACH SERVE



MILK
1 CUP



HIGH PROTEIN MILK
1 CUP



YOGHURT
170G (TUB)



CHEESE
35G

**DAIRY
FOODS**
10-15G PROTEIN
EACH SERVE



EGGS
2 (50G EACH)



TOFU
100G



NUTS
30G



LEGUMES
½ CUP

**EGGS AND
MEAT
ALTERNATIVES**
5-12G PROTEIN
EACH SERVE



Timing is everything



Pre-training/match day options



Top Up

- Keep topped up during long training sessions (>60-90 minutes)
- Fluids and carbohydrate (when required)
- Maintain energy levels
- Maintain concentration
- If the session is <60 minutes there is no need to refuel unless the session is extremely intense.





RECOVERY options





What to drink?



AIS SUPPLEMENT FRAMEWORK

ABCD Classification System



Strong scientific evidence for use in specific situations in sport using evidence-based protocols

GROUP A

Sports foods

- Sports drinks
- Sports gels
- Sports confectionery
- Sports bars
- Electrolyte supplement
- Protein supplement
- Mixed macronutrient supplement (bar, powder, liquid meal)

Medical supplements

- Iron
- Calcium
- Multivitamin
- Probiotics
- Vitamin D
- Zinc

Performance supplements

- Caffeine
- β-Alanine
- Dietary nitrate / Beetroot juice
- Sodium Bicarbonate
- Creatine
- Glycerol



Emerging scientific support, deserving of further research. Considered for use by athletes under a research protocol or case-managed monitoring situation

GROUP B

- Fruit Derived Polyphenols (cherries, berries, blackcurrants and pomegranate)
- Vitamin C

Tastants

- Menthol
- Pickle juice
- Quinine

- Collagen support
- Carnitine
- Ketone supplements
- Fish oils
- Curcumin (Turmeric)
- N-Acetyl Cysteine



Scientific evidence indicates no benefit to athletes and/or no research undertaken to guide an informed opinion

GROUP C

These supplements remain under investigation and are subject to ongoing review

- Magnesium
- Alpha Lipoic Acid
- HMB (β-Hydroxy β-Methylbutyrate)

- BCAAs/Leucine
- Phosphate
- Prebiotics

- Vitamin E
- Tyrosine



Banned or at high risk of contamination with substances that could lead to a positive doping test

GROUP D

Consult WADA for full list (updated annually)

- Stimulants
- Prohormones and hormone boosters
- GH releasers and 'Peptides'

- Beta-2 agonists
- Selective Androgen Receptor Modulators (SARMs)
- Metabolic Modulators

- Colostrum
- Tribulus terrestris and other testosterone boosters
- Maca root powder

The Australian Institute of Sport (AIS) Supplement Framework is an initiative of the Australian High Performance Sport System. The AIS acknowledges the support of members of the National Institute Network (NIN) and National Sporting Organisations (NSO) and their staff in delivering content expertise.



CONSIDERATIONS



Questions?



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