AIS SPORTS SUPPLEMENT FRAMEWORK

ISOLATED PROTEIN SUPPLEMENTS GROUP A

Protein supplements can be broadly classified as either: providing protein only (>90% protein) i.e. isolated protein supplements), or a protein blend (see Mixed Macronutrient Supplements). Isolated protein supplements are generally low in carbohydrate, fat and lactose.

	Animal protein	Plant protein	High biological value	Leucine	Cost	Powder	Bar	Ready to drink	Fortified foods
WHEY PROTEIN	●		●	High	$$	●	●	●	●
CASEIN PROTEIN	●		●	High	$$	●			
EGG PROTEIN	●		●	High	$$$	●			
SOY PROTEIN		●	●	Medium	$	●	●	●	●
OTHER PLANT PROTEIN eg. pea, rice		●		Low	$$	●	●		●

RESEARCH IS LACKING FOR THE BENEFITS OF CASEIN PROTEIN AS A SLOW RELEASE 'NIGHT' PROTEIN

PLANT PROTEINS ARE BECOMING INCREASINGLY POPULAR DESPITE THEIR LOWER BIOLOGICAL VALUE

BENEFITS OF PROTEIN & SITUATIONS FOR USE

> Protein is the building block of the body's muscle, bone, cartilage, skin, blood, enzymes and hormones. It has a range of benefits to athletes including:

BUILD & MAINTAIN MUSCLE | RECOVERY | SATIETY (FEELING FULL)

PROTEIN SUPPS TYPICALLY PROVIDE 20-30g PROTEIN & ~500kJ PER SERVE

> Most athletes meet their protein requirements quite easily with food, however a protein supplement might be useful when:

- ☑ A food form of protein is not practical in terms of storage/ travel/ time
- ☑ Boosting the protein content of food options naturally low in protein
- ☑ Rapidly digested protein is required e.g. immediately after key workouts
- ☑ An alternative to food is required when appetite is poor
- ☑ Higher targets for protein are required when aiming to reduce fat mass and protect muscle mass (1.6 - 2.4g/kg body mass)

HOW MUCH PROTEIN DO YOU NEED DAILY?

Athletes in heavy training need **MORE** protein than sedentary people:

1.2 - 1.6g PROTEIN x per KG BODY MASS = YOUR DAILY TARGET

- ☑ Regular meals every 3 - 4 hours
- ☑ No further benefit eating more than 0.3g protein/kg body mass, per meal

E.g. calculations for a 75kg athlete (1.4g x 75kg athlete = 105g protein)

TIMING AND SPREAD OVER THE DAY IS KEY!

Breakfast (8am)	Snack (10:30am)	Lunch (1pm)	Snack (3:30pm)	Dinner (6pm)	Pre-bed (8:30pm)
					
Eggs on multigrain toast (2) **= 22g protein**	Chobani FiT (140g) **= 12g protein**	Tuna & salad wrap **= 20g protein**	Handful nuts **= 6g protein**	150g steak & veg **= 37g protein**	250ml glass milk **= 8g protein**

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ISOLATED PROTEIN SUPPLEMENTS

FOOD FIRST PHILOSOPHY

A 'food first' philosophy should apply to all supplements, but especially protein, because of the high biological value of readily available protein-rich whole foods, that also offer further benefits to overall diet quality.

10g


Milk/soy milk (250mL)


Cheese (2 slices)


Yoghurt, 1 tub(170g)


Wholemeal grain bread (2 slices)

20g


Tuna/ chicken/ salmon, 1 tin (90g)


3 eggs


Baked beans (425g tin)


Cottage cheese (1 cup)

30g


Chicken (100g)


Steak (100g)


Salmon (100g(


Tofu 250g (1 cup)

CONCERNS & CONSIDERATIONS

Protein supplements may not have the same impact on fullness vs. real 'solid' food.

May be lacking nutrients that are naturally present in real food. e.g. protein supplements are often low in calcium even if dairy derived.

Don't get caught up in advertised claims. The longer the ingredients list, the greater the doping risk.

Little practical difference between Whey Protein Concentrates (WPC), Isolates (WPI) and Hydrolysates (WPH) besides increasing cost respectively.

Concern around heavy metals and BPA found in some protein supplements.

May contain nuts, milk, soy and other allergens that some athletes may need to avoid.

All supplements have a doping risk of some kind. Some supplements are riskier than others. Athletes should only use batch-tested supplements. The Sport Integrity Australia app provides a list of more than 400 batch-tested products. (www.sportintegrity.gov.au/what-we-do/supplements-sport).

While batch-tested products have the lowest risk of a product containing prohibited substances, they cannot offer you a guarantee. Before engaging in supplement use, you should refer to the specific supplement policies of your sport or institute and seek professional advice from an accredited sports dietitian (www.sportsdietitians.com.au). Athletes are reminded that they are responsible for all substances that enter their body under the 'strict liability' rules of the World Anti-Doping Code.

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