

# AIS SPORTS SUPPLEMENT FRAMEWORK

## MULTIVITAMINS GROUP A



Multivitamin supplements contain a broad range of vitamins and minerals in doses within the range of population nutrient requirements. Some athletes consider multivitamin and mineral supplements to be a 'pick me up' or 'safety net' in times of heavy training. If fatigue or tiredness is impacting your performance, chat to your sports dietitian for a 'fuel check', instead of self medicating with a multivitamin supplement.



Includes combinations of a range of vitamin and minerals, varying in amounts depending on the specific supplement



Available in various forms, including tablets, capsules, chewable gummies, liquids and powders



Readily available in supermarkets, pharmacies and online, but batch-tested varieties may need to be sourced specifically

## BENEFITS AND SITUATIONS FOR MULTIVITAMIN USE

> Vitamins and minerals are essential for normal body function including:



ENERGY METABOLISM



CELL GROWTH & REPAIR



PROTECTION FROM CELL DAMAGE



NERVE AND MUSCLE HEALTH

> Inadequate dietary intake of vitamins and minerals may lead to a deficiency, impairing health and performance.

> Athletes at risk of inadequate intake of vitamins and minerals include those who:

- Lack variety in their diet e.g. fussy eaters or athletes with significant food intolerances
- Restrict their total energy intake e.g. disordered eating or eating disorder or have an unavoidable reduction in energy intake e.g. weight category sports
- Travel to countries with inadequate or limited food supply, especially for long periods
- Have a heavy competition schedule, involving disruption to normal eating patterns
- Rely on a narrow range of foods or sports foods which may impact nutrient density

> **NOTE: When dietary intake is compromised, the priority should be enhancement of overall dietary intake i.e. food first. A sports dietitian can assess your need for a multivitamin or mineral supplement.**

## HOW TO CHOOSE A MULTIVITAMIN

> Given there is no standard for what is in a multivitamin, nutrient composition may vary significantly. The selection of a suitable product should be based on:

- Composition i.e. containing a broad range of vitamins and minerals in doses that meet recommended intake targets
- Avoidance of unnecessary ingredients e.g. amino acids and herbals (which may be banned in some sports' supplement policies)
- Good manufacturing practises from a large, reputable supplement or pharmaceutical company
- Third party batch testing



# MULTIVITAMINS

## FOOD FIRST PHILOSOPHY



> A well planned nutrient rich diet is the best way to get all the vitamins and minerals you need for health, performance and recovery. Compared to a multivitamin, eating a rainbow of different wholefoods daily including, fruit, vegetables, wholegrains, legumes, dairy, lean meat, poultry, fish or vegetarian alternatives (to dairy and meats), offer additional value beyond meeting nutrient requirements. Real food also provides protein, carbohydrates, fibre and phytochemicals, which offers a wide range of health and performance benefits.

### Sample athletes 'day on a plate'



#### Breakfast

2 eggs on wholegrain toast (2) with avocado, wilted kale and baby spinach and 1/2 tomato



#### Post-training snack

Small bowl of Greek yoghurt with mixed berries, muesli and 1/2 handful of mixed nuts



#### Lunch

1 wholegrain chicken (100 g) and salad wrap with cheese, avocado, lettuce, tomato, carrot, cucumber, mushroom and beetroot]



#### Pre-training snack

Smoothie - Milk, yoghurt, banana, berries, almonds, dash of honey and 1 apple

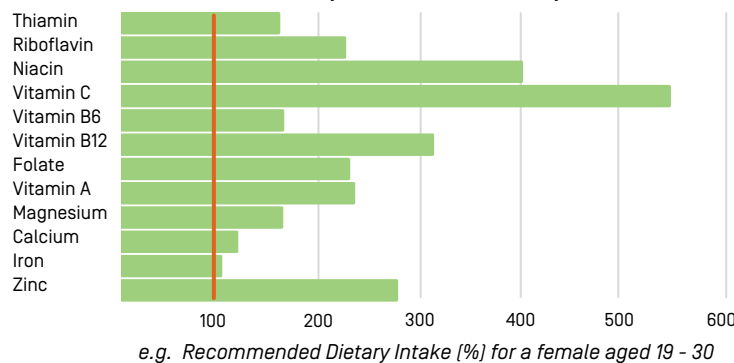


#### Dinner

130 g cooked steak with 1/2 plate vegetables (e.g. broccoli, cauliflower, carrot) and 1 large baked potato OR 1 cup rice

### Nutrient provision from sample diet

A well planned diet can easily meet your daily nutrient requirements



PLUS this sample day will also provide:		Vs. Multivitamin
	145 g of protein	nil
	40 g of fibre	nil
	210 g of carbs	nil
	9000 kJ of energy	nil

to maximise fuelling and recovery for training and competition

## CONCERNS & CONSIDERATIONS



May provide a false sense of security to athletes who are otherwise eating poorly.



Large doses of antioxidants in some multivitamin supplements may impair training adaptations.



Often considered a quick fix for poor fruit and vegetable intake, but supplements lack the range of phytochemicals naturally found in food.



Excess amounts of some vitamins and minerals can be dangerous e.g. too much vitamin A can be toxic especially for pregnant women.



Poor replacement for targeted micronutrient deficiency as they will not contain adequate amounts to treat deficiency (e.g. iron).



Can be expensive compared to a wholefood diet including vegetables, fruits, wholegrains and legumes which are very affordable, especially when focusing on seasonal produce.



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](http://www.sportintegrity.gov.au/what-we-do/supplements-sport)).



Risk of peripheral neuropathy. Multivitamin supplements often have added Vitamin B6, which has been associated with peripheral neuropathy, a type of nerve damage that causes tingling, burning or numbness and the hands and feet. While the maximum permitted daily dose in individual supplements is 100mg, Vit. B6 is added to a large number of supplements, including multi-vitamin and mineral supplements, electrolytes, plus mineral complexes like magnesium and zinc. Peripheral neuropathy can occur at doses of Vit. B6 <50mg. Talk to your sports dietitian if you have any concerns about the supplements you are using and chat to your doctor if you have any questions about peripheral neuropathy.

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](http://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.

