Introduction

Here is what you will learn in this unit:

- The role of vitamins and minerals for exercise
- Which nutrients athletes need the most
- Are supplements always necessary?
Vitamins and minerals for exercise

- Intense exercise increases your requirement for several vitamins and minerals.
- Supplementation may be required if your client isn’t eating a balanced diet and consuming adequate energy to maintain body weight.
Do athletes need a multivitamin?

- The IOC, IAAF and ACSM/ADA/DC believe most athletes are well able to meet their needs from food rather than supplements, as there’s limited scientific proof that vitamin and mineral supplements improve performance.

- However, micro-nutrient supplementation may be required in athletes eating a restricted diet or when food intake or choices are limited – for example, due to travel.
Which nutrients do athletes need most?

- Athletes should be particularly aware of their needs for calcium, iron and vitamin D. Low intakes are relatively common among female athletes.

- The role of vitamin D in muscle structure and function, and the risk of deficiency, has been highlighted by the IOC and ASCM/ADA/DC.

- Those who have low vitamin D intakes and get little exposure to the sun may need to take vitamin D supplements.

- The IOC also cautions against the indiscriminate use of supplements and warns of the risk of contamination with banned substances.

- A few supplements have performance benefit: these include creatine, caffeine and sodium bicarbonate.
When is a multivitamin necessary?

- Supplements aren’t meant to be a substitute for a poor, lazy diet.
- Research shows that 1 in 3 people take some form of multivitamin supplement! A study of 411 university athletes found that over 50% of them took supplements. Reasons were to enhance performance or build muscle.
- Your client may benefit from taking multivitamin and mineral supplements if he/she:
  - Has erratic eating habits
  - Eats less than 1,500 calories a day
  - Is pregnant (folic acid)
  - Eats out a lot or rely on fast foods
  - Is vegan (vitamins B12 and other nutrients)
  - Is anaemic (iron)
  - Has a food allergy or intolerance (e.g. milk)
  - Is a heavy smoker or drinker
  - Is ill or convalescing
Test your knowledge!

- Do all athletes need a multivitamin and mineral complex?

- List 2 minerals and 1 vitamin that exercisers need most:

- Name 2 instances where vitamin and mineral supplements may be required:
Additional Resources

We’ll cover sports supplements in your Graduation Bonus.

In the meantime, if you want to learn more about vitamins and minerals, click on any of the links below:

- **Listing of vitamins.** Includes benefits, food sources and facts. Harvard Health Publications.
- **PDF. Vitamins and minerals report.** Mayo Clinic.
- **The truth about vitamins and minerals. Choosing the nutrients you need to stay healthy.** Harvard Health Publications.

More useful information in your Additional Resources (next page)!
Additional Resources (continued)

- **Anti-doping: Prohibited substances list.** World Anti Doping Agency (WADA)
- **PDF. Vitamin and mineral supplements and exercise.** American College of Sports Medicine.
- **PDF. Nutrition for athletes guide.** International Olympic Committee.
- **Vital vitamins and minerals.** NHS Choices.
- **Vitamin and mineral status: effects on physical performance.** PMID: 15212745
- **Vitamins in Aging, Health, and Longevity.** PMCID: PMC2682456
- **Micronutrients (vitamins and minerals) as cancer-preventive agents.** PMID: 8923018
Additional Resources (continued 1)

- If you wish to give deeper and learn how to build custom-made supplement programmes, whilst minimising the risks of unsafe intake and wrong advice, you’re welcome to explore our Advanced Dietary Supplements Advisor course.

- And, remember, you’ll receive your graduation bonus once you complete your course: A to Z Guide: Supplements, Performance Enhancers and Engineered Sports Foods, with ca. 130 pages of advanced supplements’ science!
In your upcoming modules, you’ll be learning how to **engineer and fine-tune advanced nutritional programmes** for different types of athletes, based on training type, fitness goal, activity volume, frequency, length, athletic status, metabolism, and gender, amongst other variables, including fuel mix, ratio, dose, and timing (pre, during, and post event).

This will be supported with step-by-step planners, worksheets, and practical tools, to ensure you develop (and monitor) each plan with confidence!
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