

Multivitamins and Minerals

Supplement Overview

- > Vitamins and minerals are necessary for a broad range of essential chemical reactions in the body, including those involved in energy metabolism, cell growth and repair, protection from free radical damage, and nerve and muscle function. Inadequate intake of vitamins and minerals leading to a body or tissue deficiency, will impair the athlete's health and performance.
- > Athletes who restrict their total energy intake or lack dietary variety are at risk of an inadequate intake of vitamins and minerals.
- > There is no evidence that supplementation with vitamins and minerals enhance performance except in cases where a pre-existing deficiency exists.

Products and protocols

- > Many different products providing individual doses or combinations of vitamins and minerals are available. Supplements promoted as a daily tonic or replacement for adequate dietary intake typically contain a broad range of vitamins and mineral in doses within the range of population RDIs.

Situations for Use in Sport

- > Supplementation of inadequate vitamin and mineral intake from food sources may be justified when there is an unavoidable reduction in energy intake or the nutrient density of dietary intake
 - A prolonged period of travel, particularly to countries with an inadequate or otherwise limited food supply.
 - A prolonged period of energy restriction or weight loss, or weight maintenance.
 - Restricted dietary intake in fussy eaters or athletes with significant food intolerances who are unable/unwilling to increase food range.
 - Heavy competition schedule, involving disruption to normal eating patterns and reliance on a narrow range of foods and sports foods.

Concerns Associated with Supplement Use

- > May provide a false sense of security to athletes who are otherwise eating poorly.
- > Vitamin and mineral supplements are often considered a replacement for a poor intake of fruits and vegetables. However, they do not contain the huge variety of food chemicals (often called phytochemicals) found in fruits, vegetables, herbs and spices that promote health-related effects.
- > Large doses of antioxidant vitamin supplements may be counterproductive if they upset the balance of the body's complex antioxidant system. In some cases, such supplementation has been shown to impair the adaptive response to exercise training (see factsheet on Antioxidant Vitamins C and E)

Multivitamins and Minerals

This Fact Sheet was prepared by AIS Sports Nutrition as part of the Sports Supplement Framework (www.ausport.gov.au/ais/nutrition/supplements). Note that a Fact Sheet with additional information on this topic is available for Members of the Sports Supplement Framework via the Clearinghouse.

The Sports Supplement Framework has been designed to provide a framework for NSO athletes and specific Sports Supplement Programs may be available to NSO athletes through their NSO . All attempts are made to stay abreast of scientific knowledge and of WADA issues related to anti-doping. It is recommended that other athletes and groups should seek independent advice before using any supplement, and that all athletes consult the WADA List of Prohibited Substances and Methods before making decisions about the use of supplement products.

© Australian Sports Commission 2014

Last updated May 2014