

Poor athletic performance linked to vitamin deficiency

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Active individuals lacking in B-vitamins – including college athletes and other elite competitors -- may perform worse during high-intensity exercise and have a decreased ability to repair and build muscle than counterparts with nutrient-rich diets, according to recent Oregon State University research published in the *International Journal of Sport Nutrition and Exercise Metabolism*.

The B-vitamins include thiamin, riboflavin, vitamin B-6, B-12 and folate. These micronutrients are necessary during the body's process for converting proteins and sugars into energy, and are used during the production and repair of cells, including red blood cells.

For active individuals a marginal deficiency in the nutrients may impact the body's ability to repair itself, operate efficiently and fight disease, said Melinda Manore, researcher in the Colleges of Agricultural and Health and Human Sciences. Manore analyzed the athletic performance of several elite and collegiate athletes in her research, as well as less competitive individuals.

The stress on the body's energy producing pathways during exercise, the changes in the body's tissues resulting from training, an increase in the loss of nutrients in sweat, urine and feces during and after strenuous activity and the additional nutrients needed to repair and maintain higher levels of lean tissue mass present in some athletes and individuals may all affect an individuals B-vitamin requirements, said Manore.

"Many athletes, especially young athletes involved in highly competitive sports, do not realize the impact their diets have on their performance," said Manore, who is also an Extension Service nutrition scientist. "By the time they reach adulthood they can have seriously jeopardized their abilities and their long-term health."

Current national B-vitamin recommendations for active individuals may be inadequate, and athletes who follow the recommended daily allowances set by the U.S. government may be receiving lower amounts of nutrients than their bodies need, said Manore. Athletes who restrict calories or limit food groups like dairy or meat have an increased chance of deficiency. Such athletes are often concerned about maintaining a low body weight for sports like gymnastics and wrestling.

"The most vulnerable people are often the individuals society expects to be the healthiest," said Manore. "There's a lot of pressure on women in particular to look like an 'athlete.' Unfortunately for some people that means skinny and petite, rather than healthy and strong."

The B-vitamins are in whole and enriched grains, dark green vegetables, nuts, and many animal and dairy products. Manore suggests athletes and individuals with poor or restricted diets consider taking a multivitamin or mineral supplement.

Source: Oregon State University

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