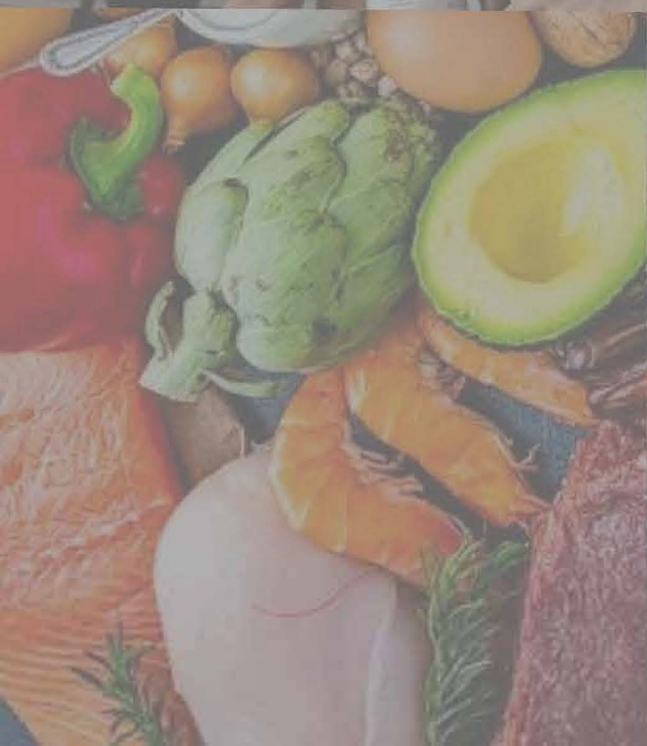




RUGBY NUTRITION GUIDE

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Being a good rugby player starts with being healthy and eating right. USA Rugby and Major League Rugby, in collaboration with Thorne, have formulated this all-encompassing document to better educate the rugby community on sports nutrition.

TABLE OF CONTENTS

Part 1: Intro to Sports Nutrition

Chapter 1	Macronutrients (Carbs, Protein, Fat)
Chapter 2	Micronutrients (Vitamins, Minerals, Common Deficiencies/ Nutrients of Note for Athletes)
Chapter 3	Hydration
Chapter 4	Energy (Availability, Calorie Needs, Female Athlete Considerations)
Chapter 5	Supplementation

Part 2: Sports Specific Situations

Chapter 6	Injury and Recovery
Chapter 7	Sleep
Chapter 8	Brain Health
Chapter 9	Travel Nutrition
Chapter 10	Tournament Nutrition

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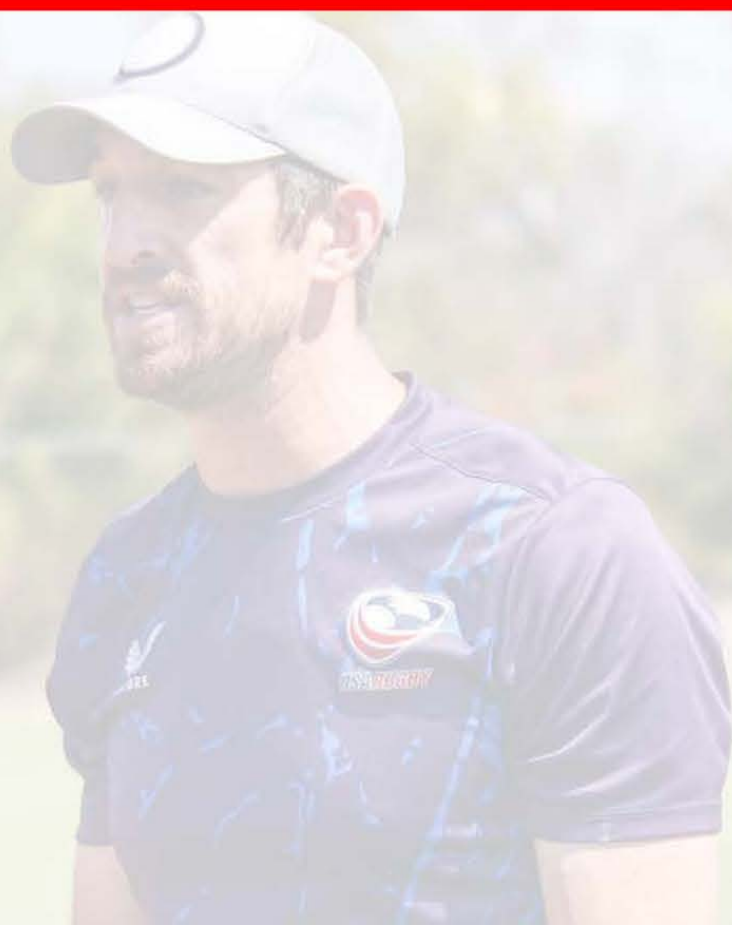


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Chapter 2: Micronutrients – Vitamins, Minerals, Common Deficiencies/Nutrients of Note for Athletes

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Vitamins and minerals are considered

micronutrients –

meaning we need them in small quantities. They help support health and performance by facilitating energy production and muscle recovery, among many other processes. These nutrients are found throughout the food supply; when you are able to get these nutrients from food, you have the added benefit of other nutrients such as phytonutrients, which are components only found in plant foods, that are also an important part of health and performance.

Many athletes may not reach adequate levels of certain vitamins due to food allergy or avoidance, specialized diets, or the added nutrient requirements needed to train and recover. For those athletes, a third-party tested vitamin or mineral supplement may be considered to supplement the diet.

A variety of food, such as meat, seafood, eggs, legumes, nuts, seeds, fruits and vegetables daily can help provide many of the vitamins, minerals and phytonutrients you need to perform at your peak during practice and matches.







Ways that micronutrients help support your body:

- Improved strength and endurance
- Supported recovery from workouts
- Better energy and mood
- Stronger immune system



There are some micronutrients that many athletes are lacking. Focusing on high quality food sources can help increase intake and levels of these in the body. However, some individuals may also benefit from targeted supplementation if there is a known deficiency. For example, up to 88% of the population does not get enough vitamin D, so a supplement may be beneficial in meeting these needs.

Micronutrient	Roles in Performance	Sources
Vitamin D 	<ul style="list-style-type: none"> Promotes calcium absorption Reduces risk of bone injury and stress fractures Supports immune function Supports a normal inflammatory response Improves sprint performance Improves muscle recovery 	<ul style="list-style-type: none"> Sun exposure (but this is impacted by sun strength, skin pigmentation, sunglasses, sunscreen) Salmon, sardines, fortified dairy and non-dairy alternatives Supplements (<u>Thorne vitamin D 5000</u> or <u>liquid</u>)
Magnesium 	<ul style="list-style-type: none"> Supports muscle relaxation promotes protein synthesis Supports immune function Supports energy production improves strength, power and jumping performance 	<ul style="list-style-type: none"> Legumes (beans and lentils) Nuts and seeds Leafy green vegetables Fortified cereals and breads Fish Poultry Beef Supplements (<u>Thorne magnesium bisglycinate</u>)
Iron 	<ul style="list-style-type: none"> Supports immune function Promotes muscular health Promotes hair health Acts as an antioxidant 	<ul style="list-style-type: none"> Beef Pork Poultry Eggs Seafood Fortified cereal and breads Beans and lentils Dark leafy greens Nuts and seeds <u>Thorne iron bisglycinate</u>
Calcium 	<ul style="list-style-type: none"> Growth, maintenance and repair of bone Influences muscle contraction and nerve conduction Low levels increase risk of low bone mineral density and stress fractures 	<ul style="list-style-type: none"> Dairy: milk, yogurt, cheese Non-dairy: fortified orange juice, fortified milk alternatives, cooked spinach, calcium-set tofu <u>Thorne Calcium</u>

References

- Nielsen FH, Lukaski HC. Update on the relationship between magnesium and exercise. *Magnes Res.* 2006;19(3):180-189.
- Thomas DT, Erdman KA, Burke LM. Position of the Academy of Nutrition and Dietetics, Dietitians of Canada, and the American College of Sports Medicine: Nutrition and Athletic Performance [published correction appears in *J Acad Nutr Diet.* 2017 Jan;117(1):146]. *J Acad Nutr Diet.* 2016;116(3):501-528. doi:10.1016/j.jand.2015.12.006.