

Nutrition for Fractures and Bone Health



PERFORMANCE NUTRITION

Consuming Adequate Calories:

- Maintaining adequate caloric intake in athletes is essential for bone maintenance. Restricting calories may lead to undernutrition and increase risk for stress fracture.

Consuming Adequate Protein:

- Bone collagen synthesis responds to increased amino acid levels so it is important for athletes to be eating *adequate protein* in order to maintain strong bones.

Athletes at higher risk for fracture:

- Amenorrheic females
- Athletes with restrictive eating patterns or diagnosed eating disorder
- Athletes with a history of bone related injuries
- Athletes with a noted diet deficiency of nutrients of concern
- Athletes with a serum vitamin D levels below optimal

Those with a history of stress fractures, frequent illness, bone and joint injury, skeletal weakness or pain, or signs of overtraining syndrome should meet with a Registered Dietitian for individualized meal planning.

Nutrient of Concern	Importance to Athletes	Consume All of the Following to Meet Daily Needs
Calcium	Needs increase for heavy sweaters due to increased amount of excretion	8oz Milk 6oz Yogurt 1/2c Kale 4oz Salmon 1oz Cheese 1/2c Broccoli
Vitamin D	Low levels may hinder athletic performance, decrease muscle strength, and increase risk for injuries	3oz Salmon 8oz Milk 1 Large egg
Vitamin K2	Allows osteocalcin to draw calcium into bones in order to a strong bone matrix	1/2c Collard greens 1c Spinach 1c Kale 1/2c Turnip greens
Phosphorus	Phosphorus is used to make ATP, which is critical for energy production	1.5oz Cheese 3oz Poultry 1/4c Almonds 1/2c Edamame
Magnesium	Urinary and sweat magnesium losses may be exacerbated in heat/humidity	1/2 c Almonds 1/2c Broccoli 8oz Milk 3 Large eggs 1/2c Bran Flakes 4oz Lean beef 4 Large carrots 1/4c Cashews

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