

Optimal Bone Health in Athletes

Athlete Scenario

I am an 18-year-old, female, long-distance runner. I read that female runners may have weak and fragile bones compared to other athletes. Are there any foods I can eat to maximize bone strength and help prevent injury?

Goals for Achieving Optimal Bone Health:

Goals for Optimal Bone Health:

- To preserve bone density and prevent osteoporosis, consume adequate calcium (1000 mg/day for ages 19 - 50) and vitamin D (600 IU/day) from foods and beverages before resorting to supplements.
- Individuals who are at risk for low bone density, low energy (calorie) availability, or have menstrual dysfunctions may need more calcium and vitamin D and should consult their physicians.
- When you consume enough calories and protein to maintain your weight and lean body mass, your bones stay stronger longer.

Foods for Bone Health

- Calcium-rich foods: low-fat milk, yogurt, cheese, calcium-fortified tofu, & leafy greens (e.g. kale, bok choy, and collards)
- Vitamin D-rich foods: eggs, fish (e.g. salmon & trout), UV-exposed mushrooms, & fortified foods (e.g. milk & orange juice)

Snack Ideas	Meal Ideas
Fruit smoothie made with yogurt & calcium/vitamin D-fortified orange juice	Stir-fry with mushrooms, broccoli/kale, sesame seeds & tofu
Greek yogurt & almonds	Salmon or tuna salad sandwich & a glass of milk
Hard boiled eggs & string cheese	Omelet made with turkey, kale & Parmesan cheese

Ideas to Optimize Bone Health:

- The body only absorbs ~500 mg of calcium at a time. Spread calcium-rich foods/beverages throughout the day to optimize absorption.
- Maximize vitamin D status by consuming vitamin D-rich foods and getting a safe amount of sun exposure (see the Sunny Side of Vitamin D fact sheet).
- In addition to a balanced diet, weight-bearing activities that fit within your training plan may help strengthen bones.



**Sports,
Cardiovascular,
and Wellness
Nutrition**
a dietetic practice group of the
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**eat
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Tips to Take With You

1. Include foods containing calcium and protein, such as low-fat chocolate milk, in post-exercise recovery.
2. Inadequate calorie intake can negatively affect bone health over time.
3. Consult with a sports registered dietitian nutritionist (RDN) to address individual needs to optimize bone health.

Contact SCAN
www.scandpg.org
800.249.2875

Written by SCAN registered dietitian nutritionists (RDN) to provide nutrition guidance. The key to optimal meal planning is individualization. For personalized nutrition plans contact a SCAN sports dietitian or Board Certified Specialist in Sports Dietetics (CSSD) by accessing "Find a SCAN Dietitian" at www.scandpg.org