FEMALE ATHLETE HEALTH INITIATIVE

Presented by Sportsmetrics™ and Cincinnati SportsMedicine Research and Education Foundation

Bone Health

What athletes need to know for their health and athletic performance

Athletes typically have higher bone density compared to more sedentary individuals because of the stress they place on their skeletal systems. Just as lifting weights makes your muscles more defined, higher impact activities like running and jumping helps to create heathier bones. A higher bone density protects bones from stress fractures and even breaks. Bone health however is limited to our genetics and biological clocks. Ensuring that young female athletes have healthy bones helps prevent injury and disease later in life.

Girls accumulate 90 % of peak bone mass by the age of 18

There are 2 essential components to gaining and maintaining proper bone density

1) **Exercise**

The American College of Sports Medicine recommends **weight bearing endurance** and **plyometric exercise 3 to 5 times per week**, and **resistance exercise** of moderate to high loading **2 to 3 times per week** for a total of 30 to 60 minutes per day.

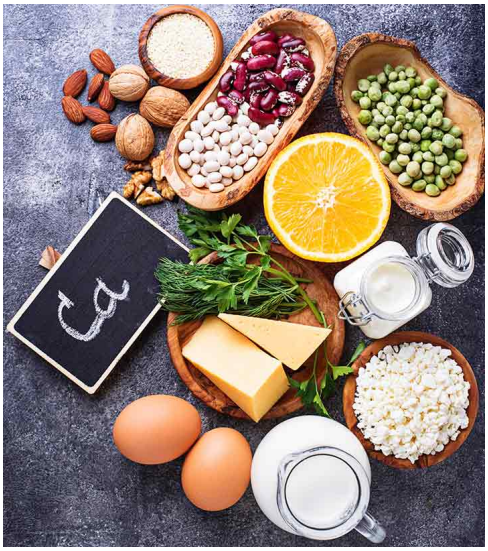
2) Nutrition

On top of exercise, nutrition plays an essential role in bone formation and remodeling after injury. Exercise places the necessary stress on your skeletal system in order to form healthy bones but two important nutrients are needed for proper bone health: calcium and vitamin D

Recommendations for daily calcium intake:

1300mg for adolescents & **1000mg for women aged 19 to 50**

In order to properly utilize the calcium you consume, you also need adequate Vitamin D.
Some vitamin D can be consumed through the foods you eat however the major source of vitamin D is provided through the interaction of our skin with sunlight.
20 minutes of direct sunlight exposure a day is recommended since not all your daily Vitamin D can come from your diet.

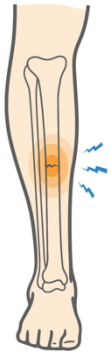


Sources of calcium and vitamin D include:

- ⇒ Fortified milks and orange juices
- ⇒ Greek yogurt
- ⇒ Dark leafy greens: broccoli, spinach, and kale
- ⇒ Fish: salmon and tuna
- ⇒ Beans
- ⇒ Almonds

vitamin D deficiencies are prevalent in about 56% of athletes with a higher incidence in the winter and spring, indoor sports, and mixed sports

Hormones and Bone Health…



Hormonal contraceptives like those found in birth control pills can often mask the signs related to hormonal deficiencies. Estrogen, one of the main hormones in birth control plays a large role in the growth of your bones. If your body is relying on your birth control for supplementation, you might be at increased risk for bone injury.

If you have ever had abnormalities in your menstrual cycle or if you are taking hormonal birth control, consult with your doctor to better understand your bone health risks.

Athletes with abnormal periods are 2-4x more likely to suffer a stress fracture

Talk with your doctor if…

- *If you've experience one or more bone injuries*
- *If you have a family history or osteoporosis*
- *If you have had fluctuations in your weight due to your sport*
- *If you have a restrictive diet*
- *If you have or have had a stress fracture in the past*
- *If you are experiencing any irregularities in your periods*

Bone health should be analyzed and injury diagnosed and treated by a health care professional. Diagnosis and treatment will be different for every athlete depending on their risk factors. If you or an athlete you know is at risk, talk with your doctor to find resources in your area.

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For more on our female athlete health initiative educational series, visit us online at www.sportsmetrics.org